



New models of tertiary education

Draft report

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September 2016

The New Zealand Productivity Commission

Te Kōmihana Whai Hua o Aotearoa¹

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Linkedin NZ Productivity Commission

¹ The Commission that pursues abundance for New Zealand.

Terms of reference

NEW ZEALAND PRODUCTIVITY COMMISSION INQUIRY INTO NEW MODELS OF TERTIARY EDUCATION

Issued by the Minister of Finance and the Minister for Tertiary Education, Skills and Employment (the “referring Ministers”).

Pursuant to sections 9 and 11 of the New Zealand Productivity Commission Act 2010, we hereby request that the New Zealand Productivity Commission (“the Commission”) undertake an inquiry into new models of tertiary education.

Context

The tertiary education sector has adapted to significant change in the last two decades, with growing and changing demand for and participation in higher education, growing internationalisation, and the increasing importance of skills in the economy.

However, the sector operates in a dynamic environment where several key trends are likely to accelerate, offering strategic challenges and opportunities. These trends include:

- Ongoing technological change – offering new ways to deliver higher education programmes and more choice for students, and challenging traditional organisational and operating models.
- Increasing tuition costs.
- Increasing internationalisation of the tertiary education sector including: the growth and rising quality of universities and research organisations in Asia; competition internationally for students, academics and research investment; the growth of export education; and the acceleration of the English language as the language of global business and research.
- Changes in employer demand and student demand, including changes in the types of skills demanded; demand for options to combine study with work and other commitments; and demand for on-job and mid-career re-training.
- Demographic change – an ageing and more diverse population. New Zealand’s demography is set to reduce the number of domestic tertiary students for the next few years.

It was apparent at the 2014 Innovations in Tertiary Education Delivery Summit (ITES) that there are numerous emerging models of provision, but considerable inertia in New Zealand where tertiary providers appear reluctant to be “first movers” or “early adopters” shifting away from the traditional models. Yet ongoing change in the tertiary system is taking place influenced by the Tertiary Education Strategy (2014-19).

In comparison, some overseas tertiary providers appear to be faster and more ambitious in adapting to these trends, and in using new technology to respond to changing demand and improving the quality of education and research.

Scope

The focus of the inquiry will be on how trends, especially in technology, tuition costs, skill demand, demography and internationalisation, may drive changes in business models and delivery models in the tertiary sector.

The inquiry will take a whole-of-system perspective focussing on Crown Tertiary Education Institutions (i.e. universities, polytechnics and wānanga) as well as private tertiary providers.

In undertaking the inquiry, the Commission should consider both demand and supply factors (including market, institutional and policy constraints) relevant to the adoption of new models of tertiary education, as well as looking broadly across what new models there are or what might emerge.

The Commission should use its knowledge of the tertiary education system, innovation and productivity performance to provide new insights drawing on new and existing sources of information. The Commission should also use its emphasis on public engagement and links with the OECD and other international agencies.

For the purposes of the inquiry the Commission should:

- Examine the key trends likely to drive strategic challenges and opportunities for New Zealand tertiary providers, including changes in technology, tuition costs, employer and student demand, demographics and internationalisation
- Draw on the Tertiary Education Strategy and the main challenges in tertiary education identified by the OECD² to assess the potential impacts of the trends and new models on the New Zealand tertiary system.
- Identify the potential barriers to innovation that could be addressed by government and providers to increase the benefits from adopting new models of tertiary education. This will include for example:
 - Policy and regulatory settings that govern tertiary providers.
 - The risks perceived by tertiary providers that may make them slow to innovate and develop alternative delivery models.
 - Internal change by tertiary providers and their sector bodies.
- Review and analyse evidence of success factors associated with innovative tertiary business and delivery models. This will include:
 - Exploring effective overseas models and their applicability in the New Zealand context.
 - Drawing where applicable on the business and delivery models identified through the 2014 Innovations in Tertiary Education Delivery Summit (ITES).
- Explore the options for changes to education funding and pricing mechanisms that may be required to facilitate new models of tertiary education. The focus will be on pricing and fee-setting and not on student support (i.e. student loans and allowances).
- Explore the implications new tertiary models could have for the quality of tertiary education, including transparency, quality assurance and accountability, and the cost of provision.
- Consider the different activities and markets within tertiary education and how this might change with new tertiary models (eg, assessment, certification, the need for flexible, work-orientated study, and the need for face-to face teaching and pastoral support).
- Investigate opportunities through new tertiary models to improve access, participation and achievement in tertiary education of priority groups such as: Māori and Pasifika; at-risk youth; and those with limited access to traditional campus-based provision.
- Consider the impact of overseas domiciled providers on the New Zealand tertiary system.

² Refer www.oecd.org/education/skills-beyond-school/44007619.pdf

- Explore the implications new models of tertiary education could have for New Zealand's position in the international market for tertiary educators, students, education products and services.

Policy findings and recommendations should address the challenges and opportunities as well as the levers available to government and the actions required by tertiary providers to increase responsiveness to new ways of delivering tertiary education. Consideration should also be given to links with the recommendations from the Productivity Commission's reports on 'Boosting Productivity in the Services Sector' and 'More Effective Social Services'.

Fit with existing work

The Productivity Commission has a comparative advantage as an independent agency to provide fresh insights into demand, supply and other factors relevant to the adoption of new models of tertiary education, as well as looking broadly across new and emerging models. The Commission will build on its existing programme of analytical and empirical research on the productivity performance of the New Zealand economy in both the public and private sectors.

This inquiry will complement, and is not intended to replicate, work being undertaken on Skilled and Safe Work Places and would contribute to the Business Growth Agenda.

Consultation requirements

In undertaking this inquiry, the Commissions should:

- work closely with the Ministry of Education, the Tertiary Education Commission and Ministry of Business Innovation and Employment.
- consult with key interest groups and affected parties including tertiary providers, students, employers and their representatives as well as academics and international agencies as required.

Timeframes

The Commission must publish a draft report and/or discussion document, for public comment, followed by a final report that must be presented to referring Ministers by 28 February 2017.

HON BILL ENGLISH, MINISTER OF FINANCE

HON STEVEN JOYCE, MINISTER FOR TERTIARY EDUCATION, SKILLS AND EMPLOYMENT

About the draft report

This draft report aims to assist individuals and organisations to participate in the inquiry. It outlines the background to the inquiry, the Commission's approach, and the matters about which the Commission is seeking comment and information.

This draft report contains the Commission's draft findings and recommendations. It also contains a limited number of questions to which responses are invited but not required. The Commission welcomes information and comment on any part of this report and on any issues that participants consider relevant to the inquiry's terms of reference.

Key inquiry dates

Submissions due on the draft report	21 November 2016
Engagement with interested parties on the draft report	October – November 2016
Final report to the Government	28 February 2017

Why you should register your interest

The Commission seeks your help in gathering ideas, opinions and information to ensure this inquiry is well informed and relevant. The Commission will keep registered participants informed as the inquiry progresses.

You can register for updates at www.productivity.govt.nz/subscribe-to-updates, or by emailing your contact details to info@productivity.govt.nz.

Why you should make a submission

Submissions provide information to the inquiry and help shape the Commission's recommendations in the final report to the Government. Inquiry reports will quote or refer to relevant information from submissions.

How to make a submission

The due date for submissions in response to this report is **21 November 2016**. Late submissions will be accepted, but lateness may limit the Commission's ability to consider them fully.

Anyone can make a submission. Your submission may be written or in electronic or audio format. A submission may range from a short letter on one issue to a substantial response covering multiple issues. Please provide relevant facts, figures, data, examples and documents where possible to support your views. The Commission welcomes all submissions, but multiple, identical submissions will not carry more weight than the merits of your arguments. Your submission may incorporate relevant material provided to other reviews or inquiries.

Your submission should include your name and contact details and the details of any organisation you represent. The Commission will not accept submissions that, in its opinion, contain inappropriate or defamatory content.

Sending in your submission

Web: www.productivity.govt.nz/make-a-submission

Email: info@productivity.govt.nz

Post: New models of tertiary education
New Zealand Productivity Commission
PO Box 8036
The Terrace
WELLINGTON 6143
New Zealand

The Commission appreciates receiving an electronic copy of posted submissions, preferably in Microsoft Word or searchable PDF format. Please email the files to info@productivity.govt.nz.

What the Commission will do with the submissions

The Commission seeks to have as much information as possible on the public record. Submissions will become publicly available documents on the Commission's website. This will occur shortly after receipt, unless your submission is marked "in confidence" or you wish to delay its release for a short time. Please contact the Commission before submitting "in confidence" material, as it can only accept such material under special circumstances.

Other ways you can participate

The Commission welcomes feedback about its inquiry. Please email your feedback to info@productivity.govt.nz or contact the Commission to arrange a meeting with inquiry staff.

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Disclosure

Commissioner Sally Davenport is a Professor of Management at Victoria University of Wellington. Professor Davenport is also involved with two New Zealand Centres of Research Excellence – as an Emeritus Investigator with the MacDiarmid Institute for Advanced Materials and Nanotechnology, and as a Principal Investigator with Te Pūnaha Matatini. She is an Adjunct Professor with the College of Business and Economics at the Australian National University. See www.victoria.ac.nz/som/about/staff/sally-davenport for further information.

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KEY



Questions



Findings



Recommendations

Commonly used terms

Term	Description
ACE	Adult and Community Education. Enables adults to engage in education with few barriers to participation and in a context relevant to the learner. It usually does not lead to a qualification and is often focused on personal development and skill enhancement with associated social, civic and community benefits, including literacy and numeracy skills. ACE clients include both second-chance learners with no prior qualifications, and well-qualified adults pursuing lifelong learning.
allocative efficiency	Allocative efficiency is the condition in which all possible gains from exchange in a market are realised. In other words, every good or service is produced in the quantity at which an additional unit would present a marginal cost to producers equal to the marginal benefit to consumers.
AQA	Academic Quality Agency for New Zealand Universities. A body established by Universities New Zealand, which conducts regular university audits and promotes quality enhancement practices.
articulation agreements	Agreements between tertiary education providers (or between different faculties of the same provider) about how they will recognise the prior learning of students transferring from one provider to another – especially where this helps students to move from lower to higher levels of study.
assessment	A process to determine a student's achievement of identified learning outcomes. It may include written or oral presentations, or demonstrations.
business model	A business model specifies – at a high level – how an organisation carries out its business. A typical business model articulates how an organisation creates, delivers and captures value.
cartel	A cartel involves arrangements that reduce the competition between competitors, offering them increased market power. Examples include price fixing; the restriction of outputs; the allocation of customers, suppliers or territories; and bid rigging. Such arrangements are generally unlawful in New Zealand unless authorised under the Commerce Act 1986 or other legislation.
certification	Formal procedure by which an accredited or authorised organisation assesses and verifies a qualification.
co-production	In the context of education, the process whereby students and teachers both contribute to producing the student's education outcomes.
CEP	Community education provider. An organisation that delivers community education services, usually including Adult and Community Education (ACE). Those CEPs funded by the TEC are registered with NZQA as PTEs. CEPs are often owned by charitable trusts rather than for-profit firms.
credential	A verification of an individual's qualification or competence issued by an education provider or third party with the relevant authority to issue such credential. Credential encompasses educational certificates, degrees, and diplomas and their component credits, as well as newer forms such as badges.
CUAP	Committee on University Academic Programmes. A committee established by Universities New Zealand to carry out its statutory role (as the New Zealand Vice-Chancellors Committee) in quality-assuring new or changed academic programmes at universities.
delivery model	The teaching interface between a tertiary education organisation and a student.

Term	Description
disruptive innovation	Innovation that significantly changes or “disrupts” a market, often through providing simpler versions of the product or service to previously unserved markets. Disruptive innovation is in contrast to sustaining innovation.
e-learning	E-learning is teaching and learning that is facilitated by or supported through the appropriate use of information and communication technology (ICT). E-learning can cover a spectrum of activities, from supporting learning, to blended learning (the combination of traditional and e-learning practices), to learning that is delivered entirely online.
economies of scale	Situations in which the per-unit cost of production falls as the quantity produced increases.
EFTS	Equivalent full-time student. It is the main unit of measurement of the production and consumption of education, and the basis for provider subsidies. One EFTS corresponds to one student enrolled full time for one year (1 200 learning hours over 34 weeks) in a standard programme of study.
EFTS quota	The funded EFTS allocated to a provider by TEC (specified as a dollar value associated with a nominal quantity of EFTS).
emergent property	A property of a collective or system that emerges from the interaction of the individual members of the collective or system, but is not a property of those members themselves.
export education	Educating students from a different country. This might involve student travel, provider travel, a branch operation in another country, or course delivery across international boundaries (eg, online courses).
extramural study	Study that is not on-site at the education provider, for example distance learning.
financial surplus	The difference between revenue and expenses as declared in an organisation’s financial accounts.
flipped classroom	A delivery model in which students consume lesson content (eg, watch videos of lectures) outside the classroom, and then process or learn to use that knowledge during classroom activities, facilitated by a teacher. This is a “flip” of the traditional lecture model whereby students consume content in class, and then process or learn to apply it during individual study (eg, homework).
foundation education	One of three broad levels of tertiary education, along with vocational and higher education. Foundation education covers levels 1–3 of the New Zealand Qualifications Framework and aims to provide students with the skills and knowledge that form the foundations for further learning, including literacy, numeracy, and self-management and study skills.
Gordian knot	A metaphor for an apparently intractable and complex problem that can be solved by taking a new approach. The phrase comes from a legend about Alexander the Great who, presented with the “unsolvable” Gordian knot, did not attempt to untangle it but instead cut through it with a sword.
higher education	One of three broad levels of tertiary education, along with foundation and vocational education. Higher education is tertiary education at degree level or above (levels 7–10 of the New Zealand Qualifications Framework), and aims to develop abstract and theoretical knowledge of a discipline alongside advanced cognitive and non-cognitive skills.
ICT	Information and communication technology. This includes digital networks, telecommunications and broadcast media.
industry training	Training for people in the workforce that leads to a formal qualification (eg, apprenticeships). Industry training is arranged by Industry Training Organisations and is delivered in the workplace or offsite at a training provider, or a mix of both.

Term	Description
ITO	Industry training organisation. Organisations (recognised by the responsible minister) that facilitate workplace learning for trainees in employment by setting national skill standards for their industry, developing appropriate training, and monitoring the quality and assessment of trainees. Note: ITOs are TEOs but not providers.
innovation	The process of translating an idea or invention into a good or service that people value.
international rankings	Rankings of universities worldwide, published annually, based on their performance against various metrics (many of which relate to research). The three most high-profile ranking systems are the Quacquarelli Symonds, <i>Times Higher Education</i> magazine and Academic Ranking of World Universities. These are known respectively as the QS, THE, and AWRU rankings.
internationalisation	The influence on the tertiary education system (including in terms of the attributes, expectations, and options of its graduates and staff) of cross-border trade, knowledge transfers and the movement of people and ideas.
intramural study	Study on-site at an education provider.
Investment Plan	A Plan under section 159P of the Education Act 1989, written by a TEO and negotiated with TEC as a funding contract and public accountability document.
ITP	Institute of technology and polytechnic. A tertiary education institution that offers a wide diversity of tertiary education, including vocational training, and that conducts research, particularly applied and technological research.
labour productivity	Average output per unit of labour input (usually taken to be an hour of work).
labour specialisation	Specialisation of labour occurs when workers are assigned to specific parts of a production process. This generally requires them to have or develop skills specific to their assignment.
learning management system (LMS)	A learning management system is a software application for administering, documenting, tracking, reporting and delivering courses.
lifelong learning	Learning pursued throughout a person's life to foster the continuous development of their knowledge, skills, competencies and interests. Lifelong learning includes both formal and informal learning. It is in contrast to a conception of education as something a person does only in childhood and early adulthood.
market	Somewhere (physical or virtual) where buyers and sellers interact to trade things.
market power	Strictly, the ability of a producer to set its prices above the level that would apply in a competitive market. More generally, the ability of organisations to be choosy about which customers they deal with and how they treat them, without fear of the consequences.
match (and mismatch)	Matching refers to the goodness of fit between – for example – the skills of graduates and the skills demanded by employers ("labour market matching"), or a prospective student and a tertiary education offering. A "mismatch" describes a poor fit.
mission maximiser	An organisation that seeks to maximise achievement of its mission, rather than being motivated principally by profit. All TEIs, and many PTEs and CEPs, are mission maximisers. Mission maximisers do want to make a surplus – to reinvest in mission-advancing activities, rather than to return to owners.
MOOC	Massive open online course. It is a model for delivering learning content online to any person who wants to take a course, with no limit on attendance, and usually with no charge for participation (though there may be charges for additional services such as certificates of completion).
monopoly	A situation in which customers have only one choice of supplier.

Term	Description
NCEA	National Certificate of Educational Achievement. National qualifications for senior secondary school students, administered by NZQA at levels 1–3 of the NZQF.
new entrant	A firm entering into trade in a given market for the first time.
new model	A model is a way of organising the production of tertiary education or the relations between system participants to achieve a defined goal or goals. A “new model” means one not currently in common use.
NZQA	New Zealand Qualifications Authority. NZQA is a government agency whose role is to ensure that New Zealand qualifications are regarded as credible and robust, nationally and internationally. NZQA manages the NZQF, administers the secondary school assessment system, assures the quality of non-university education providers, and performs qualifications recognition and standard-setting functions.
NZQF	New Zealand Qualifications Framework. A comprehensive list of all quality-assured qualifications in New Zealand (secondary and tertiary), administered by NZQA. The NZQA stratifies qualifications across ten levels, from foundational certificates at level 1 (eg, NCEA level 1) to doctoral degrees at level 10).
New Zealand Vice-Chancellors Committee	A committee of the eight Vice Chancellors of New Zealand universities established under statute. Operates as Universities New Zealand.
operating model	See business model.
OTEP	Other Tertiary Education Provider. OTEPs are organisations that deliver programmes of tertiary education or in support of tertiary education of some national significance, and that are recognised by the Minister of Education. They are neither TEIs nor PTEs.
Pasifika	A collective term to describe peoples from Polynesia, Melanesia and Micronesia. In this report, Pasifika refers to those living in New Zealand.
PBRF	Performance-Based Research Fund. A fund administered by TEC that financially rewards participating providers based on metrics that reflect the quantity and quality of their research output.
pedagogy	The theory, method and practice of teaching.
Performance-Linked Funding	A policy whereby a proportion of a TEO’s funding is conditional on meeting minimum performance thresholds set by government. For the SAC fund, 5% of providers’ SAC funding is conditional on their performance in course completion, qualification completion, retention and progression. For ITOs, 5% of industry training funding is conditional on their performance in trainee credit attainment.
political economy	The effect of political factors on economic outcomes.
priority group	A group of learners whose participation and success in the tertiary education system is a priority for the Government. The current Tertiary Education Strategy identifies four priority groups: Māori, Pasifika, young people at risk, and adults with low levels of literacy and numeracy.
provider	See <i>tertiary providers</i>
PTE	Private training establishment. A provider of post-school education or vocational training that is not a Crown entity.
SAC	Student Achievement Component. The largest of the Government’s tertiary education funds, used to purchase provider-based tertiary education.
sector	Sometimes used as a shorthand for the “tertiary education sector” (ie, all tertiary education organisations).

Term	Description
secondary-tertiary partnership (STP)	An STP is a partnership between tertiary education organisations (TEOs) and schools. STPs aim to meet the needs of students at risk of disengaging from education by raising their achievement levels and promoting positive transitions to further education, training or work. Students attend courses provided by the TEO for part of the school week. Trades Academies are one example.
self-accreditation	Self-accreditation refers to a provider's ability to determine the content and nature of their educational delivery without seeking approval from an external quality-assurance body.
skills-biased technological change	The tendency of technology to influence the relative demand for skilled versus unskilled labour, in favour of skilled labour.
skills	Subject-specific knowledge, such as literacy and numeracy, and non-subject-specific abilities, such as critical and creative thinking. Technical and vocational skills are a mixture of knowledge and abilities used to perform specific jobs with clearly defined tasks.
STEM	Science, technology, engineering and mathematics.
STM	Standard training measure. A measure of industry training quantity (the industry training equivalent of an EFTS). 1.0 STM corresponds to the amount of training that is required for a trainee to achieve 120 credits (or equivalent) on the New Zealand Qualifications Framework.
student allowance	A weekly payment to help students cover living expenses while they study. Entitlement to student allowance is based on criteria set out by StudyLink such as parental income or being over the age of 24.
Student Education Account (SEA)	A funding approach whereby each New Zealander receives a cash entitlement at age 16 to spend on the tertiary education of their choice. The proposal is described in Chapter 12, and the Commission seeks feedback on it.
Student Loan Scheme (SLS)	A government scheme that lends money to students to finance their tertiary study, with repayments from their future income once it reaches \$19 084 yearly (or \$367 weekly, or \$734 fortnightly – deductions are made in each pay period, so if someone is paid fortnightly, they will make repayments in any fortnight in which they earn more than \$734, even if their annual income is under \$19 084). The loan is interest free for New Zealand resident borrowers, while they remain in New Zealand.
subsector	One of universities, ITPs, wānanga, PTEs or ITOs.
sustaining innovation	Innovation that improves an existing business model. Sustaining innovation is in contrast to disruptive innovation.
system	A combination of interrelated, inter-dependent, or interacting elements forming a collective entity.
TEC	Tertiary Education Commission. The TEC is a Crown entity responsible for funding most tertiary education in New Zealand.
TEI	Tertiary education institutions are public tertiary education providers. A university, ITP or wānanga, all of which are Crown entities established under the Education Act 1989. (Universities were first established under earlier statutes.)
TEO	Tertiary education organisation. TEO is a catch-all term for organisations that provide tertiary education-related services. It includes universities, ITPs, wānanga, PTEs, Rural Education Activity Programmes, community education providers, TEC-funded schools (eg, those who provide Gateway or Adult and Community Education), ITOs, and a small number of employers in receipt of TEC funding.
Tertiary Education Strategy (TES)	A statutory document that describes the Government's current and medium-term priorities, and long-term strategic direction, for tertiary education. The current TES covers the period from 2014 to 2019.

Term	Description
tertiary education system	The various participants who fund, specify, regulate, influence, provide and consume tertiary educational services; and the formal and informal relationships between those participants.
tertiary provider	Tertiary education organisations that deliver courses. These courses range from transition (school to work) programmes, through to postgraduate study and research. Note that this term excludes ITOs, which arrange but do not deliver courses.
trend	A general direction in which something is developing or changing.
tuition costs	Can refer to many different things, including the price paid by students (either gross or net of student loans), the costs incurred by providers, or the costs incurred by government (including or excluding the effective cost of student loans).
tuition fees	The price charged by providers to students for tertiary education, usually on a per-course basis.
Universities New Zealand (UNZ)	Operating name for the New Zealand Vice-Chancellors Committee, established under s 240 of the Education Act 1989.
university	A provider of higher education, including degrees and often (but not always) including postgraduate research degrees and other research services. In New Zealand, a university is defined in s 162 of the Education Act 1989 as a TEI that is “characterised by a wide diversity of teaching and research, especially at a higher level, that maintains, advances, disseminates, and assists the application of, knowledge, develops intellectual independence, and promotes community learning”.
University Entrance	A common education standard that is a formal prerequisite for entrance to university in New Zealand for domestic students under the age of 20 (though students who lack it can apply for provisional entrance). The University Entrance standard is administered by NZQA under s 247 of the Education Act 1989 in consultation with universities and the Vice-Chancellors Committee. It currently comprises a package of credits at NCEA level 3, including a minimum number of credits in literacy, numeracy and various “approved subjects”.
value add	Measurements of value-add in tertiary education attempt to identify what difference a given course of study makes to a student, taking into account where the student started from, and where they would likely have ended up without the tertiary study. This can be done by comparing “before” and “after” measures, or by modelling “actual” versus “expected” outcomes based on data about cohorts of students.
vocational education	One of three broad levels of tertiary education, along with foundation and higher education. Vocational education aims to provide students with practical skills for application in a particular occupational field, such as a trade. Most vocational education is at levels 4–6 of the New Zealand Qualifications Framework.
Youth Guarantee	<p>Refers in this report to the TEC-administered Youth Guarantee fund, which purchases fees-free tertiary provision at levels 1–3 of the NZQF (including NCEA 1 or 2 delivered by a tertiary provider) for students aged 16 to 19.</p> <p>The term “Youth Guarantee” can also refer to a collection of government policy and funding initiatives, including STPs (as well as the TEC-administered Youth Guarantee fund), aimed at helping secondary school students or school-leavers acquire foundation qualifications and make a smooth transition from school into further study or work,</p>

Te reo Māori terms

Te reo Māori is one of New Zealand's three official languages – along with New Zealand English and New Zealand Sign Language. This report uses some terms that may be unfamiliar to international readers.

Term	Description
āhuatanga Māori	A Māori method of teaching that facilitates a community to give expression to its values and principles.
hapū	Kinship group, clan, tribe, subtribe.
hāpori	Section of a kinship group, family, society, community.
iwi	Often translated as “tribe”. Iwi is a collection of hapū (clans) that are composed of whānau (defined below). The link between the three groups is genealogical.
kaupapa	Purpose, mission, or approach. Kaupapa Māori means an approach reflecting Māori values and culture.
kanohi ki te kanohi	Face to face.
marae	Literally “courtyard” – the open area in front of the <i>wharenuī</i> , (meeting house) where formal greetings and discussions take place. Often also used to include the complex of buildings around the <i>marae</i> .
mātauranga Māori	Māori knowledge – originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices.
pākehā	New Zealander of European descent; literally English, European or foreign.
pāngarau	Mathematics.
pānui	Reading, speaking aloud.
Te Puni Kōkiri	The Ministry of Māori Development.
te reo Māori	The Māori language
tikanga	Literally “the things that are correct”. Sometimes translated as “protocol” or “customary practice”, tikanga is the customary system of values and practices that have developed over time and are deeply embedded in the social context.
tuhituhi	Writing.
whānau	Family. Whānau may refer to nuclear or extended families.
wānanga	A tertiary education institution that provides programmes in a Māori cultural context, with an application of knowledge regarding āhuatanga Māori (Māori traditions) according to tikanga Māori (Māori custom).

Overview

The Government has asked the Productivity Commission to carry out an inquiry into “new models of tertiary education”. The inquiry takes a whole-of-system perspective, considering how trends – especially in technology, tuition costs, skill demand, demography and internationalisation – may drive changes in business models and delivery models in the tertiary sector.

The terms of reference for the inquiry suggest that the tertiary education system has “considerable inertia”, with tertiary providers reluctant to be first movers or early adopters in shifting away from traditional models. At the outset of the inquiry, the Commission was mindful of the importance of this alleged problem. If providers in the tertiary education system are inflexible and slow to adapt to changing circumstances, then that carries with it considerable risks for New Zealand and missed opportunities for improvement. As this Overview explains, tertiary education does have considerable inertia, but this is an emergent property of the system rather than a characteristic of tertiary education providers.

New Zealand’s tertiary education system

Why does tertiary education matter?

Tertiary education improves the lives of students, and improves society. For students, education develops knowledge and skills that allow them to live an enriched life. It helps people to understand and navigate the world around them, as well as question and challenge the way things are. It creates access to opportunities, forges identity and culture, and frequently leads to lifelong benefits in terms of health, wealth, life satisfaction and civic participation.

There are public benefits too: a stronger civic society, the advancement of knowledge, the preservation of cultural heritage, and the development of a skilled workforce that can contribute to productivity and wellbeing.

Tertiary education is not an ordinary consumer good. It typically combines a number of separate services like teaching, assessment, and pastoral care. It can be difficult for a student to fully assess the quality of education provided, even after it has been delivered. Most importantly, a successful tertiary education requires considerable effort on the part of both students and teachers. In this sense, an education is “co-produced”. This has important implications for how the Commission has thought about the issues in tertiary education.

The current state of the tertiary education system

New Zealand’s tertiary education system has changed dramatically over the last 30 years. The system accommodated growing numbers of students through the last decades of the 20th century. The proportion of the adult population with formal post-school qualifications, and higher-level qualifications, has grown over time. Each New Zealand university is ranked in the top 3% in the world, vocational and industry training are well-regarded internationally, wānanga serve many people who would otherwise miss out on tertiary education, and the country has a diverse set of private training establishments, many of which are well-connected to employers and their local communities.

This inquiry considers how well-placed these providers are to continue to deliver successfully for New Zealand, given the risks and opportunities presented from ongoing changes in technology, demography, costs, internationalisation, and student and employer demand.

A good tertiary education system is one that meets the needs of all students, including those from diverse backgrounds and with diverse goals. This includes school leavers preparing for their adult lives and careers, young people needing a second chance after disengaging from education, older adults retraining to meet the needs of a changing labour market, and people of all ages who want to become more educated in areas of interest to them.

The Commission finds that the tertiary education system is not well-placed to respond to uncertain future trends and the demands of more diverse learners. The system is not good at trying and adopting new ways of delivering education, and does not have the features that will allow it to respond flexibly to the changing needs of New Zealand and New Zealanders. The system does a good job of supporting and protecting *providers* that are considered important, but it is not *student-centred*. Nor does it reach out, as much as it could, to extend the benefits of education to groups that have traditionally missed out on tertiary education.

This is largely due to the high degree of central control that stifles the ability of providers to innovate. Nobody set out to design a tertiary education system characterised by inertia. But over time central government has responded to fiscal pressure, political risks, and quality concerns by layering increasingly prescriptive funding rules and regulatory requirements on providers. These have the cumulative effect of tying the system down. As one submitter noted:

The New Zealand system is not innovative. The Government agencies are risk-averse and the funding systems penalise failure (which is needed sometimes for innovation) ... “the Government only controls the number of students, the amount of funding available, the level of fees and what you can teach. Everything else is up to you.” (Independent Tertiary Institutions, sub. 81, p. 20)

This report outlines a number of recommendations that would improve the tertiary education system’s ability to respond flexibly to future pressures or opportunities. Providers need more freedom, and incentives, to try new things. They should have greater autonomy and responsibility. Students can be more powerful in driving quality and innovation within the system.

But these recommendations can only go so far in addressing the major structural deficiencies identified in this report. The current system is set up to be too supply-driven, with providers more responsive to government than to students. This report presents an option to re-orient the system so that students are at the centre, recognising the importance of co-production between students and teachers in the successful delivery of education. The current tertiary funding system subsidises both providers and students through various means. The Commission is seeking feedback on a proposal to shift more of that subsidy towards students. Such a system would better match the diverse learning needs of students with new and innovative delivery models, and reduce inequities inherent in the current subsidy arrangements.

Where is the system innovative? What are the possibilities?

Teachers and providers innovate – but core business models have persisted

The Commission finds that, across the tertiary system, many teachers and groups of teachers are innovating, including integrating new technology into their teaching practice. Passionate professionals are trying new things. But there is a lack of system dynamism necessary for these approaches to scale up and transform education delivery.

Innovation is also happening at the provider level, but usually this delivers incremental improvements to existing ways of doing things. Providers refresh their course offerings, upgrade their Learning Management Systems, offer WiFi and invest in more flexible learning spaces. Examples of New Zealand tertiary providers with significantly new and different models of tertiary education are rare. Where they occur, they usually arise because:

- the government responds to a proposed model and specifically enables it, in the case of secondary-tertiary partnerships or the recognition of wānanga;
- there is dedicated government funding for a programme, for example the University of Otago’s Māori Health Workforce Development Unit, Massey University’s Te Rau Pauwai programme³, and ICT graduate schools;
- the model is outside the government-funded system, as in the case of the Enspiral Dev Academy.

³ The Otago and Massey initiatives are funded from Vote Health.

The Commission has seen examples in other countries of innovations that, rather than being incorporated into existing business models at the margins, have significantly reshaped how providers plan and undertake the delivery of education to students:

- providers striking out to deliver tertiary education online and through blended models that combine online and face-to-face delivery/provision to previously unserved groups of students;
- cutting-edge approaches to using administrative and other data to tailor learning support to individuals;
- the close integration of work and learning not just for vocational education, but also higher education; and
- “all you can eat” models of education where students pay by subscription and sit as many credits as they wish.

None of these models would supplant existing delivery models in New Zealand. But a well-functioning tertiary education system would offer more diversity and specialisation on the part of providers, and students would be able to choose from models like these alongside more traditional options.

Better matching is possible via new models

New models of tertiary education present an opportunity to increase the diversity of delivery approaches, educational methods and learning environments available to students. In turn, this increases the opportunities for individual students to find a match that suits their needs and aspirations.

Insights from the science of learning – combined with advances in information technology and alternative models of course design, implementation and evaluation – show how tertiary education can adapt to better match the needs of an increasingly diverse range of students. For example, some tertiary education providers are using their administrative data in a rich new way; “flipping” classrooms; embracing project-based learning; and finding new approaches to engaging students.

Different educational approaches and environments have different costs and benefits for different kinds of student. No single approach works best for everyone. Greater diversity and specialisation would promote excellence in tertiary education at the top end, as well as models that serve the needs of learners who require more support.

New models would also help the education system adapt to a changing society and world of work. For example, models at all levels of study that allowed students to combine education and work would improve the ability of the education system to meet the needs of employers. A wider range of models could help ensure the technical curriculum meets employers’ requirements, as well as encourage the development of transferable skills such as communication and teamwork.

Inertia is an emergent property of the system

The Commission finds considerable inertia in New Zealand tertiary education, but this is an emergent property of the system rather than an inherent feature of providers. In other words, this inertia is a product of the regulatory and funding system within which the providers operate. Though higher-ranked universities have a strong attachment to traditional ways of delivering education, many providers (across all subsectors) show an appetite for doing things differently. While the system serves some students well, it could be further improved by more innovation. In many respects, the system stymies or prohibits innovations, punishes risk-takers, and reinforces existing practices.

Government control is pervasive

The tertiary education system is controlled by a series of prescriptive regulatory and funding rules that dictate the nature, price, quality, volume and location of much delivery. These controls have extended over time as a result of various financial, quality and political risks. Together they constrain the ability of providers to innovate, drive homogeneity in provision, and limit the flexibility and responsiveness of the system as a whole.

Tuition subsidies allocated to tertiary providers come with tight specifications on the nature and volume of delivery, and these limit the ability of providers to develop new or innovative offerings. Government purchases a limited range of products: in most cases it will only subsidise study towards a full qualification, and the equivalent full-time student (EFTS) funding mechanism⁴ bundles teaching, assessment, credentialing and often pastoral care. Government also regulates the fees that providers can charge.

The total number of domestic student places in the tertiary system is capped, and the proportion of total government funding that shifts between providers year to year is very small. This means that high-performing providers have little scope to grow at the expense of poor performers.

Quality assurance in the tertiary system inhibits innovation. In the university subsector quality assurance is delegated to Universities New Zealand through its Academic Quality Agency and its Committee on University Academic Programmes (CUAP). These arrangements are characterised by slow timeframes for the approval of new degrees, and the focus is primarily on processes rather than student outcomes. The costly and protracted nature of NZQA's regulatory processes is also a barrier to innovation in the system. The system appropriately seeks to ensure minimum standards are met, but overall the system lacks a mechanism for rewarding quality or responsiveness to students.

Armstrong notes that in education, ideas of quality come to be defined by existing practice:

When an organization has been successful for a considerable length of time, the people in that organization come to believe that their value proposition defines quality in their field, and that the resources and processes used are necessary for the production of that quality... That is, the status quo of the entire business model comes to exemplify quality. (2014, p. 4)

So quality assurance processes can reinforce existing practices, rather than supporting new ones. Equating traditional models of delivery with quality also reinforces cultural resistance to change within providers.

Regulation does the opposite of what it does in other sectors

In most parts of the economy, government has an important role to play in controlling market power, limiting monopolistic behaviour, and preventing cartels. The reason for such regulation is to protect the public by facilitating new entrants, lowering prices, improving quality, and encouraging innovations to better serve existing and prospective customers.

In tertiary education, government regulates with the opposite effect: government regulations bestow market power, grant local monopolies, and require cartel structures. The results should not be surprising: significant barriers to new entrants, rising costs, and a lack of innovation in serving current or prospective students.

The result is the delivery of more “traditional” tertiary education

In recent years, students in New Zealand have become more likely to be engaged in a traditional conception of tertiary education. The average student is becoming younger and is more likely to be a school leaver. The share of full-year, full-time study is increasing. The share of intramural (on campus) study is also increasing. This is the result of:

- government steering via the Tertiary Education Strategy, which for some time prioritised delivering education to these groups;
- the focus of the performance management regime on completions, which tend to be higher through full-year, full-time, intramural study; and
- the rationing of access to education through the allocation of EFTS, which means that many providers can fill their quota by continuing their existing modes of delivery, and which offers no incentive for providers to try something new to reach unserved students.

⁴ An EFTS is the main unit purchased by the Tertiary Education Commission and delivered by tertiary providers via Investment Plans. It is defined by inputs, and commodifies the complex, co-produced good of tertiary education into a simple product that is purchased and supplied in a “market for EFTS”. A similar unit exists in industry training (the Standard Training Measure or STM) with similar problems.

A system that is educating fewer students over time...

Participation in tertiary education exploded in the 1980s and 1990s. Uncapped, the system expanded to serve the significant growing or latent demand for tertiary education, including from groups that had historically poor levels of participation. Significant quality problems occurred along the way, and the system was recapped in stages between 2003 and 2006.

In recent years government has funded fewer EFTS, particularly at lower levels of study, and students have been studying more intensively. As a result, participation rates in tertiary education have been steadily falling over the last decade, with more than 20% fewer domestic enrolments in provider-based tertiary education in 2015 than in 2005. Even so, the proportion of adults with higher-level qualifications is greater in New Zealand than in many other OECD countries – partly because of skilled migrants.

...and continues to serve some population groups poorly

Māori and Pasifika students have higher rates of participation in tertiary education than Pākehā overall, but this is exclusively because of their higher rates of participation in study at subdegree level. Even allowing for prior achievement at school, Māori students have lower rates of participation in study at degree level; and while Pasifika students with University Entrance are as likely to enter study at degree level as their Pākehā peers, they are much less likely to complete a degree.

Tertiary education subsidies are inequitable

Prior school achievement is the biggest predictor of a student's participation and success in tertiary education. And the tertiary education system amplifies the outcomes of the schooling system. This is because the government subsidy pays providers to deliver to students who are *in tertiary education*. The longer the course, the bigger the subsidy. This subsidy is increased by the interest-free student loan settings. Yet tertiary students, especially those with degrees that take longer, are likely to earn higher incomes because of their education.

Students are disempowered

The funding and regulation settings mean that students are presented with a relatively homogenous range of providers and offerings, with the exception of specialist courses like medicine. Students who can afford to may choose to study overseas, and this may be a growing trend. Most public providers serve regional markets delivering a wide range of programmes through a narrow range of delivery methods to a similar level of quality.

Providers often impose high switching costs on students and have incentives to do so. Students may change their mind about a field of study or provider, or want to change the qualification level they are studying towards. A student may be unhappy with the quality or type of education they are receiving or may just realise they have made a mistake. But the system does not support students to change their path or to have their credit or prior learning recognised. The way the government measures and rewards provider performance means providers have little incentive to help students change their course of study. In some cases a student transfer should be considered a success.

The tertiary education sector is exposed to uncertain trends

The economy and society of New Zealand have changed significantly, and some aspects of the tertiary education system have changed with them. People are making different study choices in response to increasing labour specialisation, the development of the service economy, and skills-biased technological change. The result is that an increasing number of New Zealanders are tertiary qualified in an increasing range of fields.

The demands on the tertiary education system will continue to change. Many people predict that ongoing technological change will reshape the economy, and require people to upskill and retrain more often. Yet many tertiary providers in New Zealand do not consider that technology will significantly change their core operating models in the future.

Past predictions about the future of tertiary education delivery have frequently proved incorrect. Massive open online courses (MOOCs) may never live up to their 2012 hype. But blended e-learning approaches and wholly online offerings are increasingly common in other countries, including from some of the world's highest-ranked tertiary education providers.

Change is inevitable, but predicting how future trends will influence tertiary education is hard. Under current settings, the system has little or no ability to respond spontaneously to such change. It falls to the government to accurately predict these trends so that it can adjust its purchasing correctly and ensure its rigid regulatory controls are appropriate for changing times. It is unlikely to be able to do either effectively.

A better approach would be to allow providers to pursue different strategies, differentiate themselves, and adopt a wider range of new models. This would make the system more flexible, responsive, and resilient in the face of external shocks.

Providers respond to government, not students

Co-production works best when (among other things) providers and consumers have shared objectives, and shared expectations of what is required of each of them in the co-production process. In a student-centred system, providers would be responsive to the needs and aspirations of students.

Under the current tertiary education system, government allocates subsidies to providers who then allocate places to students. This system requires students to understand and meet the needs of providers (rather than the other way around), and means that providers are responsive to government (rather than to students).

The cost of education to government, and in particular the significant uncontrolled costs that arise via the interest-free student loan scheme, has had the unintended consequence of creating a strong incentive to constrain the supply of tertiary education. Government's allocation of quotas to providers, and the way it measures and rewards performance through Performance-Linked Funding, give providers an incentive to cherry-pick the best students. These policies also weaken the incentives of providers to help students to become high achievers (rather than just pass courses).

Many submitters thought that New Zealanders will increasingly require mid-career retraining. The current system presents multiple barriers to this, including:

- funding and regulatory settings that encourage providers to focus on younger, full-time learners completing full qualifications;
- the design of the student support system; and
- rules that make recognition of prior learning difficult and costly to individuals.

Recommendations to get the regulatory balance right

Quality assurance needs to ensure minimum levels of acceptable quality, without choking innovations that might help providers serve students better. In some areas the regulatory porridge is too hot; in others it is too cold. The current system relies heavily on ex ante control of qualifications and courses, and lacks effective ex post monitoring of student outcomes. Better information on provider performance would come from measuring and reporting on the difference that providers make for students, taking into account the different initial skills and resources that students bring to their education – the “value-add” of providers for the diversity of students they work with.

Disruptive innovations that combine technology with new ways of delivering value are more likely to come from new entrants than established organisations. New entrants often begin by radically expanding the market for a product or service, and are frequently subject to criticism as offering an inferior product. But the beneficiaries are often people who were previously not accessing the product or service at all.

A more diverse system with new models of tertiary education requires a quality control regime that ensures that providers meet minimum quality standards, without the input controls that would only serve to reinforce existing models. Better ex post monitoring of service quality and student outcomes will be needed.

Competent institutions should self-accredit

The collective accreditation of programmes of study, through processes like CUAP, stifles innovation. It tends to define quality in terms of existing practices. It also gives providers veto power over each other's offerings, and the delay involved denies providers any market advantage from offering something new and distinctive.

In many other countries, including Australia, universities are individually accountable for the quality of their own programmes. Competent providers in New Zealand should be given self-accrediting status. Self-accrediting status should be open to providers (from any subsector) that demonstrate the capability to effectively manage their own quality assurance processes. NZQA should also simplify and speed up its programme approval processes for providers that do not have self-accrediting status.

Break open the EFTS

The EFTS model of subsidising tertiary education is a significant challenge to innovative learning models, and in particular online models, because the EFTS model entails measures of "learning hours" that can only be assured when everyone progresses through learning at the same pace. The EFTS is a barrier to education models that accelerate the delivery of learning, or that separate teaching, assessment and credentialing. The Government should alter the definition of an EFTS to allow alternatives to the input-based "learning hour" as a basis of calculation. Creating standardised units of learning to replace actual measures of delivery time would open up innovations that accelerate learning.

Allow the unbundling of research and teaching

The Education Act 1989 requires that research and teaching are closely inter-dependent at universities, and that degrees (delivered by any type of provider) are taught mainly by people engaged in teaching and research. Many good universities and good degrees from Australia, the United Kingdom and the United States would not meet this requirement. For example, Australia's top university for "skills development" and second for "overall quality of educational experience" is only research active in 5 of the 22 fields of study offered.

Some of the more innovative models of tertiary education delivery in other countries involve greater specialisation in teaching. These would not currently be possible in New Zealand. The legislative requirements to bundle teaching and research should be relaxed.

Many academics believe that there are strong complementarities between teaching and research, but the empirical evidence shows that this relationship is weak. Some universities believe that the bundling of research and teaching is value-creating, and that students want this. If this is so, then these providers will sensibly continue to operate in this way without a legislative requirement to do so. But other providers may disagree and pursue other approaches, and this will provide a wider range of choices for students.

Performance-Linked Funding should be discontinued

The Performance-Linked Funding scheme was designed to encourage providers to reach an "acceptable standard of educational performance". But Performance-Linked Funding provides weak incentives for good performance and an insufficient sanction for below-threshold performance. Providers that fail to meet an acceptable standard of performance should lose their licence to operate. Performance-Linked Funding should be discontinued.

Tertiary education institutions should have more autonomy and responsibility

One reason government maintains tight control over tertiary education institutions (TEIs) – public tertiary providers – is because government bears legal liability for their debts in the event of failure. So government has a reason to closely monitor the financial performance of TEIs, and, fearing the worst, it keeps close

control over how TEIs use and dispose of assets. This control inhibits the kind of innovation that might radically change a TEI's business model.

A TEI is required to produce a small surplus, but it also has an incentive to spend what it earns. If its surplus is too big, the TEI will find it hard to seek higher funding levels from the government. So it can have an incentive to accumulate assets like buildings, which can lock in particular models of delivering education and prevent capital being invested in new models.

Financially competent TEIs should own and control their assets and be liable for their debts.⁵ The exemption from paying local government rates should be removed. These recommendations provide TEIs with the capability and incentive to direct capital investments towards new models of education.

Allow new entrants

The government should reduce the barriers to new providers entering the market. Universities New Zealand submitted that there are three main threats to the New Zealand university system over the next 10 years.

- Providers offering internationally recognised brand degrees in New Zealand (likely) – A multi-campus/multi-channel university with an internationally recognised and valued name (like Harvard or MIT) sets up a campus in New Zealand and starts offering its programmes and qualifications in New Zealand. The learning experience and graduate quality is at the same level as that of those who graduate from the parent institution...
- An aggregator sets up shop in New Zealand (possible) – The aggregation model is that currently being explored by the main MOOCs providers. Under this model, the aggregator bundles up courses offered by other typically highly respected brand name providers, and limits its role to running assessment centres and awarding qualifications...
- A successful transformation model actually emerges (possible, but not in the near future) – A model emerges that satisfies the requirements of (a) conferring education and degrees that are credible to students and employers, (b) does not require the sunk capital infrastructure of the campus environment, and (c) does not require extensive subsidising. This model does not currently exist (other than the aggregator model listed above). (sub. 17, pp. 84–85)

While these may be threats to the market share of incumbent universities, the successful introduction of these models into the New Zealand tertiary education system could be a boon for students. It could offer students greater choice and access to new programmes and modes of delivery. The Ministry of Education should systematically identify and remove regulatory barriers to new entrants of suitable quality in the tertiary education system. A polytechnic should not need the Tertiary Education Commission's approval to operate outside its region.

Promote student access and mobility

Students should be able to mix and match courses from different providers more easily. Students should have clearer information from providers about how their learning will be recognised when they transfer between qualifications or providers. Because providers have all the power in credit transfer decisions, students should have a Student Ombudsman to stand behind them if necessary.

The Student Loan Scheme conflates a subsidy to tertiary education, with an income contingent loan designed to promote access. Around \$600 million of debt is written off by the government each year: about half is attributable to the lack of interest cost; the remainder is various forms of non-repayment or default. There are many places in the education system where this money could be better spent. At present, this cost discourages government from taking steps that would increase access to tertiary education. Government should charge interest on future loans at a rate that covers the cost of the Student Loan Scheme. This will provide flexibility necessary to expand access to tertiary education.

⁵ The arrangements for assessing the financial competence of TEIs are under review, but the government collects sufficient information to make such assessments.

Better prepare students

Concerns about how students transition into tertiary education are widespread, as are concerns about how well the compulsory education system prepares students for further learning and to take decisions about future study. Prospective students, inadequately prepared, are presented with a confusing array of official and unofficial information sources about what they should and could study.

The arrangement and delivery of career services in schools, and government provision of information to prospective tertiary students, is fragmented and does not prepare young people to make career and study decisions. The government should review the arrangements for career education in schools, to create a system that focuses on building career skills in young people rather than giving them information. It should also rationalise official sources of career and study information.

Government publishes a variety of information about the outcomes of the tertiary education system. It is improving this information so that students can make better judgements about individual providers and courses. But the outcome measures most often used by government – course and qualification completion rates, and graduate salaries and employment rates – are not reliably good indicators of a provider's performance in educating students, because they do not measure value-add.

The University Entrance standard is also an unhelpful signal. University Entrance does not reliably signify preparedness for higher-level study. It also implies that a young person who achieves University Entrance is best off attending a university, when this may not be the case. Some universities set higher standards, while others would like to enrol students that do not have University Entrance. University Entrance should be abolished.

Empower students

The changes described above would contribute to a more flexible and responsive tertiary education system. But the more fundamental causes of system inertia, and the barriers to a system that is truly fit for purpose in a fast-changing society and economy, are baked into the architecture of the system by the central allocation of places by government to providers. For example, regulatory barriers to new entrants can be lowered, but a new provider's ability to operate is substantially constrained without an allocation of EFTS from the government.

Neither the government's investment in tertiary education nor the collective investment of students flow to providers that are better at teaching, or are more innovative, or offer what students want. Existing providers – especially TEIs – can rely with reasonable safety on being reallocated a similar volume of EFTS year after year, as long as their performance does not fall below minimum standards. Providers who can meet their quota by attracting younger, full-time students to on-campus study have clear incentives to do so, because this traditional model is well-supported by the funding policy. Such providers have few or no incentives to innovate to meet latent demand. More significant reform of this model is required.

The current system is insufficiently responsive to students. Student access to tertiary education is centrally controlled, and choice is constrained. Government prescription, rather than student demand, is the main driver of what providers offer. The system makes it hard for students to package up learning from different providers, or switch providers or programmes of learning, because the funding and regulatory models do not take account of their preferences and aspirations.

The underlying themes of the tertiary funding system – that it favours the largest number of fulltime students enrolled for the longest period and by individual institutions; and that it is long on penalties for failure and short on incentives for collaboration or for thoughtful risk-taking – are both potentially inimical to what the ITP [institutes of technology and polytechnics] sector sees as appropriate responses to the changing global economy. (NZITP & Metro Group, sub. 42, p. 2)

Further, the dynamics in the system mean government will face pressure over time to re-tighten controls. The political economy leads towards over-specification and over-regulation, and constrains innovation.

The Commission is interested in the views of submitters on the merits of a Student Education Account. If the roughly \$2.8 billion that government spent on tertiary tuition and training in 2014/15 was instead distributed

to every resident who turned 16 that year, a young person could have access to \$45 000 to be spent on qualifying courses of study that they and their advisors judge are best suited to their future.

This would comfortably cover three years of study at a polytechnic (with around \$8 000 left over), or a three-year university degree in many fields of study. With an individual Student Education Account a student could also choose the timing of their investment, studying when they left school or later in life.

This option would transform our education system from one where providers are responsive to government, to one where they were responsive to the needs of students. A Student Education Account would improve access to education, rebalancing the current regressive funding arrangements and providing more options to those currently missing out. It would drive a system that was significantly more innovative: providers would be free to develop and offer just about any model that they think students will value, subject always to meeting minimum quality standards. This, in conjunction with the recommendation to allow providers to become self-accrediting, would greatly increase the chances of genuine innovation, and of the system adapting quickly to changes in student and employer demand.

A Student Education Account would require careful design. In particular, the transition from the existing funding system to one based on Student Education Accounts would be complex. This report elaborates on the concept. The Commission is not yet in a position to recommend such a change, but the report asks questions about the merits of this proposal.

A complete list of findings, recommendations and questions are in the draft report.

A more resilient system

What has served New Zealand well in the past is unlikely to meet future needs, given the significant influences and changes facing the tertiary education system. The future opportunities and threats in tertiary education are unpredictable. The tightly constrained system creates risks for students, government and society because it relies on government anticipating and responding to rapidly emerging, and potentially disruptive, trends.

The regulatory and funding arrangements for tertiary education are focused on protecting the interests of providers, rather than delivering effective outcomes for students or people outside the system who would benefit from a tertiary education. This situation needs to change.

Government should allow providers to innovate and pursue different strategies, with different delivery models, serving different groups of students. This would sustain and promote excellence in tertiary education, while ensuring the system as a whole serves a wider range of learners. Having a range of models for delivering tertiary education would greatly increase the system's flexibility and responsiveness to deliver the sort of education that New Zealand, and its students, need now and in the future.

1 About this inquiry

1.1 What the Commission was asked to do

The Government has asked the New Zealand Productivity Commission (the Commission) to undertake an inquiry into new models of tertiary education. In the terms of reference for the inquiry, the Government highlighted how the tertiary education sector has had to adapt to significant change over the last two decades.

Trends

Tertiary education providers operate in a dynamic environment where various trends offer both challenges and opportunities. Trends identified in the terms of reference include:

- ongoing technological change which offers new ways to deliver tertiary education programmes and more choice for students, but which also challenges traditional organisational and operating models;
- increasing tuition costs;
- increasing internationalisation including: the growth and rising quality of universities and research organisations in Asia; competition internationally for students, academics and research investment; the growth of export education; and the acceleration of the English language as the language of global business and research;
- changes in employer demand and student demand, including changes in the types of skills demanded; demand for options to combine study with work and other commitments; and demand for on-the-job and mid-career retraining; and
- demographic change – an ageing and more diverse population. New Zealand’s demography is set to reduce the number of domestic tertiary students for the next few years.

Barriers to innovation

The terms of reference ask the Commission to identify the potential barriers to innovation that government and providers could address to increase the benefits from adopting new models of tertiary education. Potential barriers include:

- the policy and regulatory settings that govern tertiary providers;
- the risks perceived by tertiary providers that may make them slow to innovate and develop alternative delivery models; and
- resistance to internal change by tertiary providers and their sector bodies.

What are new models?

“New models” are new and improved ways of adapting to change and achieving an end. In this inquiry, and in line with the terms of reference, the Commission defines new models broadly (while focusing on teaching and learning, rather than on research). New models could be improved ways of facilitating learning or better ways of delivering tertiary education. New models could also potentially include different policy, regulatory, funding and quality assurance arrangements.

1.2 Approach to the inquiry

The terms of reference suggest there is “considerable inertia” in the tertiary education system, with tertiary providers reluctant to be first movers or early adopters in shifting away from traditional models. At the outset of the inquiry, the Commission was mindful of the importance of this alleged problem. If providers in the

tertiary education system are inflexible and slow to adapt to changing circumstances, then that carries with it considerable risks for New Zealand and missed opportunities for improvement.

Risks

The more tightly prescribed the New Zealand tertiary system, the higher the stakes for government and providers in the face of emerging (and potentially disruptive) trends. And while the terms of reference ask the Commission to assess the potential impacts of trends and new models on the New Zealand tertiary system, no one can say with certainty what trends will emerge.

Encouraging the development of *any particular* new model of delivery in response to emerging trends is risky. When there are significant ramifications for New Zealand, it is always unwise to “bet the farm” on anything particular happening or not happening internationally. This is true for any public policy where government is trying to future-proof its settings, as government will generally want to minimise the number of unreliable assumptions it makes about the future. And this is especially important in tertiary education. The autonomous actors in the system – providers, students and businesses – interact with global economic forces in the market for education and the market for skills.

The Commission has previously found that top-down control is attractive to government as a means of managing political risk (NZPC, 2014a). It can also enable government, up to a point, to mitigate the impact of trends that might endanger existing models of delivery. However, tightly prescribed systems are less able to cope and adapt well to changing circumstances. A more flexible system would cope better with changes in trends and greatly reduce a risk of system failure.

Opportunities

A good tertiary education system is one that meets the needs of all learners, including those from diverse backgrounds and with diverse goals. Learners include school leavers preparing for their adult lives and careers; young people needing a second chance after disengaging from education; and older adults retraining to meet the needs of a changing labour market.

The New Zealand system has strengths and weaknesses in these respects. The Commission’s starting position is that there are likely improvements in wellbeing from improving the performance of the tertiary education system, but inflexibility in the system will slow the pace of change.

Freeing the system to allow for innovation in the delivery of tertiary education could have real economic and social pay-offs for New Zealand. A system that is more flexible to changing needs can offer New Zealanders a better future.

Constraining or enabling innovation?

The recently released *Blueprint for education system stewardship* commented that “adoption of good practice is almost always referred to as patchy and the uptake of promising innovation is seen as slow to spread across the system” (State Services Commission et al., 2016, p. 4). The Commission is making a concerted effort in this inquiry to explore and establish the environment in which innovation is and is not occurring in the tertiary education system.

Use of evidence

A comprehensive engagement process informed the inquiry’s draft findings and recommendations. This began with the release of the inquiry Issues Paper in February 2016, which received 102 submissions from interested parties. The Commission undertook over 120 engagement meetings around New Zealand and Australia with people offering a range of perspectives on the extent to which the tertiary system is adapting to emerging trends and adopting new models of delivery. (See Appendix A for a list of submissions and engagement meetings.)

In addition to desktop research investigating practices and developments in overseas jurisdictions, the Commission undertook a study tour of Australia – including visits to Melbourne, Sydney and Canberra – to meet with policy makers and experts, as well as higher education institutions and TAFE (technical and further education) providers.

The Commission is engaged in a major study using the Integrated Data Infrastructure to understand more about the factors that influence student achievement in tertiary education. The final report will present full findings of that research.

Finally, the Commission examined the literature on the economics of education and innovation.

Together, this evidence provides a rich picture of the New Zealand tertiary system in the context of international developments; detailing current barriers to innovation and what could make the system more responsive and adaptable in the face of emerging trends. The Commission believes it has amassed and presented sufficient evidence in this draft report to make a compelling case for significant system change.

The Commission invites feedback on all aspects of the draft report.

1.3 Guide to the report

This Commission's first task was to understand the nature of tertiary education and the operation of New Zealand's tertiary education system. Chapters 2-8 make up Part I of this report, **Understanding the system**.

- Chapter 2 examines the nature of tertiary education as a co-produced good.
- Chapter 3 looks at the choices and describes the characteristics of tertiary students in New Zealand.
- Chapter 4 looks at employers' roles as both developers and users of human capital.
- Chapter 5 explores the many roles of government in New Zealand's tertiary education system.
- Chapter 6 describes tertiary education providers and the markets they serve, including the Tertiary Education Commission-funded "market for equivalent full-time students (EFTS)".
- Chapter 7 digs deeper into the nature and dynamics of the market for EFTS.
- Chapter 8 considers the implications of these market dynamics for different stakeholders and aspects of the system.

Part II of the report, **Outcomes and trends**, looks at the educational outcomes generated by the current system, emerging trends and innovative activity.

- Chapter 9 looks at the outcomes of the system and presents findings about performance.
- Chapter 10 examines the trends identified in the terms of reference, their recent history and views about likely future trends.
- Chapter 11 looks at innovative activity in the New Zealand system and overseas – its nature, and where it does and does not occur.

Part III of the report, **A system that supports new models** (Chapter 12), contains recommendations about how the system could be changed to become more responsive to emerging trends, and more resilient in the face of changing circumstances and an uncertain future.

Part I: Understanding the system

2 What is tertiary education?

Key points

- Tertiary education is not an ordinary consumption good. Rather, it is a complex good co-produced by students and educators with characteristics that make its value hard to assess.
- Individuals decide to invest in tertiary education for many different reasons. The costs and benefits – both financial and non-financial – vary a lot with each student’s personal circumstances and the resources available to them.
- Government values having a tertiary-educated population. The New Zealand government spends money in a number of different ways to encourage access and participation. This includes helping students to meet the financial and non-financial costs of study. Tertiary providers also take various steps to help students deal with barriers to tertiary study.
- Despite the efforts of the government and providers, tertiary education in New Zealand still appears to amplify, rather than remedy, inequitable outcomes of the schooling system. This disproportionately affects Māori and Pasifika.
- Different educational approaches and environments have different costs and benefits for different kinds of student. No one approach works best for everyone. Matching students to the right education *for them* is important.
- New models of tertiary education present an opportunity to increase the diversity of delivery approaches, educational methods and learning environments available to students. In turn, this increases the chance that a wider diversity of students will find a “match” of tertiary delivery to their aspirations and resources.

2.1 Introduction

In New Zealand, “tertiary education” comprises all post-school education services, including:

- higher education;
- vocational education and training (both in workplaces and provider-based);
- foundation education and second-chance learning for adults whose compulsory schooling was inadequate;
- English language learning for refugees, migrants and foreign students;
- adult and community education; and
- “secondary–tertiary” programmes that combine elements of tertiary education with senior secondary schooling, and can be led by schools, tertiary providers, or both in partnership.

Tertiary education is sometimes called “post-compulsory education”, which emphasises its voluntary nature. This chapter explores why people invest cost, time and effort in their own education, and why government invests alongside them. It also considers the characteristics of tertiary education that make it special, and what this might mean for new models of delivery, consumption and regulation.

Subsequent chapters explore the New Zealand tertiary education system in more detail. Chapter 3 looks at the characteristics of students in New Zealand, Chapter 4 considers the role and interests of employers and Chapter 5 looks at the many roles of government in the New Zealand tertiary system. Chapter 6 describes

tertiary education providers, and Chapters 7 and 8 analyse tertiary provision and supply dynamics. These chapters combined are about understanding the tertiary system, and together they make up Part I of this report.

2.2 Tertiary education is valued by individuals and government

The submission from the Open Polytechnic of New Zealand summarises its view on the importance of higher levels of education.

A well-educated and well-trained population is important for the social and economic well-being of a nation and individuals. Education plays a key role in providing individuals with the knowledge, skills and competencies to participate effectively in society and the economy; and also contributes to an expansion of scientific and cultural knowledge. (sub. 44, p. 1)

Why do people spend cost, time and effort on their own education?

People decide to study for a wide range of reasons. Some people go on to the next stage of education after high school because that is what their friends are doing. Some people are trying to decide what to do with their lives. Some people take up a general course of study that provides a range of skills for later employment, while others seek specific skills and qualifications with specific future work prospects in mind. Some study for interest with little direct regard for future career prospects. Some people enter or re-enter tertiary education at later stages in their lives as a second-chance at education, or for their personal development, or to upskill or retrain to enhance their employment prospects.

Whatever the reason, the prospective student will decide whether to embark on study by considering the value of a tertiary education to them and the resources they have to call upon.

Education develops a person's knowledge and skills, enabling them to live a richer (in every sense of the word) life

Tertiary education develops a person's "human capital" – what they know and can do. Tertiary education can also provide a qualification that signals the acquired knowledge and skills to others (Becker, 1975). In an economic sense, tertiary education is a "capital good". Most people view spending money on tertiary education as an *investment*: an upfront cost they are willing to pay (including by borrowing) to get the resulting compensating benefits.

These benefits usually include a financial "premium" – that is, a higher future salary compared to a person who has not had the benefit of the education and/or attained the qualification. But they also involve a wide range of non-financial benefits. Tertiary education endows individuals with discipline-based "hard" knowledge and skills, such as how to design a circuit-board or analyse a sentence. But tertiary education can also help people to know themselves and the world they live in better, and to make deliberate choices about their values and behaviour (Bowen, 1977). Tertiary education can also provide social status, access to sub-cultures within society, access to professional or romantic relationships, better health and life satisfaction. It can fulfil family expectations, and it can also enable escape from them.

Education can also be enjoyable

Many people who engage in tertiary education enjoy it at the time, for its own sake, as well as for the benefits it brings. As well as being a capital good, it is a "consumption good". The consumption elements of tertiary education include both formal educational activities (eg, seminars and workshops) and the auxiliary activities that are often "bundled" together with it (eg, student clubs and social events).

As well as benefits, tertiary education carries cost and risk to individuals

Tertiary study carries financial costs to individuals – the direct financial cost, plus the income that they might have earned if not studying. The families of some students also bear these financial costs, not just the student. In these cases, the decision to study has to look worthwhile to the family and the student.

In New Zealand, as in the United Kingdom and United States, parents are generally expected to help their children meet the financial costs of tertiary study where possible. This expectation is embodied in New Zealand's student support policy settings and explicitly acknowledged by government (Moayyed, 2015).

Family expectations can play out differently for different cultures and genders. In the United States, for example, young people in Hispanic communities (especially young women) who have finished their compulsory schooling are often expected – especially by older generations – to start contributing to the family through paid work or providing care for younger or older family members (Settles, 2011), rather than pursuing their own further study. This “family first, work first” expectation can be driven by collectivist cultural traditions, or by economic necessity, or both. It is found in some Māori and Pasifika families in New Zealand, though both cultures also place a high value on education as a path to success and can make significant sacrifices to enable young people to pursue tertiary study (Williams, 2011; Chu et al., 2013).

Study also carries a range of non-financial costs, including the time and effort (including mental exertion and emotional energy or “stress”) involved in undertaking study, and the sacrifices (opportunity cost) involved in diverting this time and effort from other goals. These are likely to vary significantly from student to student, affecting their ability to successfully engage in co-producing their education (section 2.3).

The main risks involved in tertiary study include the risk of not successfully completing an intended course of study, the risk that the costs will be higher than anticipated, and the risk that the benefits will not arise as expected – for example, because of unforeseen changes to labour market demand.

Why does government subsidise tertiary education?

It is widely, though not universally, accepted that tertiary education is good for society as well as for individuals. As well as its contribution to national economic growth through developing workers’ knowledge and skills⁶, tertiary education is also held to deliver a wide range of non-financial social benefits. Among these, Bowen (1977) identified advancement of knowledge, preservation and dissemination of cultural heritage, and progress toward the identification and solution of social problems. McMahon (2010) identified the operation of civic institutions essential to democracy, human rights and political stability, as well as contributions to the reduction of crime and poverty, environmental stability, and to the creation and dissemination of new knowledge.

Government, on behalf of the population, seeks to capture these public benefits by ensuring that a substantial proportion of the population receives a good-quality tertiary education. That is, like many individuals, it invests in the expectation of generating a return. The underlying assumption is that, in the absence of government investment, too few people would pursue education to deliver the public benefits.

Government also supports participation on the grounds that it is a “merit good” – that is, something to which people should have access regardless of their ability to pay for it. Merit goods generally require government subsidisation to enable access by people on low incomes.

The vast majority of voters and taxpayers accept that some level of public subsidy of tertiary education is justified, though its desirable level and type (including degree of targeting) is contested. Current yearly expenditure⁷ on tertiary education in New Zealand is substantial: enough to cover a one-off payment of around \$45 000 to every New Zealander when they turn 16 (Chapter 12). Because only a subset of New Zealanders participate in tertiary education, current actual per-student subsidy levels over a lifetime will be higher than this amount.

With the exception of student allowances (and some restrictions for older students), funding entitlements in New Zealand are universal, with prospective students from high-income families having the same entitlements to tuition subsidies and interest-free student loans as those from low-income families.

Government pays for tertiary education via taxation, which redistributes (some) wealth from those who have already benefited from tertiary education to those who could benefit in the future. The government also takes some measures to boost the *non-financial* elements of human capital – that is, the non-financial resources that individuals bring to their tertiary education, such as personal disposition to engage in

⁶ This inquiry is about teaching and learning. Tertiary education also delivers benefits via research.

⁷ Including tuition subsidies for tertiary education at levels 3 and above, and the write-down on student loan lending.

learning, or positive family and peer attitudes to tertiary education. These matter significantly to a person's co-production of their tertiary education, and are discussed in section 2.3.

How does government spend money on tertiary education?

The New Zealand government spends money in a range of ways to enable widespread tertiary participation.

- It subsidises the cost of delivery, including via direct funding to providers, student allowances for low-income students, and a universal interest-free student loan scheme. Subsidies vary according to the type of education.
 - For delivery at levels 1–2 ("foundation education", equivalent to senior secondary school), government provides higher levels of subsidy than at levels 3+, and requires providers not to charge fees to students. The principle reflected here is that all New Zealanders should be able to achieve a level 2 qualification, whether at school or via a tertiary provider, without having to pay tuition fees.
 - The government subsidy is lower for workplace-based education (industry training) than for provider-based education, in the expectation that employers will meet some of the cost of the former.
 - Some types of education currently receive no government subsidy, such as personal-interest Adult and Community Education courses.
- It maintains⁸ a network of public providers. In the case of Institutes of Technology and Polytechnics (ITPs), these are required to deliver a wide range of provision in regional New Zealand, ensuring that people living outside main centres have access to tertiary education.
- It regulates education quality, and provides information to providers and students about educational performance. This helps individuals to make informed decisions about their educational investments, and also allows government to protect its own investment.

Meade and Howell (forthcoming) note that, in many ways, government's "ownership" interest in public tertiary providers can be usefully thought of as the relationship of a lender to a not-for-profit firm; the same may be true of private providers.

Chapter 5 expands on these roles.

Providers also want to encourage students – especially high-achieving students – to study with them, rather than at a competitor or not at all. Some providers offer scholarships or fee discounts to stimulate enrolments. Chapter 7 describes these dynamics in more detail.

In addition, non-government organisations (NGOs) and many families provide financial support (and support of other kinds, as described in section 2.4) to students to help them afford their tertiary education.

2.3 Tertiary education is co-produced

A co-produced good is a good where, rather than a customer being a passive consumer (eg, buying a car or getting a haircut), the provider and the customer interact and both invest effort to produce the thing of value to the customer (eg, hiring a personal trainer).

Education, including tertiary education, is a clear example of a co-produced good. A teacher (human or machine) cannot insert education into, or attach it onto, a passive student. Rather, teacher and student must interact in ways that can be more or less effective in helping the student to learn. Motivation is important: students of all ages put more effort into the co-production process, and consequently learn better, when they are motivated (intrinsically or extrinsically) by a desire to learn (Ormrod, 2008).

McCulloch (2009) acknowledges that the "student as consumer" metaphor has some appeal, due to "its apparent challenge to organisational and institutional power, and its appeal to individual rights" as in the

⁸ Historically via direct capital or capability funding; now solely via tuition subsidy funding, combined with various governance and management controls (eg, on asset disposals, or taking on debt) as outlined in Chapter 5.

broader consumer rights movement (p. 172). However, he argues that the metaphor is inadequate because it:

- (a) overemphasises one aspect of the student's role and of the university's mission;
- (b) suggests undue distance between the student and the educational process, thereby de-emphasising the student's role in learning;
- (c) encourages passivity on the part of the student;
- (d) fails to encourage deep learning;
- (e) implies in the student a level of knowledge and information, and the possession of tools to use them, that are unlikely to be present;
- (f) serves to deprofessionalise the academic role and encourage the 'entertainment' model of teaching;
- (g) compartmentalises the educational experience as 'product' rather than 'process'; and
- (h) reinforces individualism and competition at the expense of community. (p. 177)

Submitters raised some similar concerns (eg, TEU, sub. 83; Kennedy, sub. 23).

McCulloch suggested that thinking of and treating students as co-producers rather than as consumers might help to overcome these problems. He further noted that co-production works best when (among other things) providers and consumers have shared objectives, and shared expectations of what is required of each of them in the co-production process.

Problems in assessing value

Co-production can result in opportunism if expectations of each party's contribution are unclear or hard to measure, as each can blame the other for any failure to achieve a desired outcome. In the case of students and teachers, it may be that both can plausibly claim that the failure of the student to succeed was due to a lack of ability or effort on the part of the other. As Parks et al. (1981) recognised, "the interaction of teacher and student in producing education in the classroom is a ready example of substantial interdependence" (p. 4).

Interdependent production relationships may be doubly threatened by shirking where the consumer producer activities are collective in nature... Consumer producers may shirk against one another as well as in their relationship with a regular producer. (p. 8)

As well as blaming one another for failing to co-produce effectively, students and teachers can also collude. George Kuh (2003) and Arum and Roksa (2011) write of a tacit "disengagement compact" between faculty and students in which both parties effectively agree to allow one another to reap the fruits of their relationship (salary and qualifications respectively) with minimal effort. Partly in recognition of this kind of risk, Adam Smith argued in *The Wealth of Nations* (1776) that the best teaching happens when teachers are paid directly by their students, but learning is externally assessed.

Use of student evaluations may increase the risk of a kind of collusion in which teachers seek to entertain, rather than challenge, students, in exchange for positive evaluations. McCulloch (2009, p. 180) notes that

Bramming ... argues persuasively that transformational learning of the type implied by higher education is necessarily a painful process, and suggests that the methods of evaluation currently used to assess student satisfaction do not necessarily 'give valid answers ... might distort the corrective measures of teachers towards a more short-sighted "edutainment" approach and...[do] not capture the transformative, ontological forces at play'. (2007, p. 53)

Student evaluations are discussed further in Chapter 8.

The co-produced nature of tertiary education also interacts with experience-good and credence-good elements in ways that make it hard to assess value or the performance of its participants.

An experience good

An experience good is a good whose value to the purchaser is hard to assess before purchasing, but becomes clear in the act of consumption – for example, a bottle of wine. Experience goods are in contrast to “search goods”, where a consumer can do a diligent search and reliably deduce the benefits of the good.

Many aspects of tertiary education seem to fit the description of being experience goods. A person can find out about what a course at a tertiary provider has to offer from people who have taken the course before. But, as Lucey (2014) explains, full disclosure about teaching quality, the nature of the contact and interaction between teacher and student and the human and developmental side of the education process can be opaque. Also, Athakkakath, Al-Maskari and Kumudha (2015) suggest that the stylistic match between teacher and student is important (section 2.4). This means that what works well for one student may not work well for another, regardless of “quality”.

While an individual might get some indication of their probable prospects from receiving a qualification, it is combining the attributes and effort of the student with the resources of the teacher that produces the value – in combination (for jobseekers) with labour market conditions at time of graduation. A student can really only know how valuable a course or programme of study is to their career prospects once they have obtained the qualification, got the job, and are earning a salary.

A credence good

A credence good is a good whose true value is hard to judge even after consuming it. This is usually because of information asymmetries where the consumer must rely on an expert to tell them (hopefully truthfully) whether the good or service was really required and about its quality.

The classic example is medical treatment. The patient relies on the medical professional to both diagnose and treat (or refer) the problem. The professional has the opportunity to undertake more expensive and more extensive treatments than necessary, with little chance the patient will be able to spot the malpractice. Even after the treatment, the patient cannot be sure that they have received the right level of care – or even whether the treatment was of reasonable quality for the price paid.

For goods and services with these credence characteristics, consumers rely on licensing of professionals, professional ethics and standards, or third party verification of the quality of the services received.

In the case of tertiary education, in the absence of third-party quality assurance, students would rely on tertiary providers to determine the curriculum and teaching that would allow the student to co-produce the desired learning and qualification. The provider might stipulate more or less delivery than actually needed for the student to successfully develop the knowledge and the level of competency required. The student would be reliant on the professional behaviour of the tertiary provider in stipulating the content and mode of the co-production.

The licensing of tertiary providers and the independent verification of qualifications are mechanisms that governments use to deal with this credence-good problem. It may also be helped by the growth of online delivery and student analytics – that is, data about what students are learning, based on automated assessment processes (eg, pop-up multiple-choice tests) built into learning management software. This data, and students’ ability to choose when to be assessed in many online courses, allow students and teachers to test assumptions about what is and is not necessary to the learning process for different combinations of student, teacher and content.

2.4 Students bring different resources to their tertiary education

A student’s willingness to invest time and effort in tertiary education depends on whether they can meet the upfront costs – both financial and non-financial – and whether those costs seem worth it given the expected benefits. A prospective student’s financial resources are an important consideration here, but so too are their non-financial resources – in particular the student’s pre-existing human and social capital, and their sense of personal identity.

Human capital: personal attributes and prior education

Students bring differing levels of human capital to their tertiary education, including different personal attributes, and different amounts of prior education (formal and informal).

The most obviously relevant personal attribute is intelligence, or the ability and aptitude to learn. Research by Dweck (2000; 2006) has shown that intelligence is not a fixed quality, but can be significantly developed in both children and adults through learning and practice. Dweck's research also found that although a student's beliefs about whether they can become more intelligent tend to be self-fulfilling, these beliefs (and consequently a student's ability to grow their intelligence) can be altered through the way that parents and teachers give feedback to the student.

Another personal attribute of growing interest in the tertiary education literature is "grit", or perseverance when facing a challenge. Duckworth et al. (2007) found that grit (as self-reported and scored on a 12-point scale) was a reliable predictor of academic and other forms of personal success, independent of intelligence – and its absence was a risk factor, even for bright students. Jarden and Mackenzie (2009) looked at how three personal attributes – grit, values, and hope – influenced New Zealand tertiary students' success in their first year of study, and found that:

[T]he characteristic of grit (perseverance) was a stronger predictor of both retention and success in first year tertiary study than originally thought (and to a lesser extent values, and minimally, levels of hope). The Grit Scale in particular enables a quick and effective identification of students who may need more intervention in order to succeed...

Students also differ in how they learn best – for example, whether through words, pictures or hands-on experience, or through abstract analysis or concrete examples. No one style of educational delivery will be best for everybody; the "match" between students and educators matters, as well as the quality of the content and delivery. Athakkakath, Al-Maskari and Kumudha (2015), in analysing a large study by Astin (1993) of 27 000 university students in the United States, found that the compatibility of students' learning styles with the teaching style of the lecturer had *more* influence on what students learned than did the design of the curriculum.

This idea, that the quality of tertiary education depends not just on curriculum but on the "match" between students and educators, has important implications for how tertiary education is delivered and consumed. It suggests that students overall may do better in tertiary education if they can choose from among several different acceptable-quality options to find their "best fit", rather than being directed toward a single "highest-quality" (as assessed by a third party) provider. It also suggests that high-quality providers will share the characteristic of being informed about, and responsive to, students' learning preferences.

Social capital: family and peer attitudes and identity

The attitudes of a prospective student's family and friends influence their social capital and also the non-financial (and sometimes financial) costs they face in enrolling to study.

For some young people, a decision to enrol in tertiary education is seen by their family and peers as a natural and positive step that is consistent with the identity of the student, family or peer group, and that deserves to be supported, encouraged and praised. In this context, students face low social costs in deciding to enrol in tertiary education (though they may face costs if they decide not to).

In contrast, some young people come from families or peer groups where tertiary study is viewed as wasting time and money, or representing an inappropriate level of ambition or selfishness, or being inconsistent with group identity, or simply being a luxury that the family cannot afford when the young person could otherwise be working full time or helping with childcare (section 2.2). For these students, study becomes "more expensive" not just financially, but also because it carries costs to their relationships with family and friends (Akerlof & Kranton, 2002).

These influences are especially relevant for young people who are still dependent on their parents in various ways and still forming their adult identities (Erikson, 1968). As Ghuman (1999) comments,⁹ the process of

⁹ The focus is on secondary school students, but the same will be true of those same students when they enter tertiary education a few years later.

identity formation is smoother when the different forces in young person's social context are aligned rather than pulling in different directions:

The development of coherent identity is likely to be facilitated only if there is a symbiotic relationship between home and school. On the other hand, if young people receive conflicting messages from these institutions and diverse emotional and social demands and commitments are expected, they are likely to be confused in their identity. (Ghuman, 1999; cited in Milne, 2013, p. 65)

In some communities in the United States, Black and Hispanic students may face a choice between peer acceptance and academic achievement (which is seen as "acting white"), making the decision to invest in their education very costly in social terms (Box 2.1). Fryer (2006) noted that ethnographers had observed variants of "acting white" peer-group pressure among Māori in New Zealand.

Box 2.1 Research from the United States on "acting white"

[C]hildren can't achieve unless we raise their expectations and... eradicate the slander that says a black youth with a book is acting white. (Obama, 2004)

Research from the United States suggests that Black and Hispanic high-school students in some communities face a choice between peer-group acceptance on the one hand, and academic achievement on the other hand, with academic achievement regarded as "selling out" or "acting white" (Ghuman, 1999; Austen-Smith & Fryer, 2005; Fryer, 2006).

Austen-Smith and Fryer (2005) describe these Black students as facing a "two audience signaling quandary: behaviors that promote labor market success are behaviors that induce peer rejection" (p. 3). This trade-off measurably affected the investment that Black students of different levels of academic ability were willing to make to their education in these high schools, compared to high-school environments in which "acting white" was not salient.

Milne (2013) comments:

Students are forced to make a choice. One choice is to become "raceless" in school, to deny their ethnicity in order to succeed. The second choice is to actively resist by maintaining their ethnic affiliations and disengaging with school activities. (p. 65)

While these researchers are writing about schools, the Commission has heard that the same issues sometimes arise in tertiary education, especially for younger Māori and Pasifika students studying at higher levels. One big difference is that tertiary education is voluntary, so young people can make the additional choice not to participate at all.

Austen-Smith and Fryer (2005) also found that the stronger the labour market (and therefore the higher the returns to education), the larger the number of Black students willing to abandon peer acceptance in order to invest in education – with the more academically oriented students being more willing to make this trade-off. One result was that in schools where there was pressure not to "act white", the peer group where Black ethnic identity was the strongest tended to comprise students with the lowest levels of academic orientation. This served to increase the divergence between identity as Black and identity as an academic achiever.

A sense of belonging

A student's sense of belonging at their tertiary education provider – that is, their sense of the rightness of and fitness of their presence there – also affects the non-financial costs they face in study. For a student entering an unfamiliar or intimidating tertiary environment, where the surroundings and people seem alien and unlike the student, study may be a personally costly undertaking, involving feelings of stress, discomfort and isolation. In contrast, a student who sees "being a tertiary student" as a natural part of their identity, and who feels a sense of belonging to their group of fellow students and to their tertiary provider, avoids these negative feelings. Indeed, they are likely to experience learning interactions as positive social benefits. A UK

study found that “a sense of ‘belonging’ emerged as a key determinant of student outcomes”, alongside students’ different levels of economic, social and cultural capital (Mountford-Zimdars et al., 2015, p. iii).

For Māori and Pasifika students in particular, a sense of belonging and a sense of collective endeavour are culturally important. They influence the educational success of students at tertiary level (Williams, 2011; Chu et al., 2013). Chapter 3 expands on this; and Chapter 6 talks about how Māori and Pasifika academic staff are important in providing relatable role models for Māori and Pasifika students.

Chapter 3 (Box 3.4) also explains that some of the knowledge and skills that students need to succeed lie outside any formal curriculum, and that their family background and high-school environment can affect their familiarity with this kind of information.

Students can be helped to meet the non-financial costs of study

Just as government, providers, NGOs and families do things to help students meet the financial costs of study (section 2.2), they also do things to help with non-financial costs and resources. That is, they invest in things that are intended to help young people (in particular) acquire the kind of human and social capital, and “tertiary compatible” identity, that will help them to become successful tertiary students.

Some current examples are listed below.

- The government provides (nominally¹⁰) free compulsory schooling to educate all students to senior secondary level. The “Managing Self” key competency of the New Zealand curriculum aims to develop each student’s perseverance and (by implication) “grit”.
- The government funds career advisory services via the schooling network and (separately) via Careers New Zealand. These are available free to students wanting advice on their career path, including tertiary study options – though there are concerns about their quality and effectiveness (Chapter 3).
- Many tertiary providers hold “open days” to allow school students (and sometimes their families) to become familiar with a tertiary environment in a low-stakes way. In addition, the government funds schools and tertiary providers to participate in “secondary-tertiary programmes”, such as STAR and Trades Academies, which allow students to engage in tertiary education while still enrolled at school. These programmes, along with tools such as Vocational Pathways, aim to make tertiary education visible and relevant to students who might not otherwise consider it an option, and help them become comfortable with tertiary education before leaving a familiar school environment.
- Government includes a pastoral care payment as part of its tuition subsidy for Youth Guarantee fees-free places (targeted at young people who leave school without NCEA level 2).
- NGOs, such as the Graeme Dingle Foundation and YMCA, provide children and young people with support (including mentoring and social experiences) to help them to set and achieve positive and challenging educational and life goals.
- Durie (2009) notes significant “indigenisation” of higher education in New Zealand since 2000, including expansion of Māori academic and student numbers, and greater awareness and promotion of Māori ways of knowing and being in tertiary environments. Durie also notes the importance of wānanga in showing that academic achievement at high levels is compatible with a “distinctly Māori” setting (p. 16).

Older students, upskilling and retraining

Much of the discussion above has focused on the choices that young students and their families face. But older people who are already in the workforce, and who may be facing a period of unemployment or uncertain future work, also face financial and non-financial costs in deciding to undertake tertiary study. The opportunity costs for older working-age students are likely to be high: for them, a decision to study means either taking time out of the workforce, or combining study with existing work and family commitments. The situation is different for retired older adults, who generally have more leisure to pursue tertiary education

¹⁰ Parents of children at state schools, including those on low incomes, face considerable pressure to pay “voluntary” school donations (O’Callaghan, 2013).

(including Adult and Community Education) for personal development and to maintain social connectedness.

Older students may also be especially likely to face the non-financial costs of moving into an environment where they feel like they do not belong. This is because many think of the archetypal tertiary student as a school-leaver – though in fact school-leavers make up a minority of students at both ITPs and wānanga (Chapter 3). For adult “second-chance” students, a sense of discomfort in a tertiary environment may be heightened by previous poor experiences of the education system.

Having said that, older students are likely to bring greater quantities of some valuable resources to the co-production of their tertiary education, including maturity and experience.

In deciding whether to undertake tertiary study to upskill or retrain, older students are much more likely to make an explicit calculation of the likely costs and benefits of their investment. Unlike many school-leavers, tertiary education is not a “default option” for older students.

2.5 What is the outcome of all these investments in tertiary education?

Despite the efforts of government, providers, NGOs and families, it is still overwhelmingly the case in New Zealand that those who start their education – schooling or tertiary – with more financial and other resources end up gaining more from that education, and consequently acquiring even more resources as adults; while those who lacked resources from the start get left behind. Madden (2011) notes that “children’s low educational attainment now is the primary driver of poverty for families in the future” in New Zealand. And Boston (2013) notes that

for those born into disadvantaged households, educational success is a primary mechanism for upward social mobility and escaping potentially lifelong (if not intergenerational) poverty. However, a large proportion of children born into disadvantaged families and/or who experience protracted periods of childhood poverty do not enjoy high levels of educational success. (p. 9)

This matters because prior school achievement is the single biggest predictor of tertiary participation and success. The inequalities that emerge in compulsory education, rather than being ameliorated by what happens at tertiary level, are overall exacerbated and amplified.

Māori and Pasifika students¹¹ appear to be particularly disadvantaged.

- Controlling for prior school achievement, Māori students are less likely than their Pākehā peers to participate in tertiary education at the higher levels that deliver the best financial return (Chapter 3). When they do participate at higher levels, their educational and labour market outcomes are persistently worse than those of Pākehā students (Chapter 9).
- Pasifika students are just as likely to participate in degree-level tertiary education as their Pākehā peers, controlling for prior school achievement (Chapter 3). And Pasifika graduates at degree level earn just as much on average as their similarly qualified peers (Chapter 9). However, they are much less likely to successfully complete a degree: the eight-year Bachelor’s qualification rate for Pasifika is only 49%, compared to 69% for Pākehā (Chapter 9). For Māori it is 52%.

Chapter 11 outlines the concepts of “noisy harm” and “silent harm”, and explains that people tolerate the latter much more readily than the former. The underperformance of the current system for Māori and Pasifika, and for all those who choose not to participate at all, appears to be an example of largely silent harm.

¹¹ Ethnicity effects and socio-economic effects are mixed together in this data, as explained in Chapter 3. The Commission is currently doing research to investigate what ethnic differences in tertiary participation and achievement remain, if any, after adjusting for students’ socio-economic status. The results of this analysis will be included in the inquiry’s final report in February 2017.

New models present an opportunity to improve matching and outcomes

Different educational approaches and environments have different costs and benefits for different kinds of student, depending on the attributes and resources they bring to the co-production of their education. No one approach works best for everyone. Matching students to the right education *for them* is important. As the Ministry of Education (2016g) comments with respect to compulsory schooling:

[E]vidence suggests that, where students have increased agency over their learning, including choice about where to enrol, this can increase their engagement. In turn, increasing engagement has been linked with improved achievement.

There is an increasing recognition in the education system that students achieve their best outcomes when their educational programme is tailored to their needs. For some students, online learning may provide the best learning environment. Conversely, face-to-face schooling is not necessarily the first, best option for all students. (p. 5)

The same is true of tertiary education. New models of tertiary education, including (but not limited to) those enabled by new technologies, present an opportunity to increase the diversity of delivery approaches, educational methods and learning environments available to tertiary students in New Zealand. This in turn makes it easier for a wider diversity of students to find a “match” that reflects their goals and resources – provided of course that they have enough freedom to choose.

A number of inquiry participants have taken the view that the production of tertiary education is most effective when it happens face to face, in real time, embedded in a physical location that is focused on learning. For example, Universities New Zealand submitted:

All things being equal, students prefer and are more successful when studying in a campus environment where their learning is supported by others and where they have access to libraries, laboratories, workshops and a range of social and recreational opportunities that facilitate wider personal growth. (UNZ, sub. 17, p. 12)

Universities New Zealand did say that new models of delivery such as distance and electronic learning might be suitable for some students, such as second-chance learners or adult learners. But it also argues that such new models are unlikely to supplant campus-based learning, presumably because they would be both less preferred by students and students would not achieve the same levels of success.

Other submitters commented along similar lines.

- The University of Otago submission made reference to “the irreplaceable value of learning and living with your peers under the guidance of world-class experts in your area of study” (sub. 37, p. 48).
- The University of Auckland Society submitted that “technological advance should only partially replace, but preferably enhance, the human element which will remain central and crucial for quality teachers, researchers and campus-based life and learning” (sub. 38, p. 24).
- NZITP and Metro Group submitted that “Technology plays a key role in supporting learners on their journey although it is argued that it cannot completely replace the need for face to face learning. ... Generally learners at lower levels require more face to face support” (sub. 42, p. 18).
- ACG Tertiary and Careers Group (a Private Training Establishment or PTE) submitted that “at some levels and for certain student demographics, technology cannot replace face-to-face engagement, or the level of pastoral care and personal support or instruction that is required to motivate and engage certain students” (sub. 84, p. 13).
- The Tertiary Education Union’s submission referred to academic staff concerns that there was “too much emphasis on the use of technology to an extent that technology can replace face-to-face teaching. Too much importance [is] given to online teaching” (sub. 83, p. 26).

Even so, some researchers are demonstrating – and most submitters appear to agree, at least for some types of student – that technology can assist with the co-production of education by being adaptive to the student’s input. That is, it is possible to build tailored models for individual students based on their

interactions with the learning environment. According to Thille (2012), insights from the science of learning – combined with advances in information technology and alternative models of course design, implementation and evaluation – show promise in supporting traditional higher education to adapt to better match the needs of an increasingly diverse range of students. Around the world some tertiary education providers are, for example, using their administrative data in a rich new way, “flipping” classrooms, embracing project-based learning, and finding new ways to engage students.

Such providers are enabling students to contribute actively to innovations in teaching and learning, rather than seeing students as passive recipients. This aligns with Hawkins and Davis’ (2012) view that innovators can use consumers’ contribution to co-produced goods – including their effort and experiences – as a resource or factor of production that can be effectively combined with other factors to transform into new or improved goods.

Another implication of improving technology is that, over time, increasing numbers of tertiary students might be able not only to *feel* at home in tertiary education but actually *be* at home. As one submitter put it:

The current [traditional campus-based] model typically extracts people from a context that gives their education meaning (social, community, employment), places them in an often alien and challenging environment, and then attempts to create a poor facsimile within the educational system to mitigate the most obvious effects of disengagement and alienation that naturally occur for many students.

Technology increasingly is providing opportunities to provide many elements of education to learners directly in their context. (Marshall, sub. 73, p. 6)

In terms of co-production and new models, the important question for this inquiry is not “Are new models of education that use new technology as good as traditional education?” Rather, the important question is “How can new models support diverse students to effectively engage in the co-production of a tertiary education that suits their needs and preferences?”

3 Student characteristics and choices

Key points

- Students choose tertiary study for a wide range of reasons. Improving career/job prospects and pursuing personal interests are two key reasons. But students are acutely concerned with whether their investment in tertiary education will lead to well-remunerated employment.
- Overall participation in tertiary education grew enormously through the 1980s and 1990s, but overall participation rates have been falling since 2005. Participation in industry training follows a different pattern, declining sharply after 2010 due to an economic downturn and the removal of “phantom trainees” following an operational review of industry training.
- Māori and Pasifika have higher levels of participation in tertiary education than other ethnic groups, but they are less likely to study at university. Their higher participation rates occur entirely in subdegree level study.
- In recent years, students in New Zealand have become more likely to be engaged in a “traditional” conception of tertiary education. The average student is becoming younger and is more likely to be a school leaver. The share of full-year, full-time study is increasing. The share of intramural (on campus) study is increasing. Yet some students appear to do better through extramural study, including older people.
- There is widespread concern about how students transition into tertiary education, and about how well the compulsory education system prepares them for further learning. The arrangement and delivery of careers services in schools, and government provision of information to prospective tertiary students, is fragmented and operating poorly in terms of preparing young people to make career and study decisions.
- The New Zealand Qualifications Framework should make it easy for students to have prior learning and credit recognised. But this does not appear to work well in practice.
- In contrast to domestic students, the number of international students enrolled with New Zealand tertiary providers has steadily increased. A majority of international students studying in New Zealand come from China and India, with Chinese students more likely to be enrolled at university and Indian students at institutes of technology or polytechnics (ITPs). Compared to Australia and the United Kingdom, New Zealand has a relatively high proportion of international students studying at subdegree level, and a relatively low proportion studying at postgraduate level. The exception is the high proportion of international students studying at doctoral level because they pay domestic fees.

3.1 Who studies and why?

Why study?

Goldin and Katz (2007) wrote that, through most of the 20th century, high school graduates were distinctly more skilled than those without high school qualifications in the United States, and that many positions in the economy were reserved for them. By the 21st century, however, high school graduates and high school dropouts were considered close substitutes in the labour market.

In the early part of the 20th century, most young New Zealanders were attending secondary school. In 1944 the school leaving age was raised from 13 to 15, and in 1989 it was raised to 16. In turn, from the second half of the 20th century, participation in tertiary education grew markedly (Figure 3.1 and Figure 3.2) – a phenomenon known as “massification”. The significant expansion in tertiary participation from the late 1980s

is clearly evident in these figures, as is the effect of the re-introduction of caps on student numbers in the mid-2000s.

Figure 3.1 Enrolments in tertiary education, 1879–2015

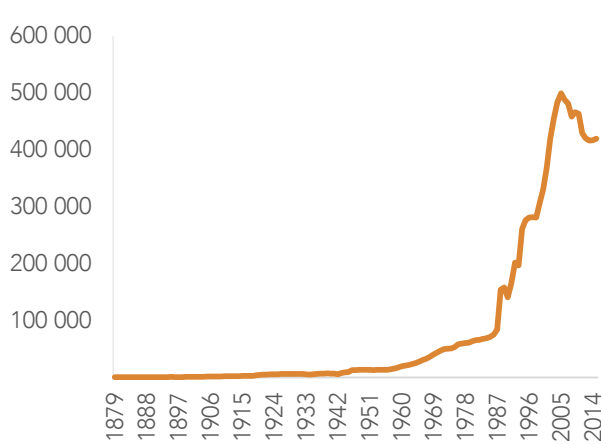
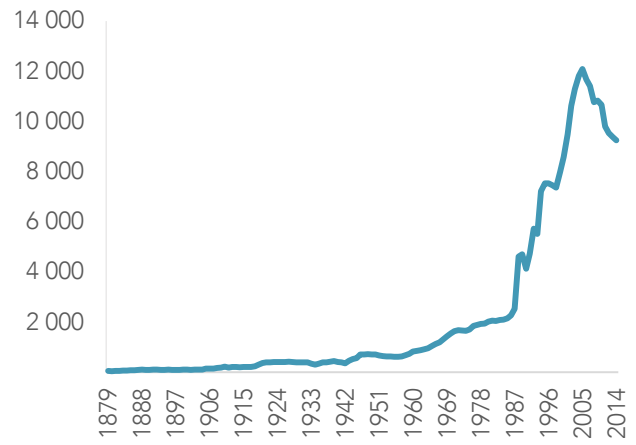


Figure 3.2 Enrolments in tertiary education per 100 000 residents, 1879–2015

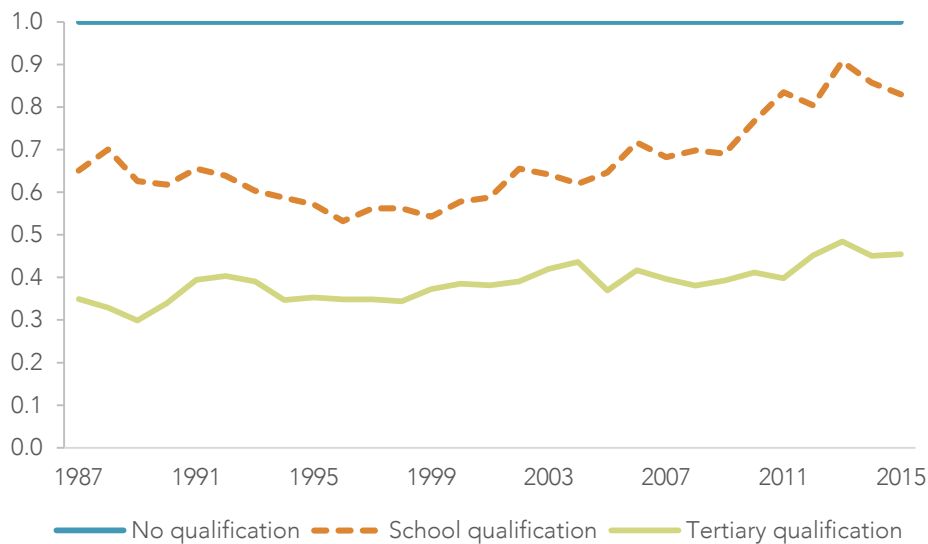


Notes:

1. Data counts public and private enrolments, by domestic and international students.
2. Statistics New Zealand and Ministry of Education data. Historical data from Thorns & Sedgwick (1997).

Another illustration of the narrowing of outcomes between those who do not have a school qualification and those who do not have a tertiary qualification is in unemployment rates. Figure 3.3 shows that those with tertiary qualifications are much less likely to be unemployed than those with school qualifications or no qualifications. Over time, the advantage of having a school qualification over no qualification in terms of unemployment rates has been narrowing in New Zealand.

Figure 3.3 Relative unemployment rates by qualification level, New Zealand, 1987–2015



Source: Statistics New Zealand, 2016a.

Notes:

1. The graph shows unemployment rates for those with school and tertiary qualifications relative to the rate for those with no qualifications.
2. "School qualification" refers to those with a school qualification but no post-school qualification.
3. "Tertiary qualification" refers to those with both a school and a post-school qualification.
4. The graph does not show those with a post-school qualification but no school qualification.

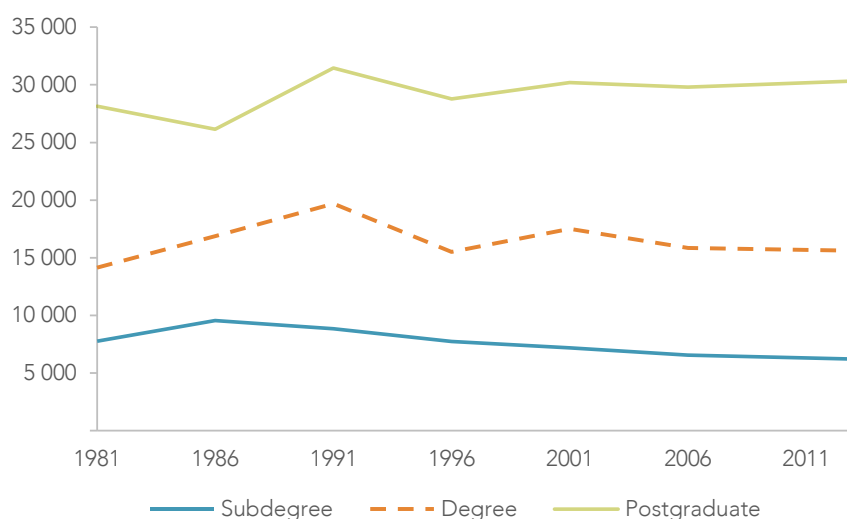
Post-compulsory education – another term for tertiary education – emphasises its voluntary nature. In deciding to study, a person looks for the option that will make them better off than available alternatives. Despite its voluntary nature, the growing expectation is that young people should enter tertiary education, and that older people will need to continue to upskill over the course of their careers. And for good reason: a 2007 study by Nair et al. found that

- attainment of tertiary qualifications is associated with a higher likelihood of employment – especially during times of economic recession;
- those with tertiary qualifications earn more than those without;
- the successful completion of a tertiary qualification results in a premium on earnings over those who do not complete; and
- the health and lifestyle outcomes for those who attain tertiary qualifications are better, including a higher standard of living and lower mortality rates from all causes.

Even students who do not achieve at school benefit from a tertiary education. Tumen, Crichton and Dixon (2015) examined the labour market benefits gained by young people who leave school without National Certificate of Educational Achievement (NCEA) level 2, but enrol at a tertiary institution within the first few years of leaving school. They found that completing levels 1–3 certificates was associated with an 8.5 percentage point increase in employment rate and a 6.4 percentage point decrease in benefit receipt. The benefits were even higher for those who completed a level 4 certificate or higher. But the employment rate for those who enrolled but failed to complete was no better than their matched comparison group. Indeed, they were 2.9 percentage points more likely to be on a benefit two years later. Scott (2009) finds that although not as good as completing a qualification, passing some courses still has benefits.

In deciding to enrol at a tertiary institution, a student forgoes the income that they might have earned if not studying. However, educational qualifications usually offer a “premium” – a higher future salary, opportunity and satisfaction, compared to an equivalent person without the qualification. If this premium is sufficient to offset the forgone income, then that qualification offers the person a net private benefit, and it makes sense (and financial sense) for them to pursue it. The expectation of a net private benefit creates a demand for tertiary education, and the benefits of tertiary education are a longstanding feature of Western economies. There is a clear wage premium for tertiary qualifications in New Zealand; Figure 3.4 shows the wage premia over time for tertiary qualifications over those with no qualification. More information on the income premia from tertiary study is described in Chapter 9.

Figure 3.4 New Zealand qualification wage premia, 1981–2013



Source: Statistics New Zealand census data.

Notes:

1. Amounts are averages in constant 2013 dollars.
2. The data cover New Zealand residents aged 15 to 64 who are in employment (excluding self-employed people).
3. Premia are the additional annual gross income when compared to those with NCEA level 1 or less.

In a longitudinal study, Year 11 and 12 students were asked “what might stop you having the life you want?” The top barriers reported as likely or very likely were “not having qualifications”, “not being able to find a job or too much competition for jobs”, “not having skills”, “finding out that what I chose was not what I expected or really wanted”, “not being accepted into my chosen course or programme”, “feeling confused over which option to take for work or study”, and “not knowing what my options are or knowing what to do”. Other concerns, such as relationships, money concerns, health concerns, peer pressure, time pressure, motivation and self-confidence came further down the list (Vaughan, 2008). A young person’s anxiety about their future, and the quality of support to help them formulate career plans and navigate education options are a key concern of this chapter.

Future income and employment prospects are key concerns for students. Students appear acutely concerned with whether their investment in tertiary education will lead to well-remunerated employment.

Employers have always demanded tertiary-educated employees and seem like they will always prioritise a candidate with a degree over a candidate without one. However due to the oversupply of tertiary qualifications in many sectors, employers are only taking the absolute best. The tertiary system itself is not responding to this. It continues to produce more graduates and aims to increase graduate output without factoring in growth of the downstream job market. (Victoria University Wellington Students’ Association, sub. 80, p. 10)

My anecdotal impression, on talking with students, is that they regard their futures as precarious, with uncertain prospects of well-remunerated employment, no matter what they study now. They will be faced with debt and high rents anyway, and few will have secure or fulfilling jobs, or so they fear. (Duncan, sub. 18, p. 10)

Most learners, at every level of the system, expect that their studies will help them in the workforce – whether to obtain a specific job (in the case of a vocational qualification or professional degree for example), or simply to improve their chances of getting some kind of secure, meaningful, well-paid employment. This is also an expectation of government in funding tertiary institutions. However the pathway from school into and through tertiary to employment is unclear for learners and employers, and is often hazy even for educators. (COMET Auckland, sub. 50, p. 4)

In a similar vein, the New Zealand Council of Trade Unions highlighted financial returns to employment.

There must be recognition through financial rewards for further education and training. Otherwise workers may question its value. (sub. 69, p. 24)

Yet education is clearly not all about employment outcomes. The New Zealand Union of Students’ Associations submitted that improving a student’s employment prospects was important, but far from the only reason why a student engages in tertiary education:

Students want their education to enhance their employability, given the link between having a good job and a happy life, but it is not the sole function. Students primarily choose their education based on the things that they are interested in, they do better accordingly, and having a system that is not purely about cost/benefit and releasing human potential in civics, and as social beings, as well as economic units enhances the nation. (sub. 19, p. 1)

Similarly, Ed.Collective surveyed students and found that the most important reasons for studying included both getting a job and studying a subject that students are interested in and want to learn more about (sub. 89).

Clearly the objectives of pursuing knowledge in an area of interest, and seeking skills and qualifications to improve employment prospects are both important and, for many students, overlap. There is also some evidence for a “lengthening of adolescence” in developed countries, as the cultural transitions marking adulthood are delayed (Mortimer & Larson, 2002), that may be related to increased participation in tertiary education.

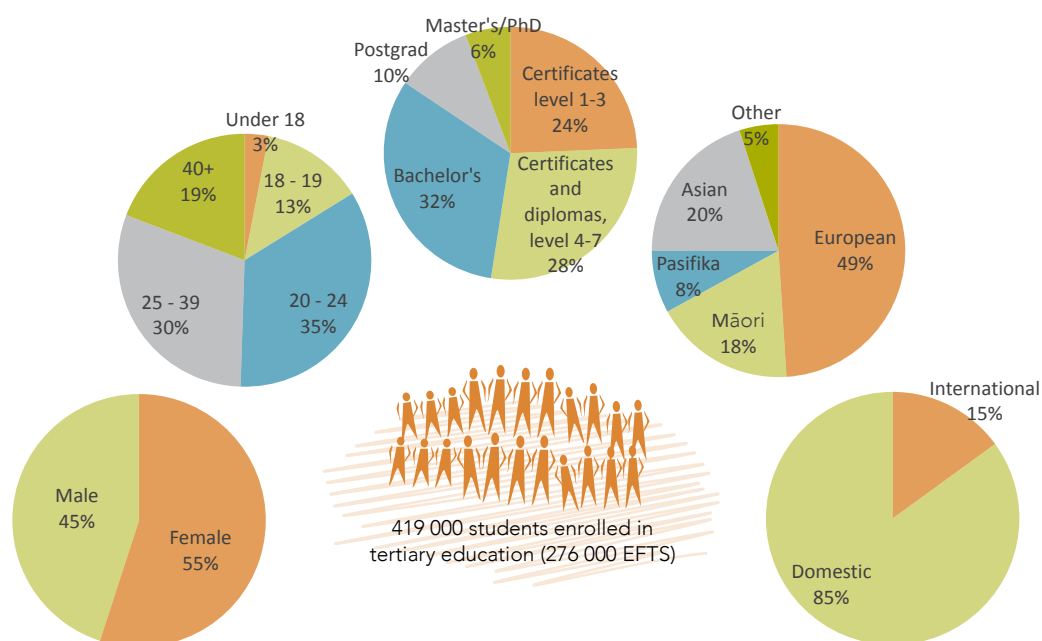
F3.1

Students choose tertiary study for a wide range of reasons. Improving career prospects and pursuing personal interests are key reasons. Students are acutely concerned with whether their investment in tertiary education will lead to well-remunerated employment.

Who studies?

Figure 3.5 sets out some characteristics of the 2015 domestic and international student population.

Figure 3.5 Characteristics of the New Zealand tertiary student population, 2015



Source: MoE, 2016a.

Notes:

1. Domestic and international students.
2. The pie charts are based on student numbers, not equivalent full-time student (EFTS). The shares in some of these charts would change if they measured EFTS. For example, students studying at bachelor's level account for 32% of students, but because those students are more likely to be studying full time, they account for 42% of EFTS.
3. The sum of some figures adds to more than 100%, because students can associate with more than one ethnicity, and can be enrolled at different levels of study simultaneously.

Almost 360 000 domestic students were enrolled in tertiary education in 2015. Table 3.1 provides information on the characteristics of domestic students, including their rate (and where appropriate, their age-standardised rate) of participation in tertiary education.

Table 3.1 Domestic students' participation in tertiary education by selected characteristics, 2015

Characteristic	Students	EFTS	Participation rate	Age-standardised participation rate
Females	206 200	135 575	11.0%	11.3%
Males	152 110	98 020	8.5%	8.3%
Under 18 years	12 255	7 175	6.6%	na
18-19 years	51 065	43 835	39.2%	na
20-24 years	113 805	89 565	33.5%	na
25-39 years	102 075	55 380	11.7%	na
40 years and over	79 110	37 640	3.7%	na

Characteristic	Students	EFTS	Participation rate	Age-standardised participation rate
Europeans	224 225	142 980	8.8%	9.7%
Māori	81 805	53 095	17.2%	14.5%
Pasifika	35 615	23 970	15.1%	11.4%
Asian	46 775	33 890	9.5%	7.6%
Other	16 965	11 005	na	na
Universities	146 015	112 070	4.0%	na
ITPs	129 870	65 870	3.6%	na
Wānanga	37 260	23 140	1.0%	na
Public providers	307 055	201 080	8.4%	na
Private training establishments	57 020	32 510	1.6%	na
Total	358 305	233 590	9.8%	na

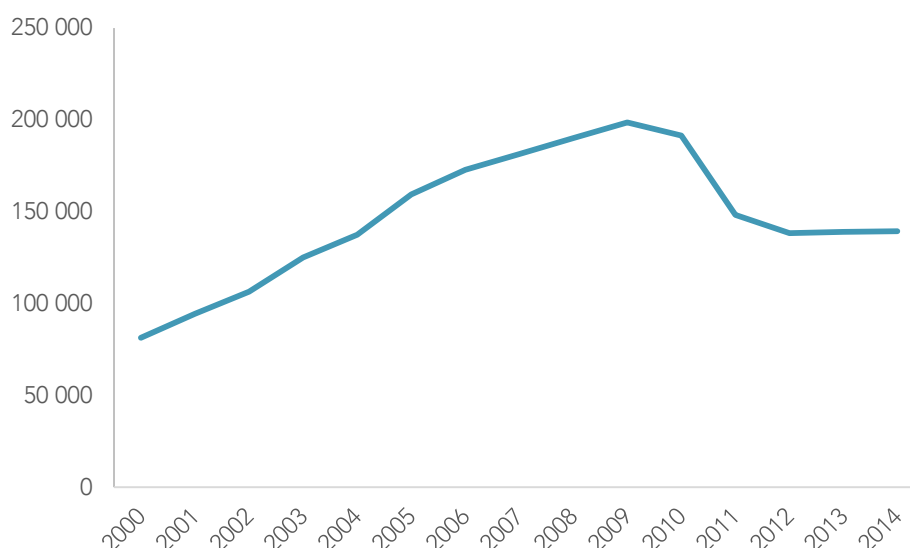
Source: MoE, 2016a.

Notes:

1. Data relate to students enrolled at any time during the year with a tertiary education provider in formal qualifications of greater than 0.03 EFTS (more than one week's full-time duration).
2. Data exclude all non-formal learning and on-job industry training.
3. Data include those private training establishments that received Student Achievement Component funding, and/or had students with student loans or allowances, and/or Youth Guarantee programmes.
4. Private training establishments includes other tertiary education providers (OTEPs).
5. One equivalent full-time student (EFTS) unit is defined as the student workload that would normally be carried out in a single academic year (or a 12-month period) by a student enrolled full time.
6. The total participation rate is the percentage of the population aged 15 and over who were enrolled at any time during the year.
7. The age-standardised participation rate is standardised to the 2014 national age distribution (ie, it represents the rate a group would have if they had the same age distribution as the 2014 national age distribution).
8. Students are counted in each subsector they enrol in, so the sum of the various subsectors may not add to the total.
9. Students are counted in each ethnic group they identify with, so the sum of the various ethnic groups may not add to the total.
10. "na" indicates that the data are not available.

Overall tertiary participation levels in New Zealand have fallen since 2005, but remain high compared to pre-1990 levels. The total number of EFTS enrolled in tertiary education remained relatively unchanged between 2007 and 2015, though the number of enrolments declined, particularly among domestic students, as more students studied full time. The share of EFTS at bachelor's level increased (from 38.5% of EFTS in 2007 to 42% of EFTS in 2015), and the number of EFTS enrolled at lower levels reduced (MoE, 2016).

Participation in industry training (Figure 3.6) follows a different pattern to provider-based training. It grew through to 2010 and then declined quite sharply. This was a result not just of the economic downturn but also of the operational review of industry training that removed significant numbers of trainees for the system (discussed below).

Figure 3.6 Participants in industry training, 2000–2014

Source: MoE, 2016a.

Notes:

1. Data are counts of all apprentices and industry trainees, regardless of whether TEC funded their activity in the year shown.
2. The graph shows counts of distinct people in total in each year.

Notes about tertiary ethnicity data

Ethnic identity is a complex characteristic. Most tertiary education ethnicity data reported by the Ministry of Education and Tertiary Education Commission (TEC) are multiple-response data. This means that a student who indicates on their enrolment that they identify with both Māori and Pasifika ethnicities is included in both categories.¹² This can result in ethnic group data adding up to more than 100%.

Sometimes (especially in older datasets) the data are prioritised, rather than multiple-response. This means that students are allocated to one ethnicity category only, according to the “highest priority” ethnicity they indicated in their multiple responses. A standard prioritisation order is: Māori, Pasifika, Asian, Middle Eastern/Latin American/African, Other, New Zealand European. This means that if, for example, a student indicates on their enrolment that they identify with both Māori and Pasifika ethnicities, they will be recorded in the data as Māori; and only those students who identify solely with the New Zealand European ethnicity will be included in this group.

How ethnicity is defined in any given dataset can change what the data show. For example, Engler (2010a) found, consistent with earlier research by Chapple, that students who identify as Māori on at least one tertiary enrolment (“ever-Māori”) show statistically different results to those who identify as Māori on every tertiary enrolment (“sole-Māori”) on various measures of tertiary achievement and outcomes.

Ethnicity data throughout this report should be interpreted with this caveat in mind. The persistent overall patterns shown in the data will be accurate; but detailed statistics may change according to the chosen methodology.

Māori and Pasifika learners are often bracketed together in reporting and discussion, and many students have plural ethnic identities. However, Māori and Pasifika are culturally different groups with different patterns of tertiary participation and attainment, as shown in the data below and in Chapter 9.

Māori and Pasifika learners are over-represented in the low-income population, making it hard to separate ethnicity effects from income effects.

¹² In some reports (eg, Mahoney, 2014a, 2014b) “Cook Islands Māori” is classified with “Māori” rather than with “Pasifika” in the aggregated data.

The number of domestic student enrolments dropped by 19% between 2007 and 2015, including drops for both male and female students, and students of all ethnicities except for Pasifika students (Table 3.2).

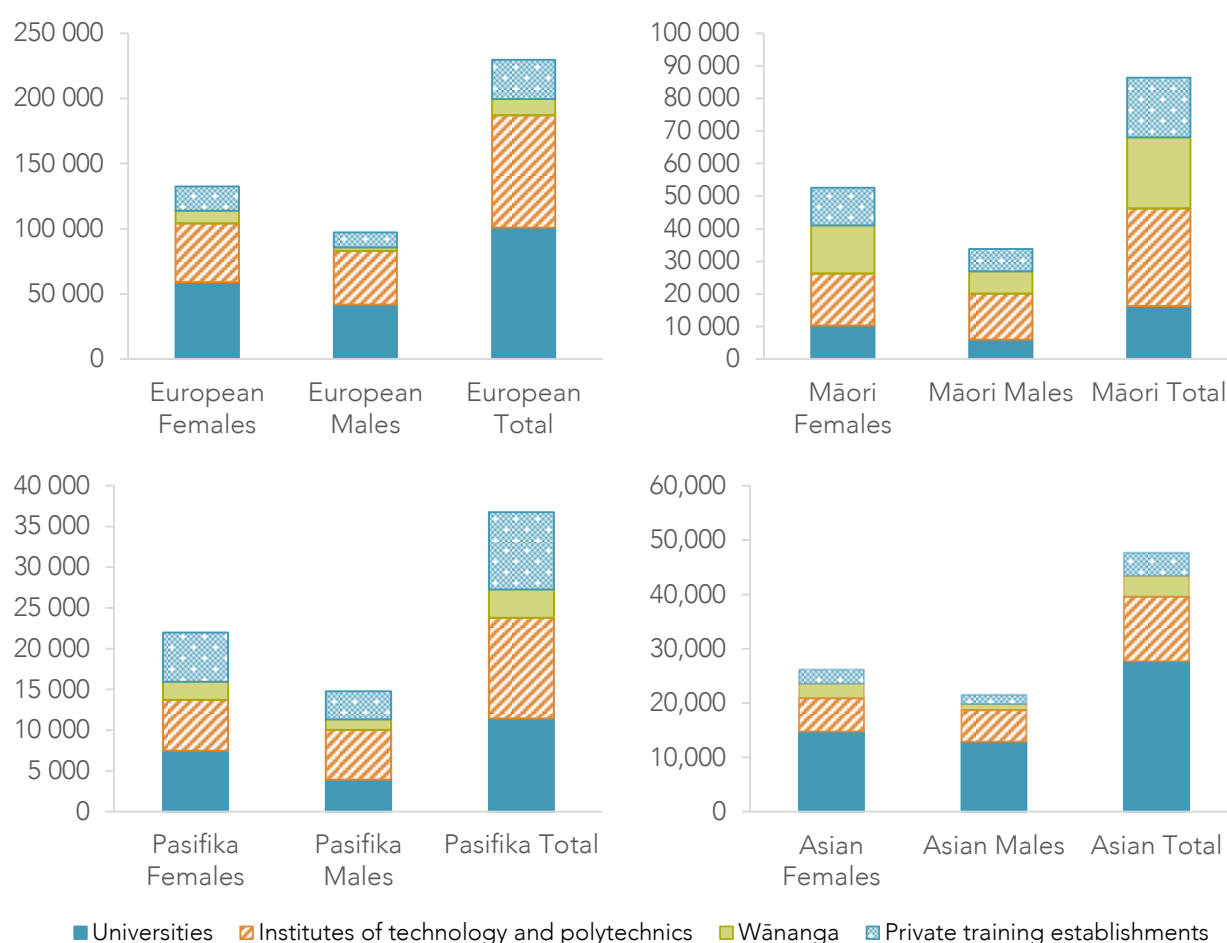
Table 3.2 Domestic student enrolments by ethnicity and gender, 2007–2015

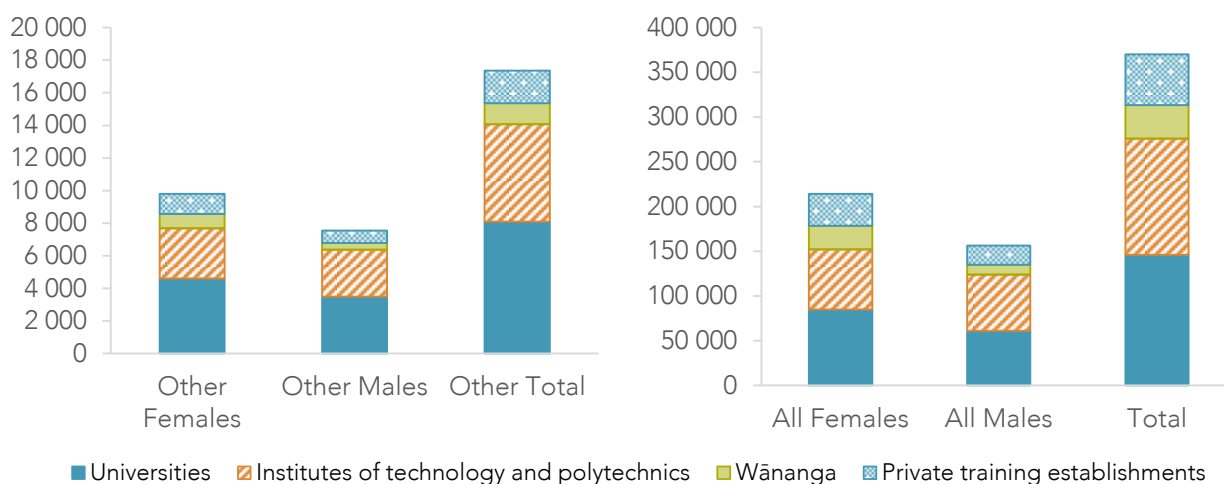
Ethnicity	2007	2015	Change, 2007–2014
European	289 739	224 225	-23%
Māori	83 745	81 805	-2%
Pasifika	29 216	35 615	22%
Asian	54 072	46 775	-13%
Other ethnicity	20 702	16 965	-18%
Female	241 347	206 200	-15%
Male	200 644	152 110	-24%
Total domestic enrolments	441 991	358 305	-19%

Source: MoE, 2016a.

A rich amount of data is available about domestic student enrolments, by ethnic group, age group, and gender. An overview of some of this data is presented in Figure 3.7.

Figure 3.7 Number of domestic tertiary enrolments by ethnicity, gender and subsector, 2015





Source: MoE, 2016a.

Notes:

1. Data relate to students enrolled at any time during the year with a tertiary education provider in formal qualifications of greater than 0.03 ECTS (more than one week's full-time duration).
2. Data exclude all non-formal learning and on-job industry training.
3. Data include those private training establishments that received Student Achievement Component funding, and/or had students with student loans or allowances, and/or Youth Guarantee programmes.
4. Private training establishments includes other tertiary education providers (OTEPs).
5. Students are counted in each ethnic group they identify with, so the sum of the various ethnic groups may not add to the total.
6. Students are counted in each subsector they enrol in, so the sum of the various subsectors may not add to the total.

There are more female enrolments than male enrolments across all ethnicities and subsectors, though at certain ages there may be more males enrolled (eg, students aged under 18). Students who identify as Māori are more likely to be enrolled in a wānanga. Pasifika students are the most likely to attend a private training establishment (PTE). European and students who identify with an "other" ethnicity are most likely to be enrolled in university. Women participate in tertiary education at higher rates than men across most qualification levels (Table 3.3).

Table 3.3 Age-standardised participation rates in tertiary education by gender and level of study, 2015

Level of study	Females	Males	Total
Certificates 1	0.4%	0.4%	0.4%
Certificates 2	0.9%	0.9%	0.9%
Certificates 3	1.8%	1.4%	1.6%
Certificates 4	1.6%	1.4%	1.6%
Certificates and diplomas 5-7	1.6%	1.1%	1.3%
Bachelor's degrees	4.4%	2.6%	3.5%
Graduate certificates/diplomas	0.4%	0.2%	0.3%
Honours	0.7%	0.6%	0.7%
Master's	0.4%	0.3%	0.4%
Doctorates	0.2%	0.1%	0.1%
All study levels	11.3%	8.3%	9.8%

Source: MoE, 2016a.

Notes:

1. The age-standardised participation rates are standardised to the 2015 national age distribution (ie, they represent the rate a group would have if they had the same age distribution as the 2015 national age distribution).

2. The age-standardised participation rates are standardised to the 2015 national age distribution (ie, they represent the rate a group would have if they had the same age distribution as the 2015 national age distribution).
3. Data relates to students enrolled at any time during the year with a tertiary education provider in formal qualifications of greater than 0.03 EFTS (more than one week's full-time duration).
4. Data exclude all non-formal learning and on-job industry training.
5. Data include those private training establishments that received Student Achievement Component funding, and/or had students with student loans or allowances, and/or Youth Guarantee programmes.
6. Students are counted in each qualification level they enrol in.

However, women and men have different patterns of participation by field of study (Table 3.4).

Table 3.4 Distribution of participation by broad field of study and gender, 2015

Field of study	Total enrolments	Male %	Female %
Engineering and Related Technologies	33 565	86.0	14.0
Architecture and Building	19 315	79.4	20.6
Information Technology	17 555	72.0	28.0
Agriculture, Environmental and Related Studies	18 620	59.5	40.5
Mixed Field Programmes	19 165	48.0	52.0
Natural and Physical Sciences	31 350	48.0	52.0
Management and Commerce	76 055	38.2	61.8
Creative Arts	30 395	37.6	62.4
Society and Culture	99 555	33.1	66.9
Health	47 205	26.7	73.3
Food, Hospitality and Personal Services	13 415	22.1	77.9
Education	27 370	19.6	80.4
Total	358 305	42.5	57.5

Source: MoE, 2016a.

Notes:

1. Data relate to students enrolled at any time during the year with a tertiary education provider in formal qualifications of greater than 0.03 EFTS (more than one week's full-time duration).
2. Data exclude all non-formal learning and on-job industry training.
3. Data include those private training establishments that received Student Achievement Component funding, and/or had students with student loans or allowances, and/or Youth Guarantee programmes.
4. These tables present statistics relating to the predominant field(s) of study of students enrolled at tertiary education providers. This data looks at all the courses studied within a qualification to determine a student's predominant field(s) of study. For example, you might use this data to know how many students are specialising in Information technology.
5. Students are counted in each field of study they enrol in, so the sum of the various fields may not add to the total.

The narrow fields of study with the lowest proportion of male participation were in personal services (6.3%) and nursing (7.9%). The narrow fields of study with the lowest proportion of female participation were in mechanical and industrial engineering and technology (8.4%), electrical and electronic engineering and technology (9.9%), building (10.1%) and automotive engineering and technology (10.1%).

OECD's *Education at a Glance* (2016a) reports that women make up the majority of entrants into tertiary education in all OECD and partner countries studied except Germany, Greece, India, Japan, Mexico, South Korea and Turkey. On average across OECD countries, 54% of new entrants are women. The reasons for women's higher participation in many in tertiary education has been the subject of considerable academic discussion (Box 3.1).

Box 3.1 **Why do women have higher rates of participation in tertiary education?**

A review of the literature by Callister et al. (2006) finds a number of theories given for increasing female participation, including that:

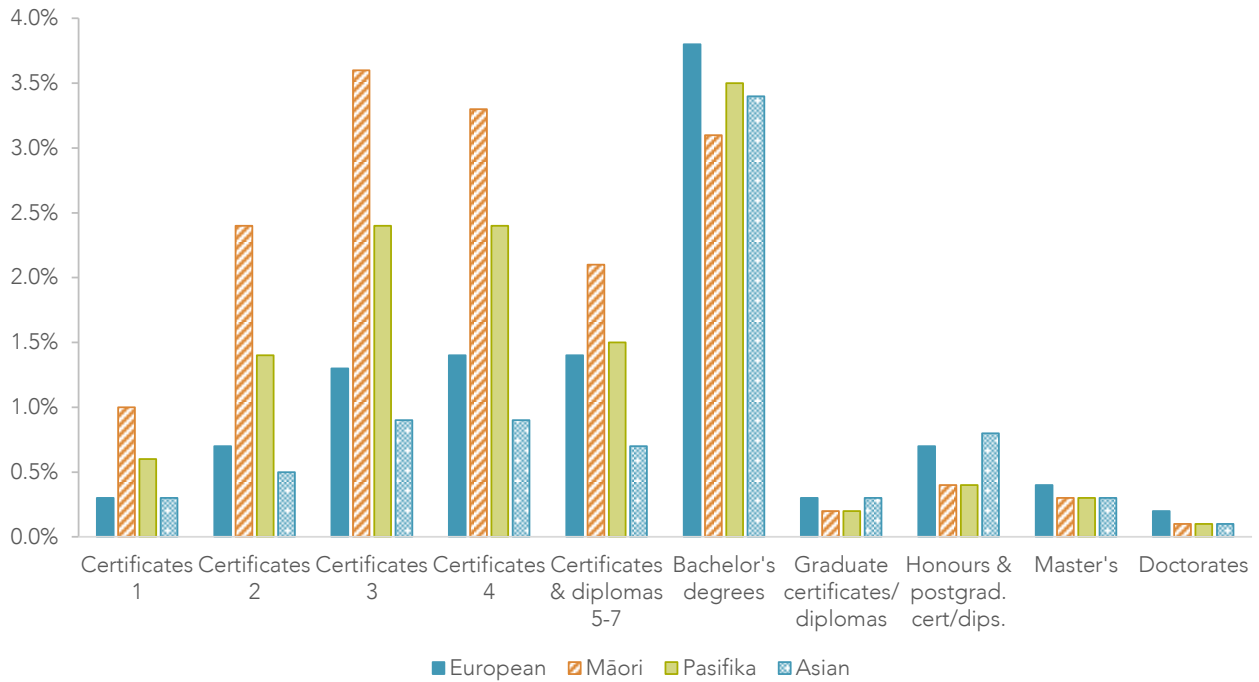
- the schooling system has become feminised, in terms of both curriculum and teaching staff, which assists a greater proportion of girls to move on to tertiary education;
- more boys are being raised by mothers, without good male role models present in the family;
- new courses being developed by tertiary education providers tend to be in “female dominated” subjects;
- women have seen higher returns than men in earnings and other material benefits from their participation in higher education;
- women are genetically “brighter” than men but have historically been held back by discrimination within the family, within schools and in the wider society;
- boys have slower social development and more serious behavioural problems than girls, so fewer advance to tertiary education;
- the increase in the age at first marriage has enabled women to invest more time in education; and
- more effective birth-control methods have helped women invest in education and their careers.

Becker et al. (2010) examined the question of why women’s participation in higher education is now outstripping that of men in many countries, given that women face the same traditional costs of study as men and tend to receive lower returns. They suggest that women face lower “non-traditional costs” of study than men; in particular, that the higher mean and lower variability of women’s non-cognitive skills (which are known to contribute to educational success) mean that a higher proportion of them, relative to men, receive positive net returns from tertiary education.

In New Zealand females have typically outperformed males in NCEA assessment, providing greater access to tertiary education, though some of the influences noted here may also be responsible for that achievement gap.

Māori and Pasifika have relatively high levels of participation in tertiary education. In 2015, 17.2% of Māori aged 15 and over were enrolled in tertiary education, while the corresponding figure for Europeans was 8.8%. The participation rate for Pasifika was also much higher than Europeans at 15.1%. Demographic factors partly explain these higher rates of participation in tertiary education for Māori and Pasifika. Both groups have a relatively young population, meaning that a greater share of their population is in the age category where tertiary enrolments are highest (18 to 24 years). The age standardised participation rate eliminates the effect of different age distributions, by adjusting the age distribution of each ethnic group to match that of New Zealand’s total population. The 2015 age standardised participation rates for European, Māori and Pasifika were 9.7%, 14.5% and 11.4% respectively. As shown in Figure 3.7 and Figure 3.8, Māori and Pasifika are less likely to study in university, and their higher participation rates occur entirely in subdegree level study. Ako Aotearoa submitted:

Simple measures or analysis can be particularly misleading when applied to marginalised or under-served learners. For example, Māori have the highest rates of participation in tertiary education; in 2014 14.7% of the (age-standardised) Māori population engaged in tertiary education, compared to 11.4% of Pacific, 9.9% of Pakeha, and 8.2% of Asian New Zealanders (Ministry of Education, n.d. a). However, most of this enrolment occurs at foundation levels; in 2014 approximately 52% of Māori tertiary learners were enrolled in Level 1-3 Certificates, compared to 43% of Pacific, 26% of Pakeha, and 19% of Asian learners (Ministry of Education, n.d. b). This suggests that high participation by Māori – an apparent indicator of success – may actually reflect issues in our compulsory education sector’s capability to serve young Māori. (sub. 58, p. 6)

Figure 3.8 Age-standardised participation rates by ethnicity and level of study, 2015

Source: MoE, 2016a.

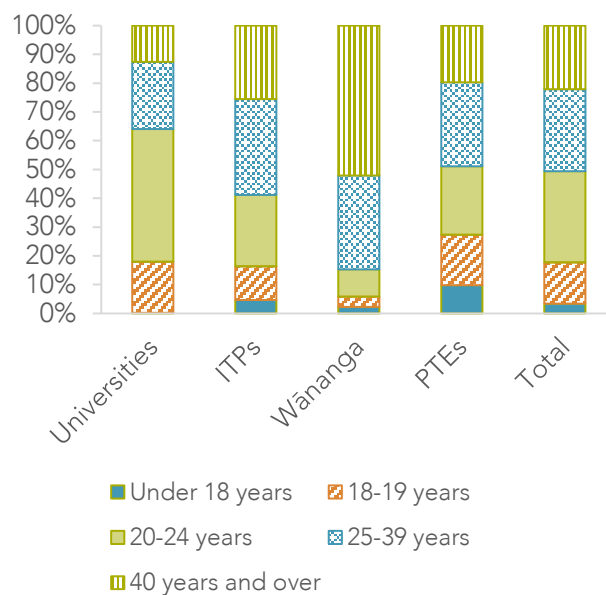
Notes:

1. Shows the percentage of the population aged 15 and over who were enrolled in tertiary education at any time during 2015.
2. Does not include international students.

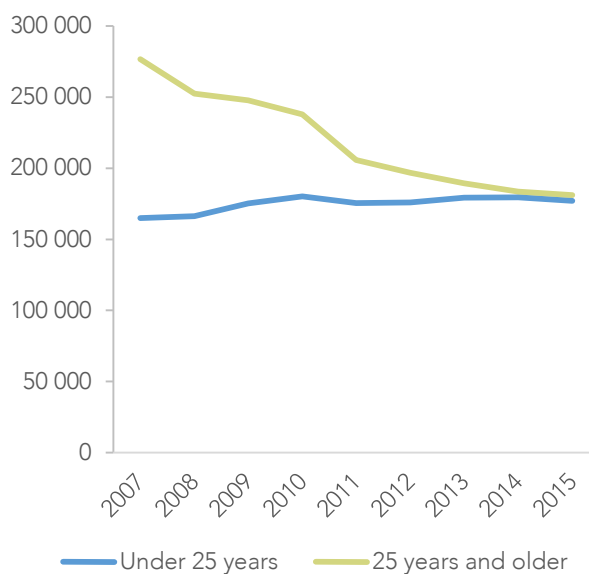
F3.2

Māori and Pasifika have relatively high rates of participation in tertiary education, but the high participation rates are entirely at subdegree-level study.

Compared to other OECD countries, New Zealand has a high proportion of older students in tertiary education (Scott, 2014). Universities have the youngest student profiles, and wānanga by far the oldest (Figure 3.9). However, overall the proportion of enrolments of students aged over 25 fell each year from 2007 to 2015 (Figure 3.10).

Figure 3.9 Domestic enrolments by subsector and age, 2015

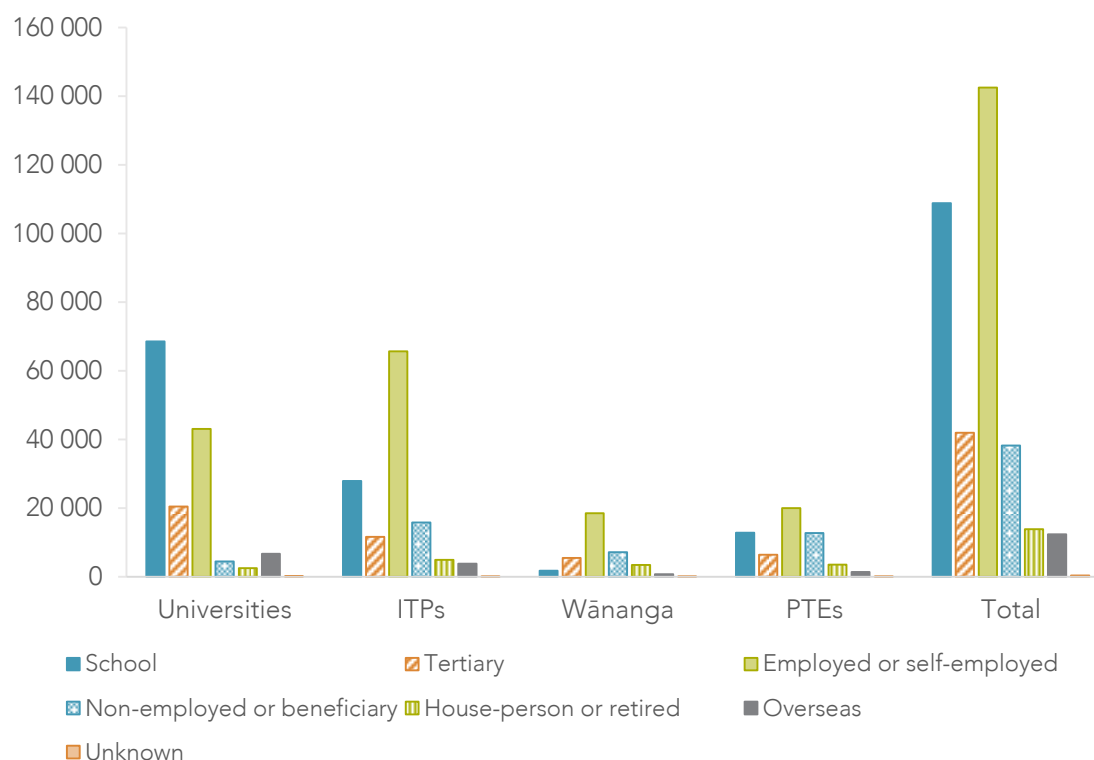
Source: MoE, 2016a.

Figure 3.10 Domestic enrolments by age, 2007–2015

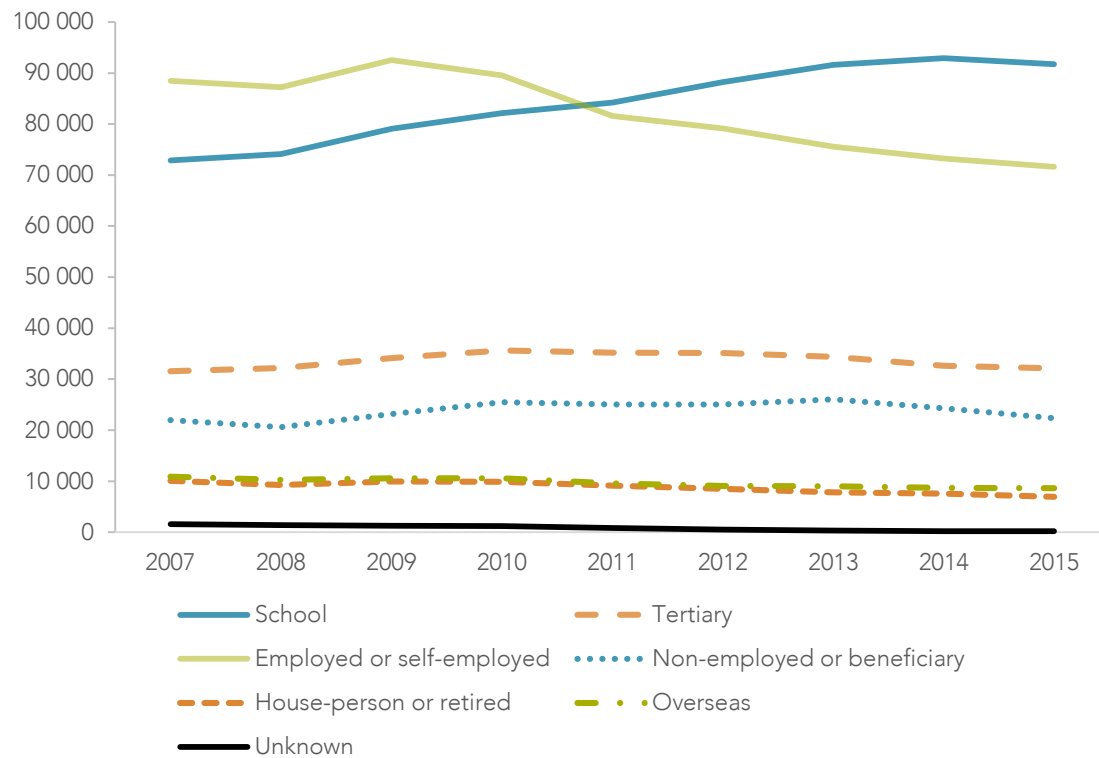
Source: MoE, 2016a.

Students' prior achievement

Universities take almost half of their students directly from school. For other provider types, the most common activity prior to enrolling is employment, and this is also true for the enrolled student population as a whole (Figure 3.11). Overall, most tertiary students in New Zealand do not come to study directly from school. Most students were most recently employed, unemployed, or on a benefit. Looking at the prior activity of EFTS takes into account that many students enrol part time, and school leavers are more likely to study full time. Over time, more tertiary students are coming to education from school, and fewer from employment (Figure 3.12).

Figure 3.11 Domestic students' prior activity by subsector, 2015

Source: MoE, 2016a.

Figure 3.12 Domestic EFTS by prior activity, 2007–2015

Source: MoE, 2016a.

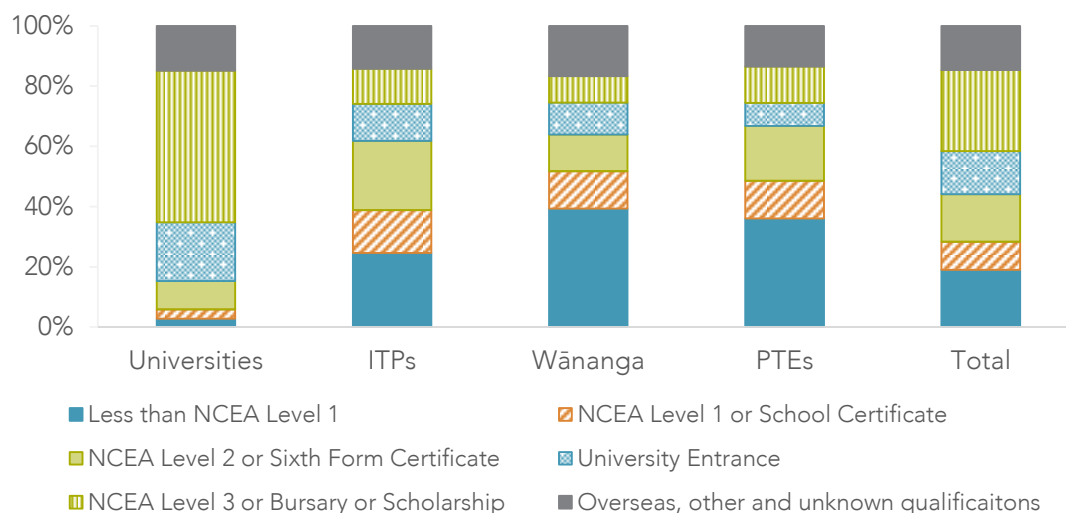
Notes:

1. Data relate to students enrolled at any time during the year with a tertiary education provider in formal qualifications of greater than 0.03 EFTS (more than one week's full-time duration).
2. Data exclude all non-formal learning and on-job industry training.
3. Data include those private training establishments that received Student Achievement Component funding, and/or had students with student loans or allowances, and/or Youth Guarantee programmes.
4. Private training establishment includes other tertiary education providers (OTEPs).
5. Students are counted in each subsector they enrol in, so the sum of the various subsectors may not add to the total.
6. Prior activity relates to the student's main activity at 1 October in the year before they started their first year of the current formal study.

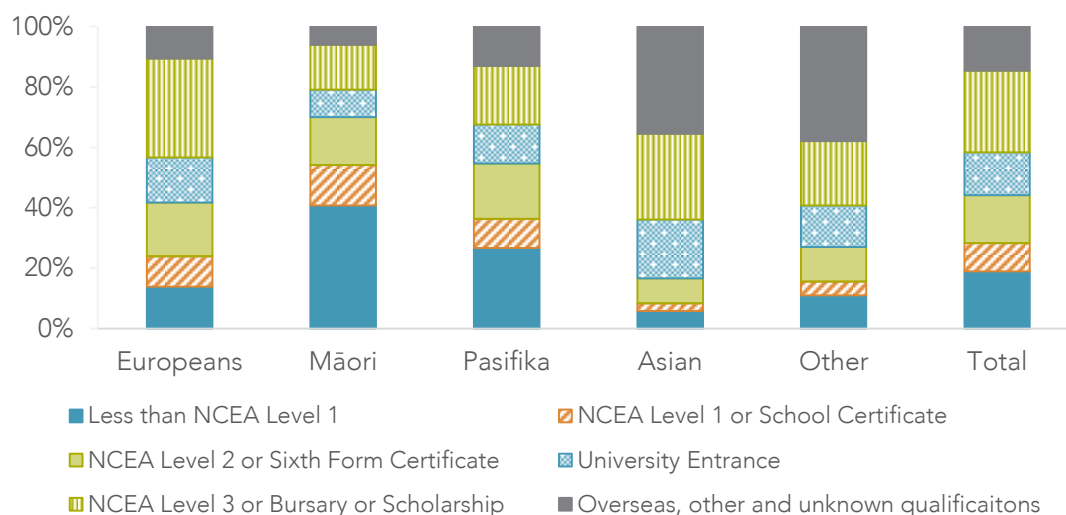
The 2007 and 2010 Tertiary Education Strategies both had a focus on people under 25 achieving qualifications, and the 2010 strategy also had a focus on enrolling students in tertiary education directly from school.

The highest school achievement of tertiary students varies significantly by subsector (Figure 3.13). At wānanga, the highest school achievement of more than half the students was NCEA level 1, School Certificate, or lower. The highest school achievement of almost two-thirds of university students was NCEA level 3, Bursary or higher.

The highest level of school achievement of domestic tertiary students also varies significantly by their ethnicity (Figure 3.14). Students who identify as Māori are very likely to have NCEA level 1, School Certificate or lower as their highest school qualification. Almost a third of students who identify as European have a school qualification of NCEA level 3, Bursary or higher as their highest school qualification.

Figure 3.13 Highest school achievement of domestic tertiary students by subsector, 2015

Source: MoE, 2016a.

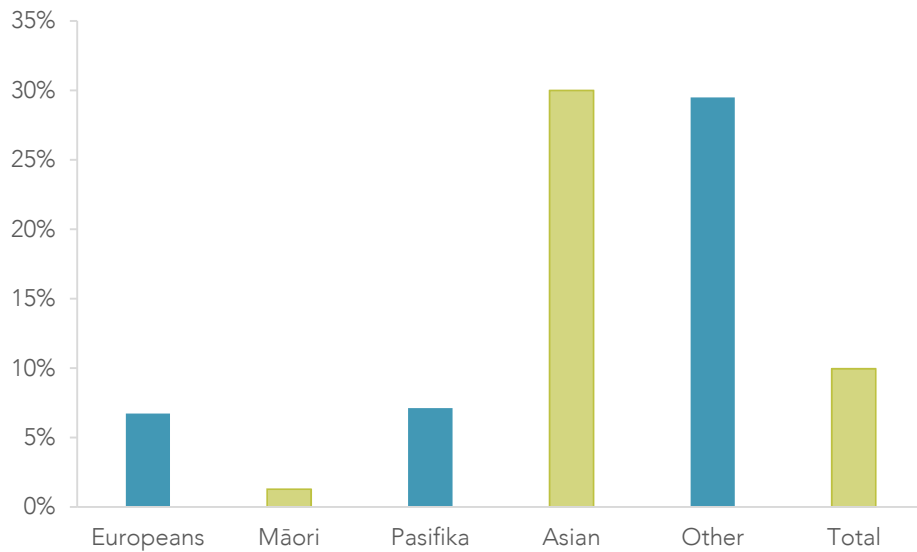
Figure 3.14 Highest school achievement of domestic tertiary students by ethnicity, 2015

Source: MoE, 2016a.

In 2014, 10% of domestic students' highest school qualification was from overseas,¹³ and for domestic students of Asian or other ethnicity as many as 30% had an overseas school qualification (Figure 3.15). Even putting aside international fee-paying students, New Zealand's domestic student population is ethnically diverse. Immigration settings are likely to play a role here. Unlike international students, domestic students face no English language proficiency requirements.

¹³ This includes students who studied at school overseas, as well as students who achieved an overseas qualification (such as Cambridge or International Baccalaureate) in New Zealand.

Figure 3.15 Proportion of domestic students whose highest school qualification is an overseas qualification, by ethnicity, 2015

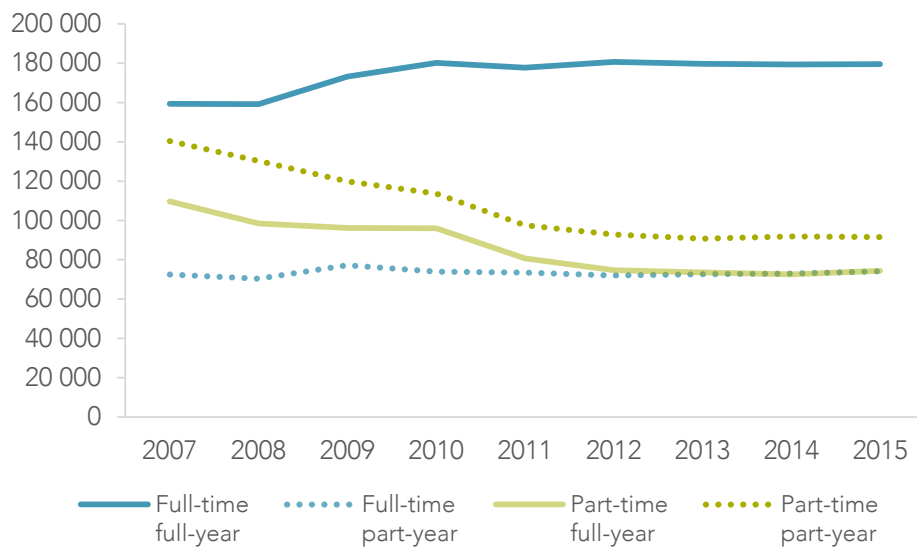


Source: MoE, 2016a.

What type of study?

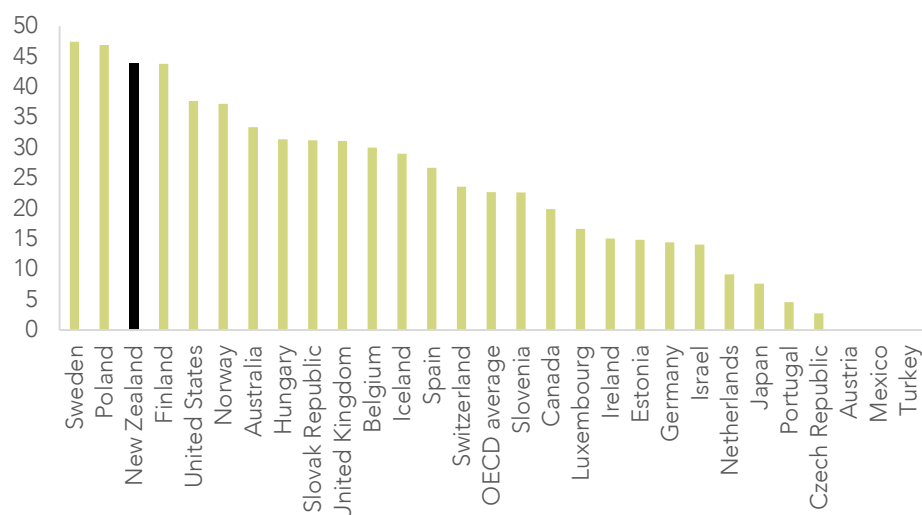
Enrolments in part-time study have been declining since 2007 (Figure 3.16).

Figure 3.16 Students by study type, 2007–2015

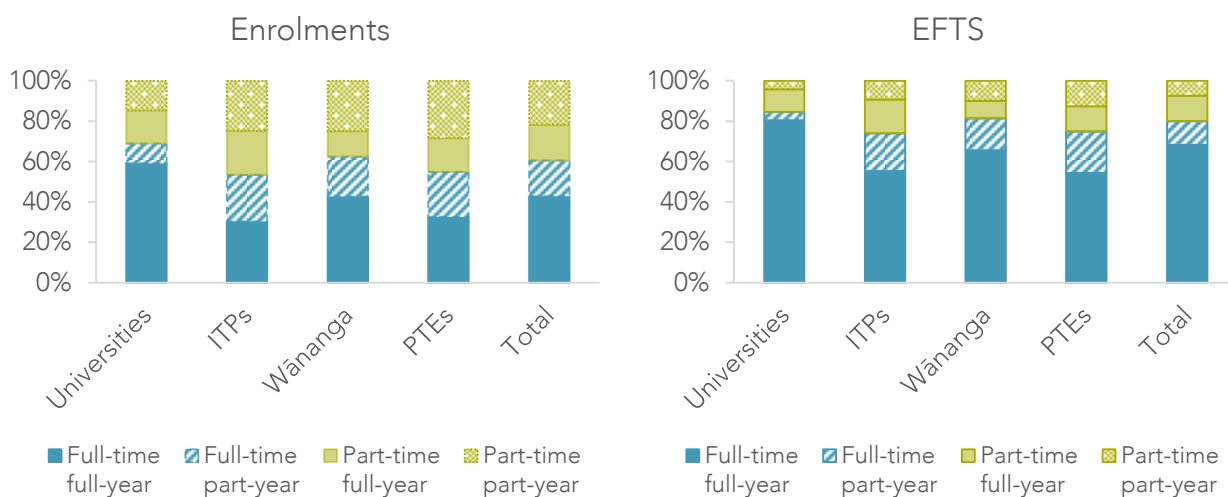


Source: MoE, 2016a.

Despite the relative decline in part-time study, New Zealand still has among the highest rates of part-time study in the OECD (Figure 3.17). For every provider type, more than half of enrolments come from full-time study, either full-year or part-year, and for every provider type more than half of their EFTS come from full-time, full-year study (Figure 3.18).

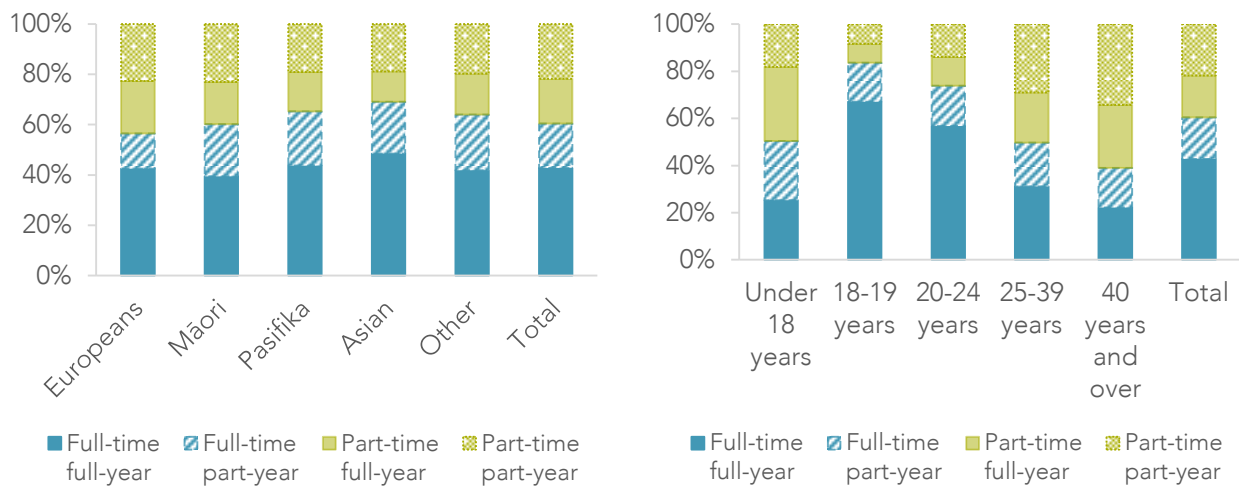
Figure 3.17 Percentage of tertiary students studying part-time in OECD countries, 2013

Source: OECD, 2015.

Figure 3.18 Enrolments and EFTS by study type and subsector, 2015

Source: MoE, 2016a.

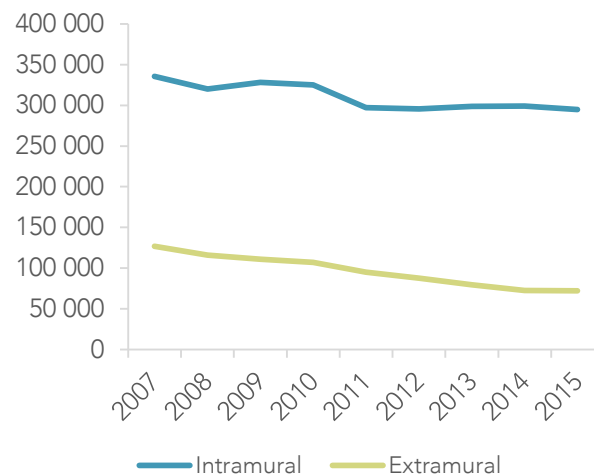
Study type does not vary much by ethnicity, although students who identify as European are slightly less likely to be enrolled in full-time, part-year study, and slightly more likely to be enrolled in part-time, full-year study. Study type shows no significant differences by gender. As might be expected, study type varies significantly with age, although full-time study comprises a large share of enrolments at all ages (Figure 3.19).

Figure 3.19 Enrolments by study type, ethnicity and age, 2015

Source: MoE, 2016a.

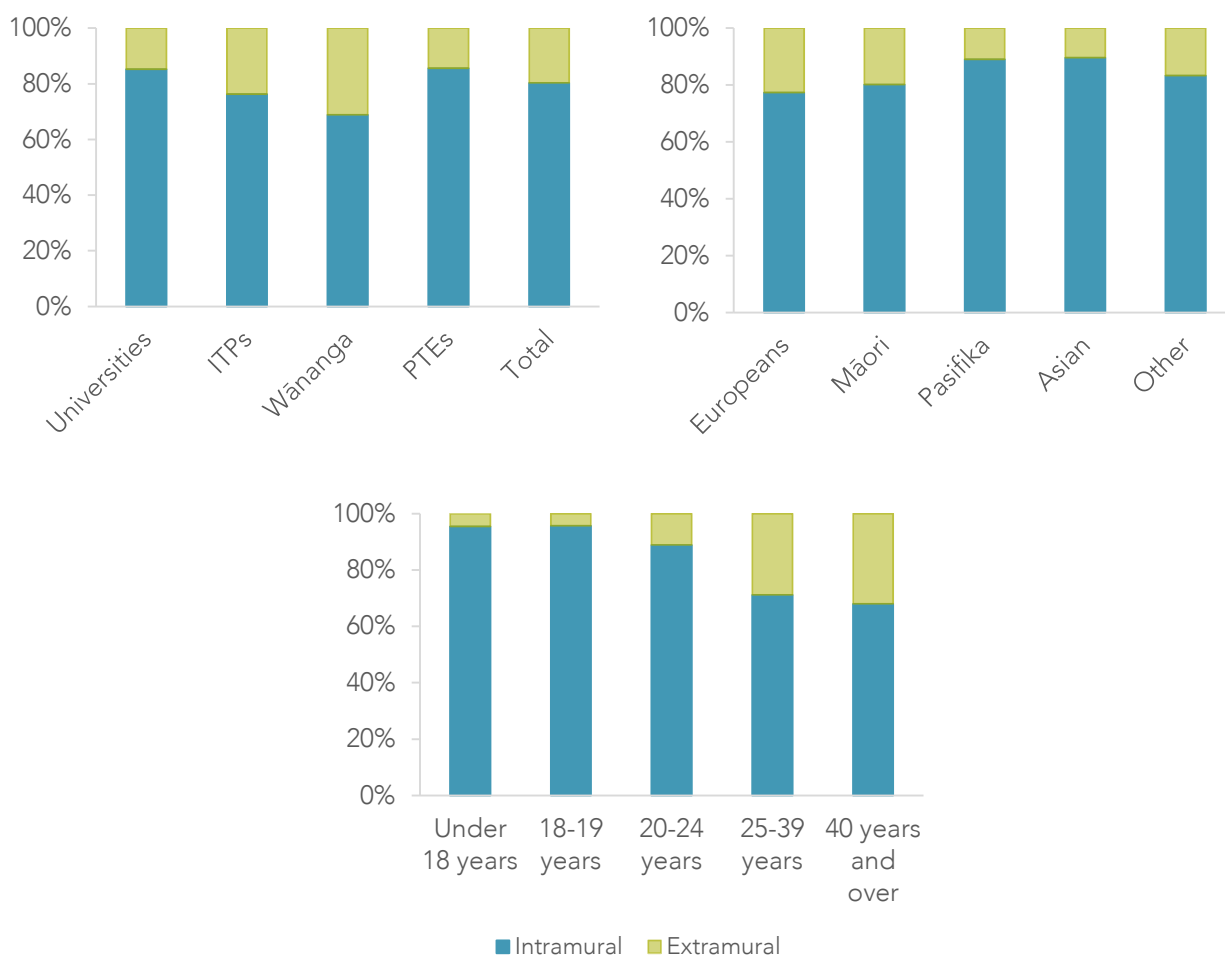
Generally, students can leave school when they turn 16. A range of secondary-tertiary partnership schemes provide for part-time study at school and part-time study at a tertiary institution.

Despite technological innovations in distance education, the number of students studying extramurally has declined continuously since 2007, with more than 40% fewer extramural student enrolments in 2015 than in 2007 (Figure 3.20).

Figure 3.20 Domestic enrolments by attendance status, 2007–2015

Source: MoE, 2016a.

Students enrolled at a wānanga are more likely to study extramurally, and European and Māori students are slightly more likely to study extramurally. The likelihood of students studying extramurally increases with age (Figure 3.21).

Figure 3.21 Attendance status of domestic enrolments by subsector, ethnicity and age, 2015

Source: MoE, 2016a.

Much extramural study occurs at the certificate and diploma level. Depending on the mode of delivery, completion rates in extramural study can be higher than those in intramural study for students aged over 40, students with non-working backgrounds, students at wānanga, people taking Agriculture, Environmental and Related Studies, and students in Mixed Field Programmes (MoE, 2014a).

Over the last decade, students have become slightly less traditional in some respects. Female participation in tertiary education has increased notably, as has the proportion of Pasifika students. But on average, it is clear that students in New Zealand have become more likely in recent years to be engaged in a “traditional” conception of tertiary education. The average student is becoming younger; the share of full-year, full-time study is increasing; and the share of intramural (on-campus) study is increasing.

F3.3

The tertiary education system is increasingly oriented towards full-time study, towards younger students (under 25 years) and away from extra-mural study.

Why study at a university?

Some 146 000 domestic students were enrolled at domestic universities in 2015, representing about 4.0% of the population. Universities took most of their students directly from school, and unsurprisingly the vast majority of their learners achieved at least NCEA level 2 (or Sixth Form Certificate) at school.

Many young people now view university as the default pathway for those who are able to enrol there. This is reinforced by the messages young people receive from diverse sources. It is also supported by the existence of the University Entrance qualification; for those who attain it, the strong implication is that the place for the young person is in a university.

“Generally you are told you need a tertiary qualification to get a job. But this is very general. Lots of my friends go to university because they’re told they should, do a BA and then struggle to find a job. We need to be teaching students the right skills and give them good career advice at high school.” (Student quoted in Victoria University Wellington Students’ Association, sub. 80, p. 10)

Universities New Zealand says that universities here “have some of the best graduate outcomes in the world” (sub. 17, p. 8), with 97%–98% of graduates being in employment three years after graduating. The Commission has not been able to substantiate this percentage, but by itself this does not mean the skills acquired by graduates are being well-used (skills matching is described further in Chapter 4). Universities New Zealand says that, all things being equal,

students prefer and are more successful when studying in a campus environment where their learning is supported by others and where they have access to libraries, laboratories, workshops and a range of social and recreational opportunities that facilitate wider personal growth. (sub. 17, p. 12)

It says that the value students place on the wider academic and social environment means they “generally regard gaining knowledge and skills as only one part of the value proposition of a university education” (sub. 17, p. 27).

For example, universities also provide opportunities for students to network with each other and sometimes with industry representatives, and to form relationships that will be useful to them in later life, especially in business. This can include international connections through studying alongside international students and/or spending study time overseas.

Some university students value university as a coming-of-age experience or “rite of passage” between leaving school and entering the workforce. This is often supported by auxiliary services provided by the university, such as student accommodation and campus activities. The University of Otago notes that one of the valued dimensions of the University is

[t]he transformative effect that living and studying at a residential university has on Otago’s students as they progress through study and emerge as well-rounded, confident and independent work-ready graduates. (sub. 37, p. 6)

Other submitters take a different view on the value of campus life. Nichols comments that, with respect to learning,

[t]here is no substitute for real-world experience, as opposed to the rarefied on-campus setting. Perhaps the rite-of-passage idol is part of the problem. (sub. 6, p. 9)

Ed. Collective comments that “the days when students spent the bulk of their time on campus are already behind us” as the student body becomes more diverse, and students increasingly juggle study with work and family commitments (sub. 89, p. 43).

Professor Kerry Shepherd, who researches higher education policy and practice, argues that the value proposition offered to prospective students in respect of the knowledge and skills they might gain is opaque:

The logic is clear. Higher education promises all sorts of benefits to learners (in particular for employment and lifetime earnings) and to employers, essentially on the basis of the improved skills that graduates will have. But higher education has been unable or unwilling to identify what these skills are, other than in the form of elaborate wish-lists, or to employ quality-assured processes that will identify who has these skills and who does not. Rather the message that comes from higher education is “trust us and trust our reputation”. ... The inability or unwillingness of higher education to engage in an evidence-based research-exploration of gradueness leads many to assume that it is scared to look under this particular carpet. (sub. 16, p. 4)

Professor Shepherd suggests that alternative online private providers will emerge that are able to emulate this “trust and reputation” model, without three or more years of institutional study.

Why study at a wānanga?

Some 37 000 domestic students were enrolled in wānanga in 2015, representing about 1% of the population. Students at wānanga are predominantly Māori, though many identify with European, Pasifika and Asian

ethnicities. Most (about 70%) are women. Most of their learners had poor achievement at school, achieving no more than NCEA level 1 (or School Certificate). Few of their learners come to wānanga from school; most have most recently been employed; while a smaller proportion have most recently been unemployed or engaged in other tertiary study. Students at wānanga are more likely to study extramurally than students in other subsectors, but the majority of enrolments are still classified as intramural. Students at wānanga are significantly older than students in other subsectors, with the majority aged over 40. Contrary to some perceptions, a majority of wānanga students study full time, either in full-year (44% of enrolments) or part-year (18% of enrolments) programmes.

The Tertiary Education Union (TEU) submitted:

The emergence and continued growth of wānanga in the tertiary education sector provides a defined space where mātauranga Māori can flourish in a setting determined by āhuatanga Māori and tikanga Māori. Wānanga have made a substantial contribution to improvements in educational outcomes for Māori in the sector, but equally importantly to social and cultural wellbeing indicators that underpin productivity for wellbeing. (sub. 83, p. 12)

The Education Act 1986 says:

a wananga is characterised by teaching and research that maintains, advances, and disseminates knowledge and develops intellectual independence, and assists the application of knowledge regarding ahuatanga Maori (Maori tradition) according to tikanga Maori (Maori custom). (section 126(b)(iv))

In a report into the economic contribution of wānanga, BERL said:

People choose to study in a Wānanga learning environment to enhance their skills and productivity, to improve their current and future job and career prospects; to increase their earning potential and to increase their knowledge about things Māori. Each of these factors impacts on the individual, their whanau and the community they live in. They also lead to economic growth, which in turn contributes to higher living standards.

However, economic benefits are not the only driver behind investment in skills, education and training. People also choose to study in a Wānanga learning environment because this sector is focused on inter-generational, marae-centred learning, and te reo Māori and mātauranga Māori are central tenets of the activities of Wānanga. (2014, p. 5)

TEC says that “New Zealand’s three wānanga provide quality education using Māori ways of teaching and learning; contributing towards the survival and well-being of Māori as a people. Wānanga also have a continuing role to play in re-engaging learners into education” (2015).

Why study at an institute of technology or polytechnic?

Some 130 000 domestic students were enrolled at ITPs in 2015, representing about 3.6% of the population. Students at an ITP are generally older than students at university, and younger than those at wānanga. The majority of students were most recently employed, though a significant number also entered from school. ITPs have a larger proportion of part-time students, and a smaller proportion of full-time full-year students, than wānanga or universities.

Unlike Universities whose major source of students is school-leavers, ITPs source over 50% on average from already-employed or mid-career adults seeking to upskill or retrain in the course of their working lives. Very many enrol part-time so they are continually framing their study purpose in the context of their industry’s or profession’s requirements. (NZITP & Metro Group, sub. 42, p. 3)

In 2014 some 1 730 students were in Managed Apprenticeships, which are administered by ITPs with little involvement by industry training organisations (ITOs). This was a large increase from the number of learners from 2010–2013, driven by increased enrolments in building trades qualifications in Christchurch (MoE, 2015a).

Like providers of vocational education in other countries, study at an ITP is distinctive because the learning is contextualised in work. In their submission, NZITP and Metro Group emphasised that ITPs “offer an extensive and wide ranging provision from foundation to post graduate level study” (sub. 42, p. 13).

Wellington Institute of Technology (WelTec) and Whitireia Community Polytechnic (Whitireia) submitted that

study at an ITP, and vocational education generally, has the potential to transform the lives of many groups of people including those:

- for whom an applied and industry-infused programme of study that has the direct link to employment, or the aspiration to run their own business is their dream;
- for whom an applied postgraduate programme provides them greater career and career progression options;
- who are simply great at creating things, whether that be performance, jewellery, or robotics;
- who are good at developing and innovating systems/products/constructing and deconstructing, and in doing so sometimes create that bright new idea that improves productivity and efficiency, or leads to something new;
- who want the next job opportunity and are looking to upskill;
- who are sitting in our prisons and at some point will be released;
- for whom compulsory education was not a success; and
- who are young sitting on their couches at home, disengaged and disaffected. (sub. 59, p. 26)

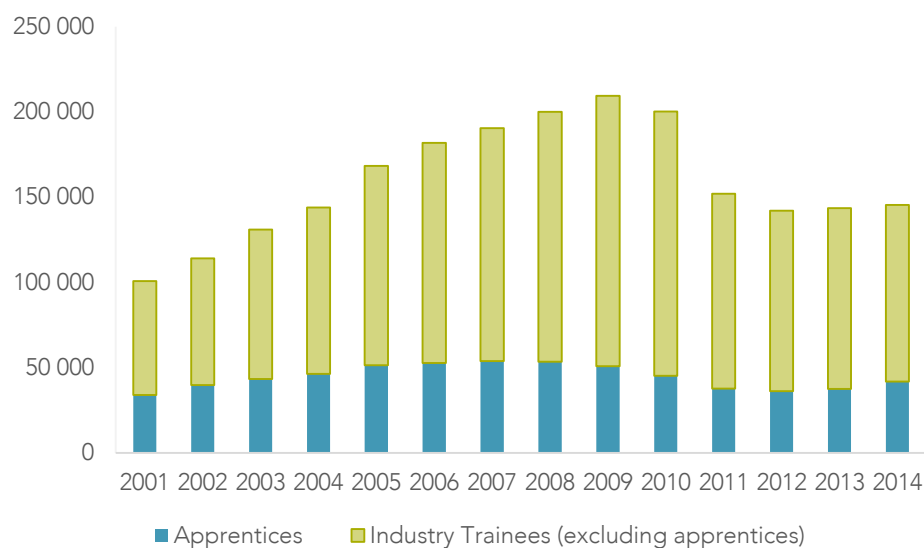
Who participates in industry training?

Industry training is the delivery of work-related learning to employees, often in work settings. ITOs are not providers of education, but they do arrange industry training through other providers. Three types of industry training are noted below.

- Traineeships are industry training programmes that do not meet the New Zealand Apprenticeships criteria. This is the majority of industry training, often comprising “short-burst, just-in-time skills acquisition training” (MoE, 2015a, p. 5).
- New Zealand Apprenticeships, Industry Training Apprenticeships, and Modern Apprenticeships (which are being phased out) lead to qualifications on at least level 3, and from 2018 at least level 4, on the NZQF.
- Managed Apprenticeships are administered by ITPs, rather than ITOs, and attract student achievement component (SAC) funding. They are not considered in this section.

The number of workers in industry training increased through the 2000s, then declined steeply between 2010 and 2012, though it has since stabilised (Figure 3.22).

Figure 3.22 Participants in industry training, 2001–2014



Source: MoE, 2016a.

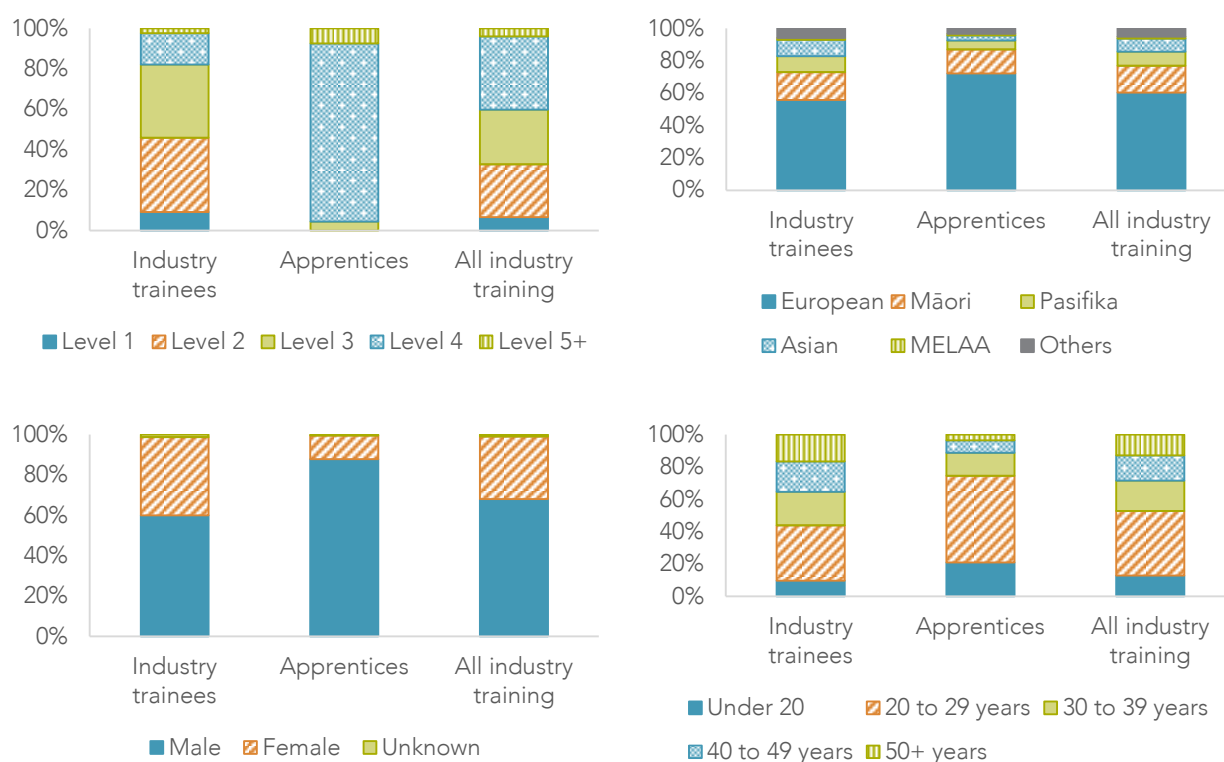
Notes:

1. These definitions of industry trainees and apprentices differs from those used by the Tertiary Education Commission (TEC)
2. Data are counts of trainees, regardless of whether their activity was funded by TEC in the year shown.

The decline from 2009 is because of operational and compliance reviews that found significant performance and enrolment issues in ITOs. Some 53% of trainees enrolled in 2008 (96 831 trainees) and 54% of trainees enrolled in 2009 (100 801 trainees) achieved no credits at all; some 44 400 people were enrolled in both years without achieving any credits (Joyce, 2011).

Almost all industry training occurs at level 2, 3 or 4 on the NZQF, with almost all apprenticeships being study towards level 4 (as required by the new New Zealand Apprenticeships pathway). Apprentices are slightly more likely to be European than other industry trainees, and industry trainees are predominantly male, particularly apprentices. Despite New Zealand Apprenticeships recently opening up the apprenticeship pathway to all ages, most apprentices are still aged under 30; while more than half of non-apprenticeship industry trainees are aged 30 or over (Figure 3.23).

Figure 3.23 Industry trainees by level of study, ethnicity, gender and age, 2014

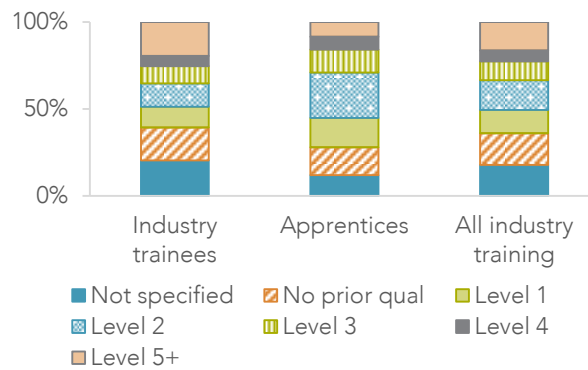


Source: MoE, 2016a.

Notes:

1. Industry Trainees are defined as non-apprentice industry training learners. They are industry trainees whose programme does not meet the New Zealand Apprenticeship criteria.
2. This graph shows counts of trainees during the calendar year.
3. Trainees participating with multiple ITOs are counted just once.
4. Ethnic group is a multiple response value. People can be counted in multiple ethnic group categories. Summing the categories will give a higher number than the total number of people, and summing the percentages calculated from them will often give a percentage greater than 100%.
5. MELAA is Middle Eastern, Latin American and African ethnic groups.
6. Age is at 30 June in the given year.
7. NZQF level is the highest level the trainee was active in in each year.

Industry trainees have a range of prior education experience (Figure 3.24). Apprentices are slightly more likely to already have a level 2 or 3 qualification than other industry trainees; but a large number of non-apprenticeship industry trainees already have a qualification at level 5 or above, and are presumably seeking to fill particular skill gaps.

Figure 3.24 Industry trainees by previous qualification, 2014

Source: MoE, 2016a.

Notes:

1. Industry Trainees are defined as non-apprentice industry training learners. They are industry trainees whose programme does not meet the New Zealand Apprenticeship criteria.
2. This graph shows counts of trainees during the calendar year.
3. Trainees participating with multiple ITOs are counted just once.
4. The previous highest qualification is at the time the trainee enters their training.

Why study at a private training establishment?

Some 57 000 domestic students were enrolled at a PTE in 2015, representing about 1.6% of the population. The PTE sector is diverse, and the profile of its students is diverse. Its students are more likely to be under 18, and under 20, than for any other subsector, but many people from older age groups study at a PTE as well. PTEs have relatively high participation by Māori and Pasifika learners. PTEs have the highest rates of intramural study among subsectors, and students are less likely to study full time, full year, than students in other subsectors.

Most PTE students were most recently in the labour market (employed or unemployed). Almost half of the students' highest school achievement was no higher than NCEA level 1 (or School Certificate).

The largest area of delivery for PTEs has been in levels 3–6; but, since competitive funding was introduced for level 1 and level 2 Certificates, participation at this level of study through PTEs has increased.

PTEs are diverse and tend to operate in niche areas of provision, so it is difficult to generalise about why students study there.

Why study in community education?

ACE Aotearoa pointed to the diversity of people who study through the ACE sector:

Those who have had a lack of success in their school education experience a burden of guilt and shame with at times total disengagement and feelings of hopelessness about trying again – they may not have learned relevant subject matter but they have learned they are “no good at learning” or “Dumb”. Part of the ACE sector (often taxpayer funded) is focused on helping those learners regain their confidence, and reach their potential as contributing adults. Most of the ACE Sector (user pays) is focused on enriching courses for successful, curious and high achieving adults (who experienced success in their school education) who wish to continue to grow, contribute and have satisfying lives and have the financial capacity to action this option for themselves. (sub. 32, p. 1)

Like other submitters, the ACE Strategic Alliance stressed the poor learning skills of many ACE learners.

ACE learners generally have a low base from which to start tertiary education often due to not having the appropriate skills to learn (organise learning materials for future use) or those who have had damaging experiences in the compulsory school system ... Learning how to think, how to learn and how to collaborate are key focuses for ACE. (sub. 34, p. 2)

...in Foundation Education it is clear that most students are still developing the skillset required for informed choice: that of developing a frame of reference, understanding and legitimising their own needs and motivations. (Methodist Mission Southern, sub. 5, p. 2)

SeniorNet Wellington said older people wanted to learn new skills for a range of reasons (including to play a meaningful role in the community, and to maintain independence), but that acquiring a qualification was not a priority for older people (sub. 11).

3.2 Who does not study in New Zealand?

Young people entering the workforce

Not much information is available about school leavers that do not progress to any form of tertiary education, unless they are NEET:

There is a great deal of data available on students and the tertiary system, but it is focused on those already in the system and what they have achieved. What it does not tell us is what the gaps are, and why they exist. The exception to this is the work on NEET (young people not in employment, education or training), where government has put in considerable policy and resource effort to address the issues for this group. However, once on an employment track, these people disappear from view and little is known about whether a gap remains between their achievement and their potential. Joining up the data that exists across the government system would help show the gaps that exist, and suggest effective policy responses – government is already doing this for its social investment approach in the health, social welfare and justice sectors. (New Zealand Federation of Graduate Women, sub. 47, p. 4)

Young people who are not in employment, education or training

Most young people are NEET at some point. One paper finds only 24% of people are not NEET at some point between ages 16 and 22 (Dixon, 2013). But while 23% are only NEET for one short-term spell (up to five months), 25% experience multiple short-term spells and 28% experience at least one long-term spell of six months or longer.

Dixon found that Māori youth were more likely to be long-term NEET than Europeans, and that long-term NEET status was also associated with: living in a neighbourhood with a high NZ Deprivation Index, living in a rental property, living with a non-working parent, leaving school without a qualification or with a level 1 qualification, and becoming a parent at ages 16 to 18.

However, Dixon found that around two-thirds of young people who had long-term NEET spells enrolled in some education or training before age 20, and half worked for a year or more before that age.

A study by Earle (2016) of the 1991 birth cohort found that those who had only studied in levels 1–3 certificates by age 22 had the same incidence of being NEET during the year at age 22 than those who had undertaken no tertiary study.

Young people who choose to study abroad

There is some evidence that an increasing number of young New Zealanders are choosing to study abroad, supported by scholarships from foreign universities. According to the OECD around 2% of New Zealand tertiary students study abroad. Some 47% of New Zealanders who study abroad do so in Australia, with 19% in the United States and 16% in the United Kingdom (OECD, 2016a).

Universities New Zealand submitted that universities from Australia and the United States “are now actively recruiting top students from within New Zealand and this is only likely to grow” (sub. 17, p. 85). The US Embassy runs a yearly expo in Auckland and Wellington promoting US providers to New Zealand students. Inquiry participants told the Commission that scholarships to overseas universities were increasingly available to New Zealanders. Indeed, one elite Australian university told the Commission that it made conditional offers to top New Zealand students before NCEA results were reported, stealing a march on New Zealand universities that tended to wait for results. The Commission was told of one New Zealand school where as many as 19 of the top 20 students in 2015 had left the country to study overseas.

Older people in various situations

Fewer older people are undertaking tertiary education over recent years. A range of drivers for this is likely. These include, a reduction in student support for older students, and the removal of “phantom trainees” from the industry training system. But it is also clear that government has asked the tertiary sector to focus provision on younger students, and in particular school leavers. The effect of this priority, coupled with the quota system for funded student places and increased emphasis on completions, is that fewer older people are participating in tertiary education.

3.3 Decisions and transitions into tertiary education

Many submitters to the inquiry pointed to problematic transitions for young people from school into tertiary education. The Commission was told that collaboration between secondary schools and tertiary institutions was limited.

Transitions from compulsory to post-compulsory education need better ownership, funding support, strategies and capability. The lessons from successful initiatives such as the Auckland Starpath Project should be taken up nationally and the traditional guidance counselling and careers planning functions in schools should be replaced by nationally supported academic and vocational pathway planning functions. (UNZ, sub. 17, p. 14)

Such concerns are not new. A report from the age-16 stage of the longitudinal Competent Children, Competent Learners project looked at the aspirations and concerns of young people for their future study and career. It commented on two issues arising from the study:

The first is that while young people are required to make decisions about an ever-increasing range of in school courses and post-school possibilities, they receive no real preparation for doing this well. Schools – the major site of school to work transition preparation for most young people – are not yet in step with many knowledge society shifts that have affected labour markets, skills demands, employer-worker relationships, and the very nature of “career”. The second issue is that those in-school and post-school possibilities for young people continue to be structured by family and background experiences and resources and be school experiences and in-school learning systems. Yet the “pathways framework” and its underpinning invocation of “Choice for all” means our understanding of young people’s transition from school implicitly sidesteps any recognition of the structural constraints around those choices. The danger is that we may miss patterns of inequality, misreading them for individual failure to make a good transition. (Vaughan, 2008, p. 2)

Tertiary providers submitted that the funding arrangements for secondary-tertiary programmes acted as a barrier to students moving to study at tertiary settings that may better provide for their needs.

The secondary-tertiary interface is a complicated one and current conflicting policy settings do not help with certainty and smoothness in this space. While we all appreciate a learner cannot be funded twice for the same hours of contact – both through compulsory education funding and tertiary funding – it does make it hard for schools making choices to release students to the tertiary provider and potentially lose funding as a result. (WelTec & Whitireia, sub. 59, p. 14)

Pathways and transitions and the link to compulsory education are not yet a coherent set of policies operating at a level that is best for the learner. Compulsory sector partners [schools] feel the cost of learners transitioning to the tertiary sector earlier than “normal” even though the outcome for the learner is often better. A transitions funding model that is linked to student outcomes and carries no penalty for the “releasing” educator is required. (Manukau Institute of Technology, sub. 67, p. 3)

How does school prepare students for tertiary study?

A number of submitters pointed to growing problems with school in preparing students for, and providing a clear pathway to, further study.

University Entrance through NCEA does not sufficiently prepare students to be independent learners. (Faculty of Arts, University of Canterbury, sub. 35, p. 5)

Other submitters pointed to poor preparation by schools in particular subject areas. One professor expressed particular concern about the quality of mathematics teaching in schools, submitting that “[t]ertiary education, no matter how configured, cannot overcome insurmountable obstacles left for it by an

inadequate secondary system” (Shepherd, sub. 16, p. 7). Unitec Department of Civil Engineering submitted that

[t]he importance of ... preparing high school students in communication English, mathematics and the general sciences (particularly physics – anecdotally we have learned that some high schools do not even offer this subject) cannot be overemphasized and is something that the E2E [engineering education to employment] and other initiatives are well aware of and seem to be addressing. (sub. 76, pp. 6–7)

The E2E initiative is discussed further in Chapter 11.

Many other submitters told the Commission in the course of engagement meetings that increasing pressure on schools to meet government NCEA level 2 targets was resulting in students collecting standards that did not provide a coherent qualification that opened up further tertiary study. The Commission was told of the surprise and anguish many young people and their parents experience when they find out that a school qualification they have achieved does not contain the pre-requisites to enrol in their desired field of tertiary study.

[T]he NCEA Level 2 target is encouraging secondary schools to direct students into courses of study where they are most likely to pass and achieve NCEA Level 2, rather than directing students into programmes of study that will more adequately prepare them for success in tertiary education and leave options open for study at university. (University of Waikato, sub. 93, p. 4)

University Entrance

Section 247 of the Education Act requires the New Zealand Qualifications Authority (NZQA), in consultation with universities, to establish criteria that a student must meet to gain entrance to a university if under the age of 20. This criteria includes setting the standard known as University Entrance. It currently comprises a package of credits at NCEA level 3, including a minimum number of credits in literacy, numeracy, and various “approved subjects”.

Several submitters commented on the lack of relevance of the University Entrance qualification for the type of students who should be eligible for study at university.

The long-standing notion of setting a University Entrance standard may not be assisting student choice. The entry requirement for a student to have a “reasonable chance of success” is not uniform across all university degrees. Furthermore, to have a reasonable chance of success in many Level 7 ITP qualifications, the student at entry should have reached the University Entrance standard. It may be that the concept of a standardised University Entrance is now outdated. Moreover, gaining it may be interpreted as a signal that the student should enrol in university, even when their academic record suggests that they would have a higher likelihood of success enrolling in a vocational qualification at an ITP. (Royal Society, sub. 41, p. 5)

The University of Auckland has “selective entry for all programmes, with undergraduate entry standards for all programmes that are significantly above minimum University Entrance (UE) requirements” (sub. 85, p. 1). Conversely, the University of Waikato considered that University Entrance arbitrarily restricted access to university for students who might benefit:

The requirement that all students achieve University Entrance as it is currently defined also represents both a minimum quality mechanism and a barrier to competition. Given the potential for students to acquire knowledge and skills as part of their degree, it is not clear why particular sets of knowledge and skills should be imposed on entrance to all universities and all degree programmes in universities. Neither is it clear why an arbitrary standard of readiness for university study would be used instead of an assessment of who would benefit from tertiary study. The TEC has the power to constrain universities from taking students with lower academic results from Year 13 (if it thought this was a bad thing) by constraints on the number of funded places. So it is not clear why universities cannot be left to set their own entrance standards and be judged on their ability to bring those students up to the level required for degree completion. (University of Waikato, sub. 93, p. 5)

University Entrance holds little or no value, and may do harm.

- Despite the name, attaining University Entrance does not guarantee a student entrance to university study. Each university is free to institute additional requirements for entrance to particular courses, and they all do so for some or all of their courses.

- Conversely, not having University Entrance does not prohibit access to universities. Each university has alternative admission pathways for promising students who lack University Entrance (in addition to the statutory provision¹⁴ that guarantees access at age 20). Students who fail to achieve a University Entrance qualification at school may be unaware of this, and dissuaded from applying to study at university.
- Students seeking University Entrance need to accumulate a certain number of credits in “approved subjects” nominated by the universities. The Commission heard that senior secondary teachers, to make sure students earn enough credits in a particular “subject”, tend to arrange NCEA delivery into traditional subject clusters (eg, English or biology). This means they do not take advantage of the intended flexibility of NCEA to teach and assess learning from multiple disciplines within a single project or theme (eg, teaching elements of maths, physics, design, carpentry and art, via a single project to design a skateboard).
- The statutory provision for entrance requirements for universities, but not for other provider types, reinforces the traditional view that university education is better, and has higher standards, than other types of education.

How do students make decisions?

Education is sometimes described in economic literature as an *experience*, *post-experience* or *credence* good. Essentially, this means that that students cannot accurately judge the quality of the education they are choosing until they are already undertaking it, until it is finished, or perhaps ever. Methodist Mission Southern emphasised the inability of prospective students to undertake such quality judgements when making decisions about tertiary education:

If education is the one transformative good – a position the Mission strongly endorses – then axiomatically, the very nature of learning is that students can only fully understand the costs and benefits of attending any particular course via any particular provider once the experience has been completed. (sub. 5, p. 2)

Although now more than a decade old, Leach and Zepke’s 2005 literature review *Student decision-making by prospective tertiary students* still provides rich evidence about how individuals take decisions about entering tertiary education (Box 3.2).

Box 3.2 Student decision-making by prospective tertiary students

Leach and Zepke (2005) systematically reviewed the literature on decision making by prospective tertiary students, and identified 13 findings.

1. *Decision making is a complex process.* Transitions from school to tertiary education are complex, with numerous studies identifying varied influences on decision making. Personal experiences, interests, aspirations, academic achievement and psychological variables interplay with family, socio-economic and cultural influences.
2. *Decision making can be modelled,* and the authors adopt a working model for decision making across three phases of decision making: *pre-disposition*, *search* and *choice* phases.

Decisions	Factors	Information	Diversity
Predisposition	<ul style="list-style-type: none"> • Socio-economic status • Parental disposition • Self belief in ability • School 	<ul style="list-style-type: none"> • Family experience 	<ul style="list-style-type: none"> • Socio-economic status • Gender pre-dispositions • Cultural habitus

¹⁴ See section 224 of the Education Act 1989.

Search	<ul style="list-style-type: none"> • Career outlook/aspirations • Academic achievement • Subject area interest • Institutional profile (location, courses offered, reputation/image) • Costs and financial aid 	<ul style="list-style-type: none"> • Information networks • Interpersonal information (school, home, peers) • Contact with tertiary providers (taster courses, involving parents, brochures) 	<ul style="list-style-type: none"> • Different aspirations • Minorities (have community orientation, job often more important) • Gender differences
Choice	<ul style="list-style-type: none"> • Right courses/degrees • Admission • Social fit 	<ul style="list-style-type: none"> • Communication with institution of choice (open days, information on needs) 	<ul style="list-style-type: none"> • Cultural differences • Gender differences • Age differences

3. *Decision making starts very early.* Studies consistently found that the decision-making process starts much earlier than Years 11 and 12, likely as early as Year 7. One study of Year 10–12 students intending to go to university found that they had made an initial decision 2–3 years earlier (James, 2000). So, early identification of a student's interests, strengths and skills is important (Boyd et al., 2001) and a student should be made aware of the ramifications of subject choices (Whitney & Neil, 1998).
4. *Socio-economic status is a powerful factor* and the strongest predictor of tertiary study. School decile is strongly predictive of whether a student enters tertiary education and where (Choat, 1998). Maani (2000), using data from the 1977–1995 Christchurch Health & Development Surveys, found that the probability of attending university increases significantly with parental income decile, even while controlling for IQ and academic performance.
5. *Parents influence decisions*, which can have negative and positive effects on study decisions.
6. *Academic achievement is important*, with a number of studies finding that school achievement, when combined with social class background, reliably predicts choices about tertiary study.
7. *Subject area interest affects choice of and type of institution.* Interest in a subject area strongly influences people to choose one institution or type of tertiary education over another. An institution's reputation (but not prestige) was important, but research track record and international rankings were not considered important (James, 2001; Lilly et al., 2000).
8. *Full information on cost and financial support is necessary.* Where students and their families perceive high costs, and lack money or finance, they are less likely to participate in tertiary education. Where programmes are seen as affordable or good value for money, these become important factors in choice of institution. Many studies found that students and parents did not have a realistic perception of cost (Conner & Dewson, 2001). Offsetting this is knowledge about the availability of financial aid, which can affect dispositions to attend tertiary education from as early as Grade 9 [the equivalent of Year 10 in New Zealand] (Looker & Lowe, 2001).
9. *Schools can influence decisions.* Although the research in this area is weak, schools, teachers and career guidance staff can play an important role, particularly for "non-traditional students" and students from lower socio-economic groups.
10. *Family experiences of tertiary education inform decisions.* Parental levels of education are influential at the pre-disposition stage, with the children of professionals and managers tending to assume they would attend university (Chalmers, 2001). Parents without education were less informed and participated less in planning for tertiary education, and their children had lower aspirations for study. "The more complex the system gets, the more "choices" are inserted, the more difficult it is for these working class parents to understand and move competently around the

education system ... The implications is that working class families in the future are likely to depend more on the schools to get everything right for their children" (Connell, 2004, p. 238).

11. *The most effective information is interpersonal*, and mass information campaigns (including advertising) may not be very effective. Students are part of a "complex web of interpersonal information networks" where teachers, career advisors, parents, family, and friends all play a role.
12. *Information sharing between students, families, schools and tertiary providers is effective*, and this is more effective as an ongoing exchange. Taster and foundation courses, visits and open days were effective, providing the focus was on information exchange rather than recruitment (Boyd & MacDowall, 2003).
13. *Additional factors for "non-traditional" students makes their decision making even more complex*. Research about the decision processes of Māori and Pasifika learners is limited, but a number of studies emphasised that for many other ethnic groups studied a key decision-making factor centred on the needs of the family and community. Students "at risk" were less likely to choose tertiary education. Where these students had friends already studying, had taken a foundation course, or had parental involvement in study decisions, they were more likely to enrol (Choy et al., 2000).

Advice to prospective students

Many submitters to the inquiry were critical of the types of information, advice and guidance available to prospective tertiary students.

Information asymmetries are right across the system. The information and data on labour markets, education and training offerings, education and training quality and outcomes is spread across multiple websites, is difficult to navigate and is insufficient for key tertiary education actors, employers and students to make informed decisions. (BusinessNZ, sub. 77, p. 9)

NZQA submitted that Māori and Pasifika learners in particular were poorly served:

[S]ome Māori and Pasifika parents and families are unaware of the different education pathways available. Information about tertiary pathways often occurs too late, when subject and programme choices have already been made. Some Māori and Pasifika learners are not provided with sufficient guidance and advice on clear pathways and may find themselves enrolled in low-level or foundation programmes. This limits the choice and access to preferred tertiary study. (NZQA, sub. 88, p. 3)

COMET Auckland submitted that better advice could reduce "false starts" and save learners and the government money:

Providing more information and advice for learners to help them choose a career direction (not a specific job) but broad pathway based on their values, strengths, and interests), and to use this to identify the most suitable course(s) to take. Effective advice, provided before and during the transition to tertiary, could reduce the number of learners swapping courses mid-stream, thus reducing cost to taxpayers and to students themselves. There are some key points where it would be useful for stakeholders to align: late primary school, year 10 and the senior higher school. (sub. 50, p. 5)

Universities New Zealand notes that work is under way to improve the information available to prospective students, but says that advice on this is

being developed in a largely uncoordinated and inefficient manner across at least five different agencies through at least eight different initiatives. ... From the perspective of the university sector, all of these initiatives have been implemented following a ministerial decision and all of them have significant methodological and operational flaws ... (sub. 17, pp. 14, 34)

Yet submissions from ITPs expressed concern that the advice and information given to young people was already too biased in favour of promoting university study:

It is unfortunate that in terms of the perceived pathway from secondary to tertiary, while the school to University route is well-marked and clearly understood by school and career advisers as well as by most

families, school-based advisors in general regard the ITP as a destination for less able and successful leavers. This flavour has come through Ministry of Education communications and guidance as well. We acknowledge that the problem is widespread and that it will take input from all players to solve. (NZITP & Metro Group, sub. 42, p. 4)

School leavers are not always prepared for the possibilities that exist for them across the tertiary system. There is still a strong bias to university education, due in part no doubt to the fact that the secondary school system is populated in the main by university graduates, and therefore new and different vocational opportunities are not presented to school leavers either through the vocational pathway programmes or in discussions about careers. This is not about our relationships with schools, nor the engagement they have with some of our programmes. Rather it is a wider societal lack of understanding about vocational education and the careers that lead from it. It is also about the alignment of compulsory education with that of tertiary education, and the preparedness of our school leavers to succeed within it. (WelTec & Whitireia, sub. 59, p. 14)

Similarly, the peak body for ITOs expressed concern that academic pathways were emphasised at the expense of vocational qualifications:

Careers advice tends to focus on higher level qualifications and the 'professions', reinforcing the parity of esteem issue between academic and vocational tertiary education. (Industry Training Federation, sub. 54, p. 6)

Careers services in schools

Schools are required to provide careers education. Specifically, they must

provide appropriate career education and guidance for all students in Year 7 and above, with a particular emphasis on specific career guidance for those students who have been identified by the school as being at risk of leaving school unprepared for the transition to the workplace or further education/training. (MoE, 2013, NAG 1f)

In 2012 the Education Review Office (ERO) evaluated the provision of careers information, advice, guidance and education in secondary schools (Box 3.3).

Box 3.3 **ERO review of Careers Information, Advice, Guidance and Education (CIAGE) in Secondary Schools**

ERO reviewed the provision of CIAGE in 44 secondary schools against the Ministry of Education's *Career Education and Guidance in New Zealand Schools* (2009). ERO described the guidelines as setting out

a model of career education and guidance that emphasises the need for students to develop career management competencies. This represents a move away from career guidance based on vocational counsellors managing student exits from school and towards an approach in which students take more control of their lives. (ERO, 2012, p. 4)

ERO categorised the 44 schools reviewed into four approaches.

- **Whole-School Higher Quality** – 4 schools had innovative school-wide approaches to student futures. Through the integration of CIAGE, these [schools] regularly supported students to develop set goals, explore opportunities and make decisions.
- **Conventional Established** – 17 schools had careers departments that provided some opportunities for students in CIAGE. These initiatives were driven by the school's careers department and did not extend across the school's curriculum departments.
- **Conventional Developing** – 19 schools had limited opportunities for students to set goals, develop self-awareness, explore opportunities. CIAGE systems and processes were also driven by the school's careers departments – although these schools had yet to develop the same level of organisation as the schools in the categories above.
- **Low quality** – 4 schools had low-quality CIAGE systems and processes typically focussed on Year 13 destinations and little else. CIAGE at these schools was typically characterised by leadership difficulties, either in the Careers department or in the school's senior management. (ERO, 2012, p. 7)

ERO concluded that, although there were some positive factors,

it was evident that significant system-wide improvements in CIAGE will require schools to move from having efficient careers departments to having innovative school-wide systems and processes that are consistent with those developed by a small group of schools in this evaluation. This potentially represents a significant shift for schools and policy-makers, as it involves a broad range of secondary school staff actively supporting students to develop career management competencies, and focussing on their futures. (ERO, 2012, p. 2)

Source: Education Review Office, 2012; Ministry of Education, 2009.

Similarly, an earlier longitudinal study (Vaughan, 2008) found that nearly half of Year 11 and 12 students, when asked what activities were useful in thinking about their future career, were unable to evaluate the usefulness of “talking with teachers or careers advisors”, “visiting tertiary settings”, “careers expos” or “carrying out careers/life planning” because they had not undertaken such activity. Vaughan and Spiller describe “three persistent and long-standing problems: inequitable access, marginalisation and lack of fitness-for-purpose” (2012, p. v).

Provision for careers services in schools appears not to have substantially changed since the ERO report was released.

In its recent report ... ERO noted that the careers service needs to more actively support schools. PPTA [Post Primary Teachers' Association] would point out that the formula for career guidance in schools hasn't changed in more than 50 years. There is provision for only one allowance per school (\$1500) regardless of the number of students and they receive no guaranteed time to do the work. (PPTA, sub. 61, p. 8)

Yet, providing careers education is important not just for the transition to tertiary education, but because having an intention in junior secondary school to undertake post-school study makes a material difference to a student's attitude to learning while still at school. Khoo and Ainley (2005) find this association to be important irrespective of student background or academic aptitude.

Chapter 2 discusses the importance of co-production to student success in tertiary education. Similar ideas are prominent in describing what good careers services in schools look like. Vaughan and Spiller write of the importance of emphasising not just the provision of information, but building career skills in young people:

It is clear that, while career information and career guidance are essential, *they [are] not sufficient* to support young people to deal with complex pathways and transitions. This is because individuals differ in their capacity to source information, to interpret it, to relate it to themselves and their circumstances, and to make meaningful decisions based on it. It is also because we do not have good systems in place to help young people develop those capabilities. ...

One of the most important aspects of a shift from career guidance to career management is the emphasis on individuals as playing an active role in their own development regarding work (and learning). (2012, pp. 1–2)

Other sources of information

Careers New Zealand is a Crown agent established under the Education Act 1989. Its functions as described in section 280 are to:

- establish and maintain a database of information about occupations and about post-compulsory education and training;
- make information available to the public and to institutions, PTEs, students, and other interested bodies and people;
- provide training and assistance to people who advise about occupations, and career advice and associated counselling relating to post-compulsory education and training;

- liaise with, and monitor the needs of, institutions, PTEs, students and other bodies and people with respect to information, training, and advice relating to occupations, and career advice and associated counselling relating to post-compulsory education and training; and
- provide support services for the purpose of promoting transition education that prepares students for employment, or further education and training, or both.

Careers New Zealand does this through a number of activities. It works with, and connects, local schools, tertiary organisations, community, employer and iwi groups in four “Career Capable Communities” to support the transition of young people to study and work, and to promote career skills. Careers New Zealand publishes benchmarks for quality careers education in schools. It runs seven “career networks” in regions, and it provides a number of online tools that give information about career and study options.

A 2013 Performance Improvement Framework review of Careers New Zealand was critical of its delivery of core business. The reviews said that its staff and other agencies were confused about Careers New Zealand’s role and “serious questions about its mandate and capacity to assert an interagency leadership role” (SSC, Treasury & DPMC, p. 21). The review said it was difficult to assess Careers New Zealand’s success in developing career competence in the absence of agreed baselines and robust performance measures. Although its online tools were praised, the reviewers found that its website was not widely known or used, “particularly among learners and at-risk groups” (p. 24).

Careers New Zealand aims to ensure that school leavers are “career management competent” individuals making smart career decisions. Yet it lacks the levers to achieve this, particularly given the patchy delivery of careers education in schools. In 2016 the government introduced legislation to transfer Careers New Zealand’s functions, described above, into TEC. The Bill would also make it a function of TEC to:

- provide a publicly available careers information service that includes a database of information about occupations and tertiary education and training; and
- facilitate and strengthen the connections between schools, employers, and tertiary education organisations to ensure students are better prepared for employment and further education and training, or both.

TEC has two major initiatives under way to improve the quality of information and guidance to prospective students:

- The **Information for Learners** initiative will provide learners with a *Key Information Set* that is consistent and comparable across qualifications and providers to support better learner decisions. The Key Information Set includes qualification entry requirements, duration of study, student fees and government contribution, successful course completions and national-level employment outcomes of study. Following a successful pilot and evaluation last year, we are working to roll the initiative out for all qualifications at NZQF levels 5 and above from May this year through to 2017.
- The **Rate My Qualification** initiative will deliver a channel for graduates and employers to provide feedback on the relevance of qualifications to inform other learners’ study choices. This initiative is in the design phase with implementation expected to be complete by 2017. (sub. 2, p. 2)

These initiatives add to an already crowded landscape that includes:

- Careers New Zealand’s existing *Compare Study Options Tool* and its searchable database of courses;
- Studylink’s *Sussed? What will you study?* Website;
- MBIE’s *Occupation Outlook*;
- Te Puni Kōkiri’s *Māori Future Makers* website;
- The *Key Information Set* that TEC requires providers to publish;
- marketing campaigns by providers and ITOs; and

- websites and tools (such as the University of Auckland's *What in the world do I want to study?*) of individual providers.

Submitters' observations that the careers education system (both nationally and in schools) is fragmented, poorly coordinated, poorly targeted and often poorly delivered seem accurate. Ako Aotearoa points to the challenge of providing information in a way that takes account of how students use information:

Although the quality and availability of information for learners has received significant attention in recent years, in our view focusing on data is less useful for young people than focusing on learner decision-making. Specific data sources and sets are often problematic for or irrelevant to the position of the individual learner. For example, they may relate only to young learners, are often historical rather than representing the situation a learner will actually experience, or may relate only to short-term outcomes.

Moreover, learners are not always well-placed to make sense of and understand the significance of data when it is available. Notably, such data may be competing for learners' attention with aspirational marketing campaigns of TEOs that emphasise 'best possible' results, such as outcomes for one or two exceptionally-talented and high-performing graduates. This can be a particular issue for learners and communities who have lower levels of pre-existing educational capital and are less well-positioned to make sense of the range of information with which they are presented. For example, feedback from our Pacific Caucus is that some Pacific communities feel that they cannot fully trust information that TEOs provide to learners, as they assume that this will be intended to serve the organisations' interests over those of the prospective learner.

Focusing on developing career management skills and competencies that support decision-making is therefore likely to be more practically useful to learners. This would involve enabling learners to identify what information is relevant to them, make sense of that information, and then make realistic choices on the basis of that within the context of a broader career pathway that meets their goals and needs. This has been a particular focus of our work on support for foundation learners (Educational Attainment Working Group, 2012; Ako Aotearoa, 2014), and we supported its inclusion in the graduate profiles and outcomes for the new Foundation and Bridging Qualifications.

Active support for learner decision-making can be achieved in multiple ways. One method of doing so would be through a brokerage approach: an independent agency (such as Careers NZ) tasked to actively consult with prospective learners about their career goals and capabilities and then place them within appropriate programmes. The work of Skills Development Scotland provides one example of how this can work with regard to vocational education, while a centralised admissions process – accompanied by effective integrated career guidance and support – might be valuable for degree-level education. The Finnish model is one of the strongest international examples of guidance systems, involving active 'wrap-around' support for young people from early teenage years, formal qualifications for career professionals, and an assumption that such support should be easily available throughout a person's lifetime. (Ako Aotearoa, sub. 58, pp. 10–11)

By itself, transferring Careers New Zealand's functions to TEC is unlikely to improve arrangements for career education and information, in particular in schools.

Despite the evidence around the complex nature of young people forming intentions about future study and making decisions about post-school study, "at a systemic level, providing *information* (often marketing brochures) is privileged over assisting students to *make sense* of the information or to learn decision-making skills" (Ministry of Women's Affairs, 2008).

Because co-production is an essential element of tertiary education, helping ensure students are prepared is very important. Prospective students need to make sense of the many available study options. Individual motivations and preferences matter. Yet the systems to support young people to make these decisions is not individualised, and pays too little attention to equipping them with career skills.

F3.4

Decisions about entering tertiary education and the influences on prospective students are complex. The arrangement and delivery of careers services including in schools, and government provision of information to prospective tertiary students, is fragmented and operating poorly.

The effect of student fees

In the Issues Paper, the Commission presented evidence from Robbins (2016) that suggested that higher tuition fees have not restricted access to UK universities by disadvantaged students. Using data from Universities and Colleges Admissions Service (UCAS) data, it showed that, in 2015, those aged 18 and living in disadvantaged areas of the United Kingdom were more likely to apply for university than ever before. The difference in probability of applying for university between an “advantaged” person aged 18 and living in the United Kingdom and a “disadvantaged” person of the same age living there fell from 3.7 in 2006 to 2.4 in 2014.

Sampson et al. (sub. 14) submitted that this represented a normalisation of debt, and noted that those UK universities that had been most successful in expanding access also had the highest drop-out rates, citing Reay et al. (2010). Ako Aotearoa submitted:

We suspect that the availability of student loans, the necessity of tertiary education qualifications in the modern labour market, and low levels of financial literacy amongst young people mean that the direct impact of fees on whether young people choose to engage in tertiary education may be small (beyond choosing which TEO to enrol with). (sub. 58, p. 11)

The University of Waikato submitted that fees combined with geographic distance may still represent a substantial barrier to obtaining a university education. In particular, they note:

While parents with professional incomes and substantial net assets may not be concerned about their children acquiring large amounts of debt to fund tertiary study, the poorest families with minimal net assets will quite rationally be averse to their children acquiring large amounts of debt. (University of Waikato, sub. 93, p. 6)

Understanding the effect of student fees on students’ decision making is difficult, and the direct application of international literature on the subject is problematic, because of the mix of policy settings, including the availability of interest-free loans, the rules around loan repayment, the effect of student allowances, and the apparently relatively low returns to education in New Zealand (Zuccollo et al., 2013).

The evidence suggests that higher fees reduce demand, that students in non-university tertiary education and lower-income students are more price-sensitive, and that some minority groups may be more price-sensitive (Leslie & Brinkman, 1987; Heller, 1997). Where the actual cost that students will pay is not transparent, because various grants or discounts apply that mean actual cost is lower than the advertised price, students from lower-income families are more likely to be discouraged. The availability of loans and allowances will offset this, although students from lower-income households may also be more debt-averse.

Most students underestimate the amount of subsidy provided by government to tertiary education costs, and in particular the level of direct financial assistance provided to students (Baxter, 2012).

There is some evidence that differences in subsidy, fee and student support arrangements can influence the study decisions of students (and employers). For example, members of the ITO sector expressed concern about these influences on decisions about whether to undertake industry training while in full-time employment through an ITP, PTE or ITO (Chapter 6).

Loans and allowances

Loans

New Zealand citizens, residents who have been in New Zealand for three years, and residents who hold refugee status or have a family member who holds refugee status are eligible for student loans. Students can borrow for course fees, course-related costs, and living costs, but people aged 55 or older, and part-time students, can only borrow for course fees. People who are bankrupt or have overdue loans cannot borrow; and prisoners and people on a benefit cannot borrow for living costs. Students can usually borrow up to \$1000 a year in total for course-related costs, and up to \$176.86 a week for living costs.

An individual has a limited amount they can borrow in their lifetime. Generally, students can only borrow for study up to seven EFTS. Students need to pass at least half of their work to maintain access to a loan.

No interest is charged on loans if borrowers remain in New Zealand; even the real value of the loan is not maintained. Borrowers must start making repayments if they earn more than \$19 094 a year before tax; that is, repayments would be required for an individual working more than 24 hours a week on the minimum wage.

The number of active borrowers has been reducing each year since 2010. In 2014, some 186 000 students, about 72% of eligible students, borrowed. Together they borrowed \$1.6 billion in 2014.

Allowances

A student allowance is a weekly payment to help with living expenses. Unlike loans, it does not need to be repaid. Students generally have to be aged between 18 and 65 to get an allowance, studying full time at an undergraduate level, and be a New Zealand citizen or meet the residency requirements.

The size of an allowance depends on the income of a student, the combined income of a student and their partner, if any, and the income of the student's parents if the student is aged under 24. As with loans, students have to pass at least half their work to maintain access to an allowance. Student allowances also have lifetime limits: up to 200 weeks for those aged under 40, and 120 weeks for those aged 40 and over.

In 2014 almost 80 000 students received a student allowance, with an average value of \$6 800. Of these students, 44% also borrowed money for living costs.

Location of study

Proximity to a tertiary provider is a key influence on student decision. Ussher (2006) studied patterns of student travel to tertiary study, using last secondary school attended as a proxy for home location.

- Almost all tertiary education institutions (TEIs) draw the majority of their students from less than 44 km away, with some notable exceptions (Whitireia in Porirua, Otago Polytechnic in Dunedin, and the University of Otago in Dunedin).
- Students will tend to travel to a close tertiary provider, up to a point. Once a student has to travel a moderate distance to study, then they become more likely to travel still further to a provider that is not the closest to them.
- Students were less likely to travel large distances to attend an ITP than a university, except where the ITP offered specialist courses.
- Māori students were more likely, and Pasifika students less likely, to travel long distances for tertiary study. Women were more likely to travel long distances than men, and students from low-decile schools were more likely to do so than students from high-decile schools.

Ussher suggests that students from low-decile schools may be more likely to travel long distances because they are more likely to be able to access student allowances; while students from high-decile schools may "be less inclined to move away from the comforts of home and the financial support offered by parents" (2006, p. 4).

Ussher contrasts these findings that access to a campus most influenced a student's likelihood of travelling to study, with an Australian study on student mobility that found academic ability and subject choice as the most dominant factors. The relatively homogenous nature of tertiary institutions in New Zealand in terms of course offerings and entry requirements means that students do not have to travel far to find a TEI campus that offers their preferred course of study, and will accept them.

Concerns about student decisions about field of study

Many submitters, particularly industry groups, submitted that more students should be studying to enter their field. Horticulture New Zealand submitted that:

[a]t more of a micro level our industry is in need of graduates yet both universities struggle to capture horticulture students. [...]

HortNZ will often field calls from horticulture businesses looking for university graduates that could be considered for agronomist and pack house manager positions. A recent graduate of Massey University was offered four positions and indicated that her colleagues were also in a similar situation. The number of graduates at all levels from industry trainees to postgraduates is not enough to cater for need. (sub. 92, pp. 8, 13)

Rural Women New Zealand submitted that “the low number of students graduating with degrees in agricultural based subjects also suggests there is a mismatch between tertiary education and demand for skilled workers in primary production” (sub. 30, p. 1). It argued that “additional government funding may also be necessary to attract students to enrol in skill shortage areas” (p. 3).

The Tourism Industry Association submitted:

A significant gap exists in the bigger picture of employers influencing the tertiary environment, particularly in the supply of training places. For example, there have been shortages of chefs for many years. The role has become a permanent fixture on the government’s Long-term Skill Shortage List. While there is insight into how many extra chefs are required (... an extra 6213 will be required by 2025), there is no strategy or process that drives how this will be achieved. (sub. 51, p. 5)

The New Zealand Manufacturers and Exporters Association (NZMEA) submitted:

Too many young people and their parents, teachers and other influencers regard attaining a university degree as a preferred option, never mind what the degree is in and what the employment and career opportunities post-graduation may be. Compared to that, they do not see a career in manufacturing that is launched from a tertiary qualification at certificate or diploma levels as attractive. This is based on a perception of pay levels, career advancement opportunities and work environment that is far from reality and fails to recognise the scope of opportunities in manufacturing. (sub. 66, p. 3)

Of the submitters, NZMEA recognised the role that industry should play in addressing these perceptions. It submitted: “We suggest that fixing that is outside the scope of this review and largely a task the industry itself has to shoulder. However, a government ... should play an active role too” (sub. 66, p. 3).

Students may well be taking rational decisions in at least some of these areas, given what’s known about graduate outcomes (Table 3.5).

Table 3.5 Salary and employment outcomes of graduates in selected fields

	Bachelor’s: Horticulture & Viticulture	Bachelor’s: Agriculture, environmental and related studies	Bachelor’s: Total
Median salary two years after study	\$42 547	\$43 490	\$44 709
Employment rate two years after study	58%	60%	66%
Median salary five years after study	\$46 285	\$56 003	\$52 822
	Diploma: Manufacturing, Engineering & Technology	Diploma: Total	
Median salary two years after study	\$31 116	\$33 376	
Employment rate two years after study	62%	54%	
Median salary five years after study	\$42 939	\$40 470	

	Certificate level 4: Food & Hospitality	Certificate level 4: Total
Median salary two years after study	\$29 522	\$30 344
Employment rate two years after study	57%	43%
Median salary five years after study	\$37 241	\$37 077

Source: Careers New Zealand's "Compare Study Options" website.

In none of the examples cited is it obvious that a student would be clearly better off pursuing the suggested qualification instead of an alternative. Where income premia, they are typically small and take time to emerge. On this data, no clear evidence exists that employers are responding to a shortage of suitably trained graduates through increasing wages.

Equity of access

Equity of access aims to ensure that everyone has a fair opportunity to participate in tertiary education. This is widely regarded as an important aspect of system performance, but is inherently challenging both to define and to achieve.

[T]he public debate on fair access is often unhelpfully simplistic: some argue that it is a straightforward matter of closing the school attainment gap, others that it is simply down to what they perceive as the elitism of universities.

In reality, it could hardly be a more sophisticated, subtle problem. It is rooted in family homes and local communities, in the complex mix of factors that shape aspiration and in the cultural differences between socioeconomic groups. It is exacerbated by the systemic unfairness evident in the admissions and selection processes of institutions, in the school attainment gap and in the efficiency of transitions between education sectors. (Scottish Commission on Widening Access, 2016, p. 3)

In New Zealand, section 224 of the Education Act 1989 gives people right of entry to tertiary education at a public TEI at age 20 regardless of prior attainment. This reflects the principle that everyone who is capable of benefiting from education should have an opportunity to do so – and that part of the role of tertiary education is to give people a second chance at learning. Access is also an important goal of Adult and Community Education, especially for those who have become disengaged in education through bad experiences in the compulsory system:

ACE learners generally have a low base from which to start tertiary education often due to not having the appropriate skills to learn (organise learning materials for future use) or those who have had damaging experiences in the compulsory school system (finished or dropped out of school with no qualifications). ... ACE learners are not ready for higher-level learning. ... ACE providers work toward increasing confidence in a person to the point where they feel confident to contribute to society or go on to further learning. (ACE Strategic Alliance, sub. 34, p. 4)

Provider and system performance in achieving equity of access is hard to measure. The data above describe who is participating; but the Commission has been unable to find good data about who is not participating that could benefit, why they are not participating, and what the implications are for equity of access.

Another measurement challenge is knowing how to adjust for a person's skills and potential, which justifiably affects their participation at higher levels of tertiary education. One option would be to use prior school attainment as a proxy for skills and potential. However, schools do not themselves produce equitable outcomes for different types of learners (Education Review Office, 2015a; Engler, 2010b). Using data on prior school attainment to set expectations about tertiary participation could therefore reinforce pre-existing educational disadvantage.

How much should tertiary education providers do to try to rectify inequalities in schooling outcomes, given their funding and policy arrangements – and how much should government do to help? This is a fraught question, here and overseas. Georgia State University in the United States has successfully closed the

achievement gap between its Black and Hispanic students and its White students, through a data-driven overhaul of its educational administration. Its vice-president Tim Renick argues that universities have – and should use – the power to improve equity for students.

Universities are honour-bound to defy conventional approaches to students, otherwise they merely perpetuate inequalities for disadvantaged students that the higher education system has been producing for decades. ... The bottom line is, [our] approach has levelled the playing fields. (Jenvey, 2016)

Florida State University (Engle, 2012) and Carnegie Mellon (Thille, 2012) have taken similar approaches.

In New Zealand, Universities New Zealand seems to place most responsibility on government and the schooling system:

The universities are already doing a lot of work on improving access, participation and achievement for Māori and Pasifika students, and they are committed to improving parity in both access and achievement. ...

The best way to increase participation and completion rates would be [for the government] to increase Equity Funding for the specific purpose of lifting Māori and Pasifika participation and achievement and to allocate that funding equitably between the universities in a way that carries low overhead and compliance costs. ...

Until Māori and Pasifika are achieving at a much better rate in the compulsory and non-compulsory schooling system, any significant participation increases [at universities] will be both costly and challenging to achieve. (sub. 17, p. 19)

The idea that the government should specifically “buy” improved outcomes for Māori and Pasifika learners appears to conflict with Universities New Zealand’s position that universities should be bulk-funded to achieve agreed goals: “Bulk funding is not just desirable, it is essential for a modern university. [...] Universities would strongly oppose anything that reduced or removed this operating flexibility” (sub. 17, p. 36).

In the ITP subsector, ITPs identify delivering educational opportunities to a wide diversity of learners as part of their value proposition:

ITPs are the most successful sector at providing an open door and a learning pathway to success to students who have not felt at home in the compulsory or the academic environment. Achievement and retention levels for Maori and Pasifika students are very high and ITPs have developed an innovative range of programmes to engage and support priority learners. (NZITP & Metro Group, sub. 42, p. 3)

However they too note that funding settings effectively penalise them from enrolling learners who need more help to succeed. Potter (2016) notes that providers used to invest a lot in programmes to help improve outcomes for Māori, but that “much of the investment in culturally-responsive teaching and student support services has been wound-back across the tertiary sector in recent years” once government no longer supported it via a separate funding stream (p. 3).

The wānanga model, as a tertiary education model designed by Māori for Māori, has played a role in providing education to Māori learners who many not be able to access tertiary education through other institutions.

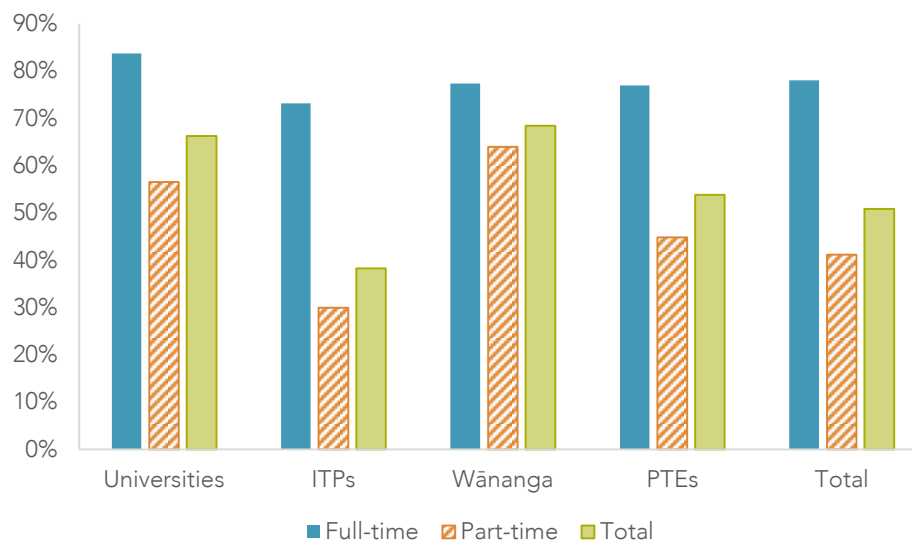
3.4 Decisions and transitions within tertiary education

Who leaves study?

Not everyone who starts study completes it. Across all levels of study, 61% of students who began a qualification in 2011 had completed it within four years. Overall qualification completion rates have been improving over time; only 43% of those who started a qualification in 2007 had completed it within four years, and 52% within eight years. Showing completion rates over a long period of time is necessary because it takes some students years to complete a qualification, particularly if they are studying part time; but this also masks subsequent improvements in completion rates.

Qualification completion rates measure students who complete a qualification at the same or higher level of study than they initially enrolled in. So it takes account of students who switch to a different qualification at the same level, or “upgrade” their qualification. Completion rates vary by provider type (Figure 3.25). Part-time students have a lower completion rate than full-time students.

Figure 3.25 Eight-year qualification completion rates by subsector, 2007–2014



Source: MoE, 2016a.

Scott (2009) shows that about 12% of degree students end up completing a lower-level qualification, and that this is particularly prevalent among students who study part time.

TEOs are required to enrol students in a qualification, but some students likely do not enrol with the intention of completing a qualification. Scott (2009) reports that 12% of part-time students, and 7% of all degree students pass all their courses, but leave without a qualification, and infers that, in many cases, these students did not intend to gain a qualification.

However, this leaves a number of students who “fail” at their study, or choose to drop out. Students leave study for a variety of reasons, often including personal circumstances. One study of students in New Zealand universities finds that “convenience” is a major reason to consider leaving study. The author comments:

One interesting finding from the AUSSE [Australasian survey of student engagement] is that early departure is often due to personal and convenience reasons. This suggests that the provision of more flexible learning options (e.g. using mobile technologies and online learning or supported environments) may help mitigate some students’ early departure intentions, by making study more convenient when trying to balance financial, family, work and study commitments. Especially among first-year students, there are a large number who plan to change their qualification and/or shift to a different university. This highlights a need for more quality academic advice in the early stages of the tertiary experience, to help students better understand the different study options available to them and for them to work out the best options available. (Radloff, 2011a, p. 54)

Although students at universities and ITPs report similar levels of engagement, ITP students are more likely to consider leaving study. In ITPs, the major reasons given are boredom and quality concerns, which should be amenable to intervention by the provider.

A significant relationship exists between ITP students’ feelings of support and their departure intentions, suggesting that if more can be done to support students at risk of leaving before completing their qualification, ITPs may be able to retain more students. (Radloff, 2011b, p. 25)

Success at tertiary study requires particular knowledge and skills that not all learners possess (Box 3.4).

Box 3.4 **Some of the knowledge and skills necessary to success in tertiary study sit outside any formal curriculum**

To succeed at university, students need to master not only the content of the formal curriculum in school and during their university study, but also the “mix of bureaucratic know-how and sound study skills that can make or break a student’s first year in college” (Zinshteyn, 2016).¹⁵ These often lie outside any formal curriculum, and include:

- knowing how to deal with bureaucratic processes for admissions, enrolment and finance;
- knowing how and when to communicate with faculty, and what to expect from these interactions;
- knowing how, when, and who to ask for help or guidance when needed; and
- being able to manage an independent (and often quite loosely structured) programme of study, and to make good decisions about how to allocate time and energy, and how to deal with stress.

Universities often implicitly expect students to possess these skills on arrival, and indeed most students do learn them at high school or via conversation with family during the lead-up to tertiary study and in its first few months. But students who are the first in their family to go to university, or those from high schools with few school-leavers attending university, may arrive at university not possessing this information, and not knowing where to find it – or sometimes even that they need to know it. This can increase the stress and difficulties they face in navigating the university environment. It may also contribute to a higher drop-out rate for such students (Hodge & Mellin, 2010).

Universities can do various things to make the implicit explicit, and help ensure that all students acquire the knowledge and skills they need to succeed in tertiary study. One way is to provide mentoring and coaching services, which appear to be effective in increasing first-generation students’ retention and completion rates (eg, Bettinger & Baker, 2011). Mentors and coaches can pass along practical advice, but they can also provide valuable emotional and moral support to students. Barry, Hudley, Kelly & Cho (2009) found that many first-year college students find relief in disclosing their stressful college experiences to someone who understands what it is like to be in their situation. Some students can use their parents or older siblings for this; but for first-in-family students, a coach or mentor may fill the role. Zinshteyn (2016) quoted one student as saying that her phone conversations with her college mentor reminded her that “I’m not alone, I’m not the only one that’s going through these issues”.

Universities can also provide more structure for students who have not yet acquired the skill of self-managing their tertiary study. Complete College America (2012) promotes the value of default pathways for students and “intrusive, on-time advising” to help ensure that all students get and stay on track to graduate.

Who switches programmes and providers?

Many features of the New Zealand tertiary system should make it easy for students to change their course of study and even their provider. The tertiary sector is managed as a single system, with a single qualifications framework and statutory power for NZQA to make rules relating to credit transfer and recognition of prior learning.

Student mobility requires effective arrangements that allow for the recognition of learning that has occurred elsewhere, and the transfer of credit. An effective system for recognising learning and transferring credit

¹⁵ Zinshteyn uses the term “hidden curriculum” to refer to this useful and practical know-how as something positive and valuable. However, the term “hidden curriculum” more usually refers to the implicit or unofficial set of norms, beliefs and values transmitted to students by schools or tertiary institutions, with negative connotations of oppression (eg, Jackson, 1968) or structural inequality (eg, Raskoff, 2012). Snyder (1970) argued that alongside the formal and explicit college curriculum ran a second, tacit, curriculum, teaching students the “right way” to think and to learn. Snyder argued that the normative pressure of this hidden curriculum served to thwart students’ creativity and independence of thought. Raskoff (2012) described the hidden curriculum as “a by-product or otherwise unintended knowledge that is generated within an organization and that often reinforces systematic inequality”, and argued that it is manifest in various aspects of modern US college administration.

reduces costs to students and empowers them to choose qualifications and providers that best meet their needs.

The New Zealand Union of Students' Associations submitted that the system to allow credit transfer was broken:

Another aspect of the system which fails students and the other investors in tertiary education is the wastage that comes from poor arrangements between institutions – despite the unified Qualifications Framework. We believe that there would be considerable advantage in requiring articulation agreements between (particularly) regional polytechnics and universities. ... There also need to be better arrangements between universities for movement between them. (sub. 19, p. 6)

In 2008 the Ministry of Education reported on a study of 170 000 students who either began a degree or postgraduate qualification for the first time in 1997, or began a certificate or diploma for the first time in 2000. It found that:

- 5% of students completed a higher-level qualification than the one they started;
- 5%–10% of students completed a lower-level qualification than the one they started;
- 40% of bachelor's students, 34% of diploma students and 25% of certificate students changed qualification before they completed;
- 19% of students transferred to a different provider before completing a qualification; 52% of students who completed a qualification and progressed to higher-level study transferred to a new provider after completing their first qualification.

These data are quite old. Universities New Zealand submitted that 16% of students coming to university already have some credits at a similar or lower level in their field of study, although they also acknowledge that recognition of prior learning is rare.

Existing NZQA guidance about credit transfer is old and weak; it has a work programme to improve the guidance. Providers should have policies to enable credit transfer and recognition of prior learning, yet NZQA has found that having policies does not mean those policies are followed. Even where providers have good policies, individual schools within a provider may be less accommodating.

It is difficult to know whether students who shift providers or courses of study are aware of the opportunity to have credit recognised. If credit transfer is not working well, then students can be locked into their choices.

COMET Auckland submitted that “competition between institutions for enrolments” was behind poor practice in credit recognition:

If the tertiary system was truly student-centred, learners would be able to build up qualifications across several providers, learning from the best teachers and experts in each subject area they wanted to explore, with their learning in each case recognised across institutions. Learners would also be able to integrate academic learning and on-the-job skill building, and be recognised and attested for both.

The Qualifications Framework makes this theoretically possible, but competition between institutions for enrolments, recognition in league tables, and even reporting systems make it unattractive for tertiary organisations to offer such flexibility to learners. (COMET Auckland, sub. 50, p. 9)

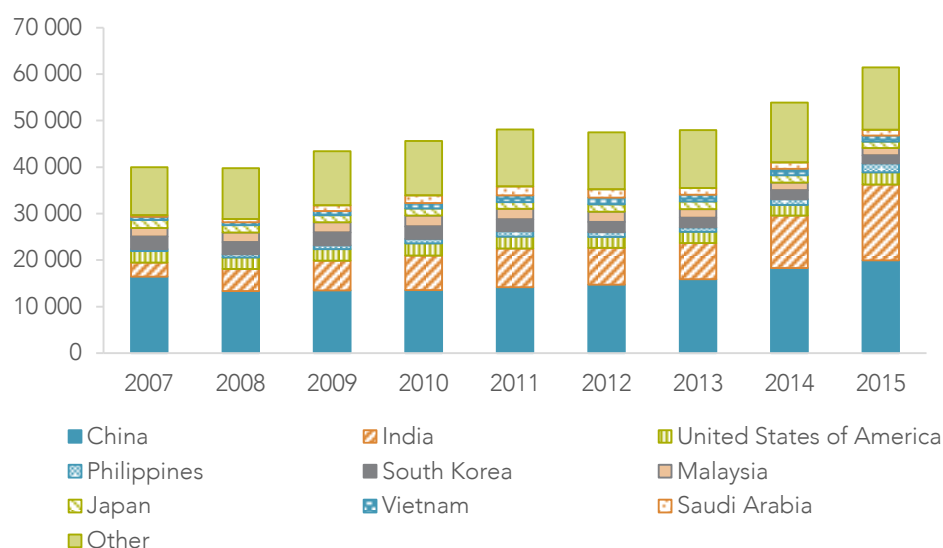
But many institutions do not have to compete for enrolments. Funded places are capped, and although there may be competition for top students, many institutions fill their quota without much effort. Given these policy settings, providers have little incentive to recognise prior learning. By contrast, in Australia, where institutions can grow (because funded places are not capped, and funding follows students), providers seem far more willing to recognise prior learning because they are competing to attract new students.

3.5 International students

Who comes to New Zealand?

In 2014, more than 54 000 international students were enrolled at tertiary providers. Students with citizenship of 167 foreign countries studied in New Zealand. But two countries, China and India, contributed 59% of the international students studying in New Zealand, with students from India having grown significantly over the last decade. Seven other countries had more than 1 000 nationals enrolled in New Zealand – together, 19% of international enrolments. The remaining 22% of enrolments came from 123 other countries – from Afghanistan to Zimbabwe (Figure 3.26).

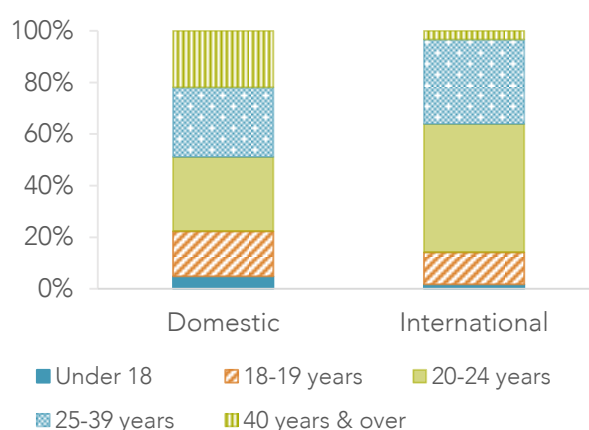
Figure 3.26 International students studying in New Zealand by country of citizenship, 2007–2015



Source: MoE, 2016a.

International students are less likely to be aged over 40 than domestic students (Figure 3.27).

Figure 3.27 Domestic and international students by age, 2015



Source: MoE, 2016a.

What do they study?

Students from China and India have different enrolment patterns, with more than half of Chinese students enrolled at a university, and more than half of Indian students enrolled in a PTE (Table 3.6). In addition, while Chinese students are evenly split by gender, 77% of students from India were male in 2014/15 (MBIE, 2015a¹⁶).

¹⁶ MBIE (2015a) analyses visa data and does not distinguish between international students in school and tertiary education.

Table 3.6 International students from China and India, by subsector and level of study, 2014

Country	Subsector	Certs 1–4	Dips 5–7	Bachelor's degrees	Graduate certs/dips	Honours & postgrad. cert/dips	Master's	Doctorates	Total
China	University	1 598	94	5 738	268	793	1 551	550	9 966
	ITP	1 657	1 465	2 441	318	86	41	1	5 310
	PTE	627	2 536	184	147	77	70	0	3 426
	Total	3 862	4 080	8 330	732	956	1 662	551	18 294
India	University	7	7	157	79	326	382	312	1 239
	ITP	339	1 426	456	1 438	488	25	0	4 028
	PTE	286	5 035	123	227	380	93	0	6 088
	Total	631	6 429	735	1 744	1 194	500	312	11 282

Source: MoE, 2016b.

In 2015, more than three-fifths of international students who specified a region of study were studying in Auckland (MBIE, 2015a).

For universities, the number of fee-paying international students peaked in 2004 and declined between 2005 and 2008, but has been relatively stable since. The number of international doctoral students has increased over the last decade. Doctoral students pay the same fees as domestic students because of New Zealand government subsidies.

Some 17% of new international fee-paying students in 2009/10 had gained residence in New Zealand within five years (ie, by 2014/15). This percentage was higher for students from India (34% by 2014/15).

About 3 000 international students study offshore, or about 3% of all international students. In 2014, 1 222 were enrolled in universities. But no reliable information is available about who these students are.

International student decision-making

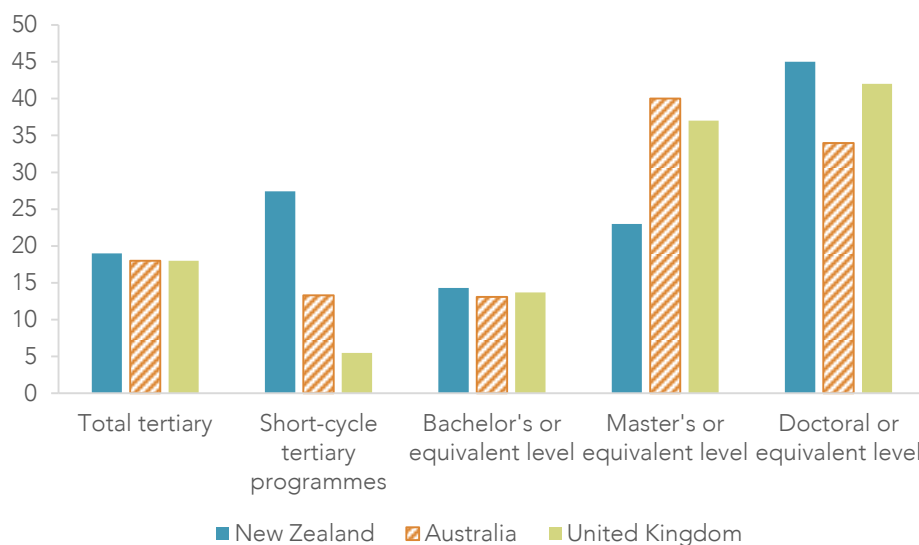
Universities New Zealand submitted that “[International] Students will typically choose a country first, then select between universities (sub. 17, p. 25)”. In fact, Hobsons research says that students typically choose a course of study first, then a country, and then an institution (some students decide based on a different order).

Quoting Hobsons (2014) survey of international students, Universities New Zealand submitted:

The five most important factors for international students when considering study abroad are consistent regardless of where they intend to study. These five factors in order of importance are (1) quality of education (compared to their home country), (2) international recognition of qualifications, (3) the country's attitude to international students, (4) safety, and (5) ease of getting a visa. (sub.17, p.77)

Programme choice

While New Zealand has a comparable proportion of international students in the tertiary system overall as Australia and the United Kingdom, a significantly higher proportion of them are in “short-cycle tertiary programmes” (approximately levels 4–6 on the NZQF), and a much smaller proportion are in postgraduate study (except for doctoral level, where international students pay domestic fees) (Figure 3.28).

Figure 3.28 International students as a proportion of tertiary students by level of study, selected countries, 2014

Source: OECD, 2016a.

One explanation for the relatively low number of international students at Master's level is that until 2013 a Master's required 240 credits, or the equivalent of two years' study. Subsequent changes to allow 180 credit Master's degrees are expected to be more attractive to international students. Allowing shorter Master's degrees was supported by universities and the New Zealand Union of Students' Associations, but opposed by the Tertiary Education Union (Gerritsen, 2012).

One submitter argued that this pattern of enrolments had consequences for the revenue generated by international students:

The relatively high proportion of international students studying in New Zealand tertiary institutions does raise the question as to why the revenues reported are so low. Clearly the relative level of fees being charged is also a significant factor. However, part of the explanation for the lower revenues attracted by New Zealand universities can be found in the type of tertiary qualification being sought, with students undertaking proportionately more shorter vocational qualifications at New Zealand (31% of the total; OECD, 2014, Table C4.1) compared to Australia (11% of their international students). (Marshall, sub. 73, p. 8)

Country choice

The Hobsons survey found that New Zealand was fifth in the list of countries that international students considered as potential study destinations, with 9% considering university here – some way behind the 42% reported for Australia and the United Kingdom. A 2011 survey placed New Zealand sixth, with 14% of students considering study here.

One of the advantages New Zealand has as a destination is that it is an English-speaking country.

Recruitment of international students at degree-level depends on market advantages derived from reputation, distinctiveness, quality of delivery, student experience and learning, and employability outcomes. For students whose first language is not English, overseas study in an English-language environment provides an invaluable means of developing sophisticated language skills which will enhance their future life prospects. (University of Auckland, sub. 85, p. 10)

New Zealand has some natural and cultural advantages.

ENZ has also found that New Zealand is an attractive proposition for some international students to study for a semester (for example, US students – under the Generation Study Abroad initiative) as well as to experience New Zealand's setting, culture, and lifestyle. Many students are attracted to our outdoor adventure, quality universities, and learning about our Maori and Pacific cultures. (Education New Zealand, sub. 52, p. 8)

An organisation representing English language schools told the Commission that they tried hard to combine English-language training with facilitating enjoyable experiences of the country, because it was these “tourist” experiences that brought many English-language learners to New Zealand.

Some submitters to the inquiry emphasised the importance of a New Zealand brand in influencing international students to choose to study in New Zealand.

New Zealand universities are all well known within New Zealand, but their names are not necessarily well known in the countries where they source international students. There, the brand of New Zealand as an education destination, combined with brand-linked factors (such as international ranking) are used to differentiate our universities for marketing purposes. ...

An NZ-Inc approach is necessary to ensure that the overall experience of international students in New Zealand align with in market messaging. (UNZ, sub. 17, pp. 22, 77)

But others argued that a national brand was not always a dominant consideration.

Survey research undertaken with current international students shows that Brand New Zealand is not the most significant driver for destination choice for all international students. UC’s [University of Canterbury] analysis of the International Student Barometer (ISB) data reveals that while half of undergraduates came to UC because of Brand New Zealand, around two-thirds of postgraduates came because of the particular institution, presumably to access certain sets of expertise or personnel. Therefore, we must exercise caution in the management and validation of offshore franchise activity because of the potential risk of damaging an individual institution’s brand in addition to Brand New Zealand. (Sampson et al., sub. 14, p. 4)

Reliance on a national brand also had risks. Australian tertiary education administrators that the Commission spoke to noted that incidents of violence against Indian students had undermined Australia’s attractiveness as a destination for Indian students.

However, even the best promotion of Brand NZ in market cannot compete with unwelcoming immigration policies, impediments to being able to work, or most crucially, incidents of crime against international students and racial prejudice. (UNZ, sub. 17, p. 77)

Around ten or more years ago, there was a series of failures of private training establishments (PTEs), particularly the ones focused on international students. They were found to be issuing qualifications improperly and to be operating illegally. There was a relatively weak regulatory system in place at the time. The result was a loss of confidence in New Zealand education in overseas education markets, and considerable national reputational and economic damage that has taken many years to rebuild. (New Zealand Federation of Graduate Women, sub. 47, pp. 4–5)

The interaction between demand for international education and demand for immigration to New Zealand is complex. For many students, the right to work during and after study is extremely important.

Immigration New Zealand data indicates that 40% of immigrants coming through the skilled migrant category are former international students. (Education New Zealand, sub. 52, p. 4)

Many students reported that personal recommendations and “word of mouth” are important.

International students become brand ambassadors for New Zealand when they return to their home country, and have a strong influence on their peers’ education country destination, which in turn has the ability to increase the number of international students studying in New Zealand. (UNZ, sub. 17, pp. 75–76)

International students who return home can also be our greatest advocates. They can share stories of their time in New Zealand and thus influence friends, family and others to choose to undertake study in New Zealand. (Education New Zealand, sub. 52, p. 4)

Provider choice

Universities New Zealand submitted that if universities cannot remain highly ranked, “they will lose both domestic and international students” (sub. 17, p. 26).

Additionally, the importance of rankings as a tool for recruiting international students, and the model’s high level of emphasis on QS [world university] rankings and other performance-based mechanisms, can

stifle “blue skies” initiatives and quality research, as staff increasingly substitute research quality for quantity to meet this new ranking driven goal. (Sampson et al., sub. 14, p. 11)

A 2014 survey of international students by Hobsons found that “students do consider rankings important, but they typically care more about subject ranking or a course’s academic reputation than that of the institution” (p. 6).

The survey also found that students categorise both institutional and discipline-level rankings into three groups – those in the top quintile, those in the middle three quintiles (between whom students did not discriminate), and those in the bottom quintile. In other words, students are sensitive to rankings only at the top and bottom ends.

4 Employers, industry training and the labour market

Key points

- Tertiary education is an important source of skills for employers. Migration is also important, and in recent years there have been strong net inward migration flows with migrants comfortably outnumbering young New Zealanders as entrants to the working-age population.
- Data collected through the OECD's 2014/15 Survey of Adult Skills suggests that New Zealand workers' qualifications and fields of study are poorly matched to their occupations. While a degree of mismatch is inevitable, higher levels of mismatch have negative consequences for individuals, employers and the wider economy.
- The relatively large share of the workforce whose educational background is a poor match for their occupation calls into question the effectiveness of the current centrally-managed approach to the allocation of resources in the tertiary system.
- There is a long-standing perception that many parts of the tertiary system are poorly connected with employers. The incentive for employers to engage with tertiary providers may be muted by the relative ease of access to skilled migrants while tertiary providers lack incentives to respond to employer input in a meaningful way, as the majority of their funding comes from government.
- Government has established various initiatives that seek to improve the links between tertiary providers and employers. These initiatives are targeted toward specific parts of the tertiary system, often require additional government funding, and can come with high administrative costs.
- Employers and students agree that tertiary education qualifications should equip graduates with transferable skills that retain their relevance in a changing job market. Several providers noted they are focusing on developing transferable skills; however, in some cases, these skills are poorly integrated into assessment processes.
- The industry training system is a formalised approach to learning within the workplace. Industry training is overseen and arranged by 11 Industry Training Organisations (ITOs), involves a mix of on-the-job training and off-job provision, and includes apprenticeships and shorter bursts of training. The design of the industry training system encourages close links between ITOs and employers and, unlike other forms of tertiary education, industry training is part-funded by industry.
- Funding for industry training is limited predominantly to provision at levels 1 to 4 on the New Zealand Qualification Framework. This limits the ability of the industry training subsector to respond to demand for higher-level training, and inhibits the adoption of new models.
- Apprenticeships can also be managed and delivered by Institutes of Technology and Polytechnics (ITPs). The government funding rate for these apprenticeships is significantly higher than those administered by ITOs.
- Many inquiry participants suggested that retraining for mid-career workers will occupy an increasing share of tertiary education provision in coming years, as technological advancements create the need for new types of skills, and certain occupations become obsolete.
- Funding and regulatory settings that focus on younger, full-time learners completing full qualifications, the design of the student support system, and funding rules that make recognition of prior learning difficult all present barriers to mid-career retraining.

4.1 The role of employers in the tertiary education system

Employers rely on the tertiary education system (along with immigration) to supply them with a skilled workforce. People vary widely in their underlying capabilities, personal preferences, past experience, knowledge, skills and motivation. The knowledge, skills and characteristics acquired through the tertiary education system make an important contribution to the New Zealand economy.

This chapter examines how well the tertiary system responds to the needs of employers. It begins by considering how employers select prospective employees, and how qualifications and tertiary education affect hiring decisions.

Section 4.2 examines the outcomes of the tertiary system for employers and the extent to which the skills acquired through tertiary education are matched with the skills needed in employment. Section 4.3 describes three main pathways through which students transition between tertiary education and employment:

- a traditional pathway where students undertake a qualification prior to entering the workforce;
- in-work training models including industry training, and
- mid-career retraining.

Sections 4.4, 4.5 and 4.6 examine the effectiveness of these pathways in greater detail.

How do employers select prospective employees?

Employers need reliable information about prospective workers in order to recruit staff who are well-matched to the needs of the workplace. Over-employment (a worker lacks the skills to perform a job productively) and under-employment (a worker has excess skills for the job, and those skills could be more productively used elsewhere) are missed opportunities for a good match.

Similarly, workers need a way to signal their abilities to prospective employers. There is some debate about what is being signalled by tertiary education – innate ability, or skills and competencies acquired through learning (Box 4.1).

Box 4.1 Human capital and signalling theories

There is some debate about the causal mechanism through which education affects employment and earnings. Human capital theory (discussed in Chapter 2) posits that education endows individuals with skills and attributes that enhance their productivity in the labour market. In contrast, signalling theory suggests that an individual's contribution in the labour market is determined by their innate ability, and that more productive people seek to gain additional education in order to differentiate themselves from less productive people (Kjelland, 2008).

Gary Becker's seminal examination of the returns to tertiary education considered the extent to which tertiary education is value-adding, as opposed to signalling innate ability. Using American data, Becker estimated the private rate of return to college graduation at 13%. He attributed just 12% of this return solely to innate ability, while the remaining 88% was attributed to other factors, including the value-add of education (Breneman, 2001).

Others report that graduates from top-tier universities get a foot in the door – a better chance of interviews with top employers. This translates into a higher chance of employment with such employers.

University education is perceived as one of the main ways for young people to achieve social mobility and to have better careers and lives. Parents and students are more likely to pay as much as they can to get the branded qualifications they believe will lead to better employment and life outcomes. (UNZ, sub. 17, p. 75)

The international evidence supports the view that both effects exist, with skills attainment more important than signalling.

A qualification is the most common way to signal skills and abilities acquired through tertiary education. Employers use qualifications in different ways. The lack of a qualification can act as a screen to filter out unsuitable candidates. The grades or relative status of qualifications (and the institutions issuing them) can also act as a proxy for candidate quality. The reliability of such proxies matters, as they potentially affect the quality of the match between job and worker. For example, if the grades awarded by tertiary providers were increasing without reference to the skills and attributes of the students achieving them (sometimes referred to as *grade inflation*), this would distort their signalling effect. The issue of grade inflation is considered in Chapter 9.

In order for qualifications to effectively signal certain skills and abilities, it is also important that employers have a reasonable understanding of the content of different qualifications, and of their relevance to different roles. In recent years, the New Zealand Qualifications Authority (NZQA) has initiated a major piece of work to review the content and composition of qualifications, with a view to increasing the relevance of qualifications for employers (Box 4.2).

Box 4.2 The Targeted Review of Qualifications

The Targeted Review of Qualifications (TRoQ) was initiated by NZQA in 2008 in response to concerns raised by employers, employees and unions about the clarity and relevance of qualifications, particularly vocational qualifications. The review identified that the qualifications system:

- was not relevant to some employers and industry;
- was not user-friendly, and the status of qualifications was unclear; and
- contained 5 937 qualifications (as at December 2008), many of which were difficult to differentiate from one another (NZQA, 2009).

Subsequently, NZQA has implemented a series of changes to simplify and streamline the qualifications system including:

- a requirement for tertiary education organisations (TEOs) to use existing quality assured qualifications, and the introduction of provisions to allow for more inclusion of local components;
- mandatory periodic reviews of qualifications to determine whether they are still fit for purpose;
- strengthened requirements for industry involvement in the development of qualifications; and
- the introduction of stronger requirements to develop qualification outcome statements setting out the knowledge, skills and attributes expected of a graduate in a standardised format.

NZQA suggests the review has been successful “in both reducing the future number of qualifications and ensuring they are relevant and fit-for-purpose. For example, before the review there were 275 English language qualifications. As a result of the review there are now six New Zealand Certificates in English language” (NZQA, 2015, p. 16).

The views of employers are more mixed. For example, Horticulture New Zealand (sub. 92) supported the TRoQ’s focus on industry needs, while other inquiry participants noted that the process has restricted the ability of providers to target qualifications toward specific niches:

With providers no longer able to establish “local qualifications” on the framework, there is a much reduced opportunity for market-led innovation in delivery, and a much stronger emphasis on consensus-

led quality. Where the discipline being taught has strength and maturity, this is fine. Where it does not - and arguably social services stands out for this - it is most definitely not. (Methodist Mission Southern, sub. 5, p. 3)

ITI members were disappointed that the local provider-specific qualifications they developed have been subsumed into generic qualifications under the Targeted Review of Qualifications...the Targeted Review of Qualification (TRoQ) is designed to deliver a far smaller number of far more generic qualifications. This reduces the incentive to innovate as a providers' qualification (from the outside) will look exactly the same as a non-innovative provider. (Independent Tertiary Institutions, sub. 81, p. 3, 23)

4.2 Outcomes for employers

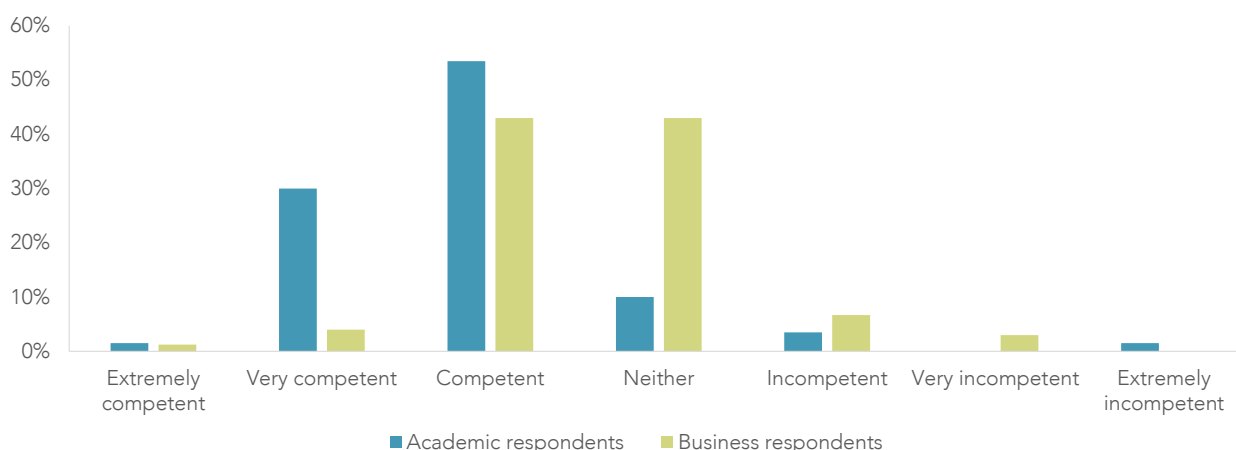
Employer satisfaction with graduates

There are mixed opinions on how well New Zealand's tertiary system prepares graduates for employment. For example, Universities New Zealand (sub. 17) submitted that it is a myth that universities are producing poor quality graduates or graduates that are not work ready. Others, including Ed.Collective (sub. 89) offered a different assessment.

...there are areas where our graduates are falling short of employer expectations. This is not because they have not invested enough money or spent enough time in their learning endeavours... we are just plain doing it wrong. Given the financial and life significance of studying today, we should not sit back and accept that this is just how it is. (Ed.Collective, sub. 89, p. 21)

A 2013 New Zealand survey of 700 business school academics and employers also found that tertiary providers and employers have different views of graduates' work-relevant skills (Figure 4.1).

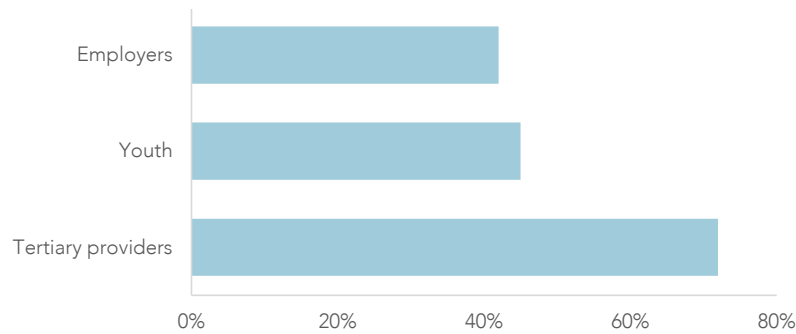
Figure 4.1 Perceived ability of business schools to produce well-trained and prepared graduates



Source: Burt, Smith & Young, 2013.

Similar differences in opinion are evident in other countries. For example, a survey of 8 000 young students and workers (aged 15 to 29), employers and tertiary providers from nine different countries identified contrasting views about how well tertiary graduates are prepared for the workforce (Figure 4.2).

Figure 4.2 Share of survey respondents who agree that graduates are adequately prepared for work



Source: Mourshed, Farrell & Barton, 2012.

Notes:

1. Survey participants were drawn from Brazil, Germany, India, Mexico, Morocco, Turkey, Saudi Arabia, the United Kingdom, and the United States.

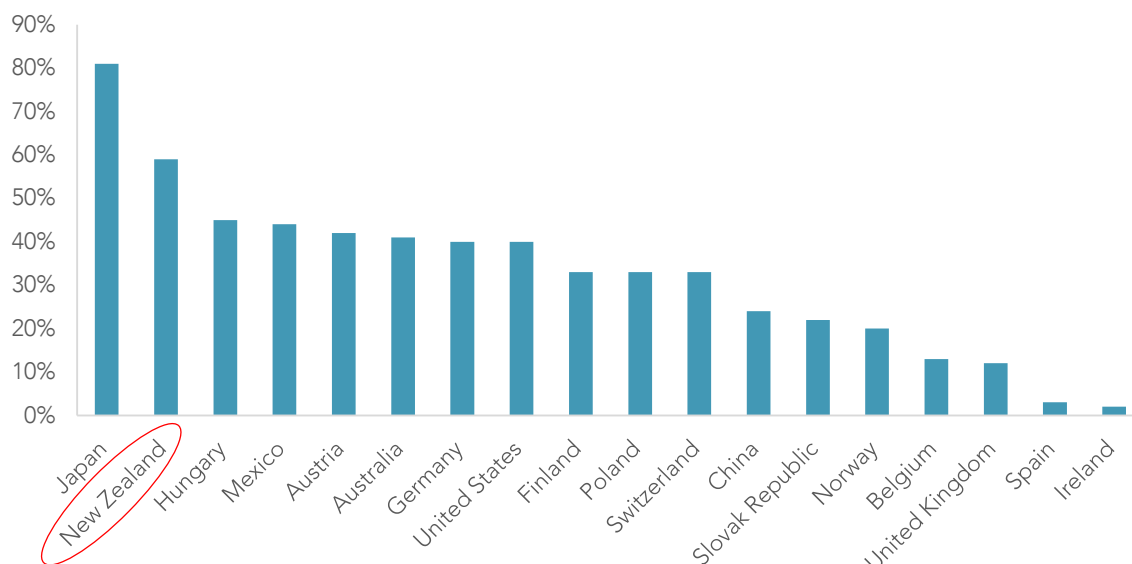
Similarly, Vandeweyer (2016) cites a recent survey which found “While 48% of the interviewed employers indicate that youth lack written communication skills, only 6% of young people participating in the survey acknowledge lacking these skills”, suggesting a wide gulf between youth and employer understandings of performance and preparedness.

One New Zealand survey of employers found they were much more satisfied with graduates’ verbal and communication skills (80% satisfied) than with their intellectual autonomy and independent thinking (55%), or their ability to set and achieve personal and professional goals (55%) (Kusmierczyk & Medford, 2015).

Skills matching

Employers seek to recruit workers who offer the best value for what they can afford. Employers will generally prefer situations where there is an abundance of suitably-skilled potential employees as this reduces the risk of unfilled or under-filled positions, and may enable employers to suppress wages. In contrast, workers will prefer a situation where there is a scarcity of comparably skilled workers, as this reduces their risk of unemployment and gives them a strong bargaining position when negotiating wages.

Available data about the current supply and matching of skilled workers suggests the tertiary education system is not as well-aligned with the world of work as it could be. Managers of New Zealand firms with 10 or more employees reported the second highest level of skills shortages among a selection of OECD countries (Figure 4.3).

Figure 4.3 Percentage of firms reporting difficulties filling vacancies, selected OECD countries

Source: OECD, 2016b.

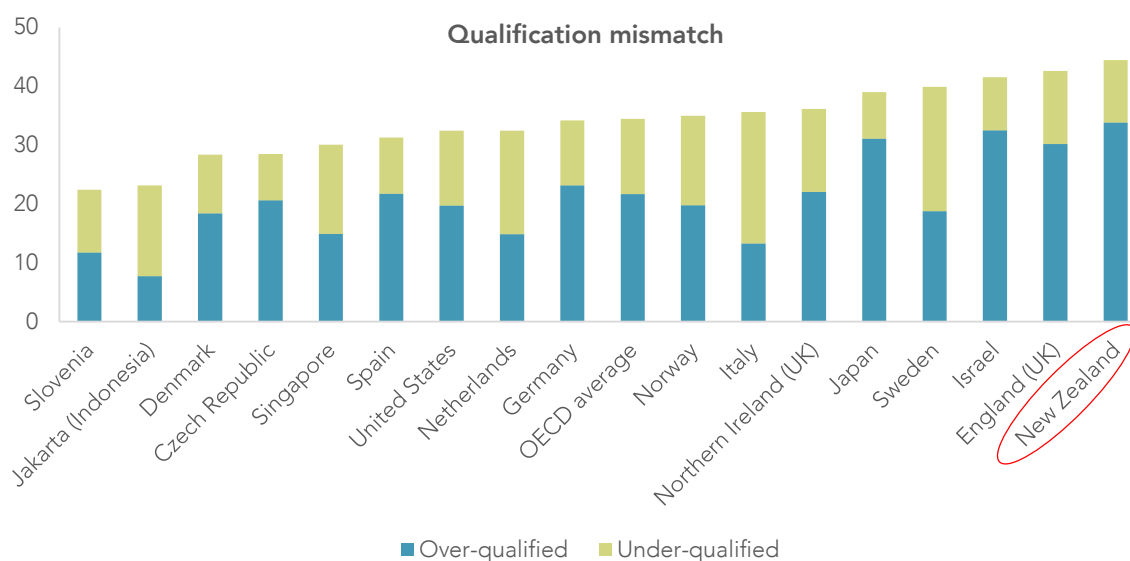
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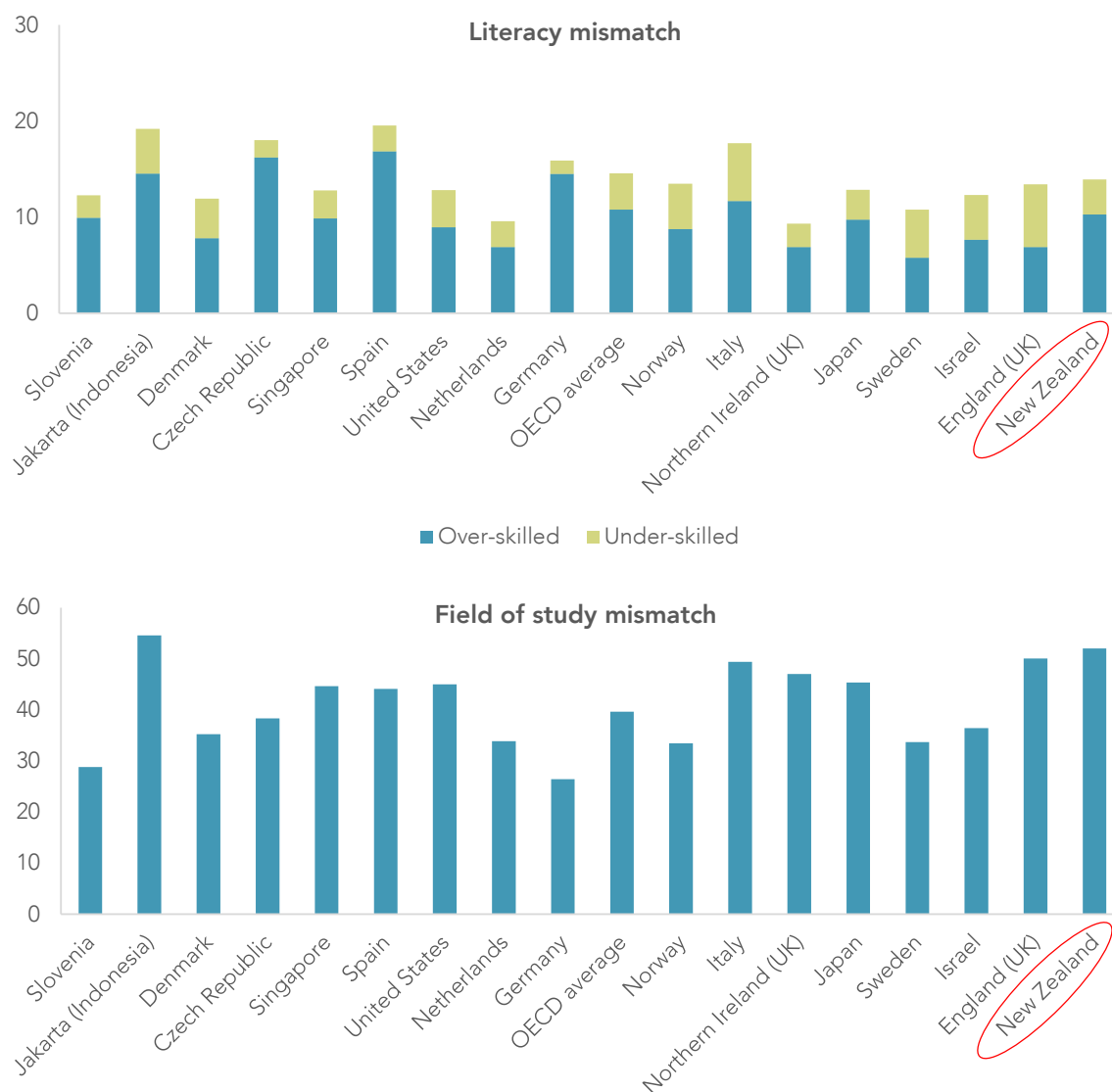
1. As a percentage of all firms with 10 or more employees.

However, in contrast to reported shortages in skilled workers, data recently collected through the OECD's Survey of Adult Skills (the survey) suggests the New Zealand workforce is perceived to be over-qualified, relative to other countries.

The survey asked workers what would be the usual qualifications, if any, "that someone would need to get (their) type of job if applying today" (OECD, 2016c). 34% of New Zealand workers reported they hold higher qualifications than required to get their jobs (compared with an average of 22% among participating countries). 11% reported they have lower qualifications than required to get their jobs (compared with an average of 13%) (Figure 4.4).

The survey also measured the match between workers' literacy skills and those required in their work, and how closely workers' qualifications matched their occupation in terms of the field of specialisation. New Zealand has a relatively high mismatch in terms of field of study, while results for literacy matching are similar to the OECD average (Figure 4.4).

Figure 4.4 Qualification, literacy and field of study mismatch, selected OECD countries



Source: OECD, 2016c.

The interaction of the three sets of matching data shown in Figure 4.4 is important. For example, many workers who report they are over-qualified are well-matched in terms of their literacy skills. This situation is referred to as “apparent qualification mismatch” and suggests qualifications are an imperfect proxy for skills (OECD, 2016c). Apparent qualification mismatches can also occur if employers inflate recruitment criteria with the idea this will help them select a higher quality candidate. Similarly, individuals may gain higher qualifications than are required in order appear more appealing to prospective employers (Manca, 2016). 34% of New Zealand workers reported that they were over-qualified, but just 5% of the sample were both over-qualified and over-skilled. Looking at the OECD as a whole, 22% of workers reported that they were over-qualified, while 3% of workers were both over-qualified and over-skilled (OECD, 2016c).

The fact employers report they struggle to find workers with the skills they need, and a substantial number of workers are employed in jobs that are a poor match for their qualifications or skills, suggests there is significant scope to improve matching in the New Zealand labour market.

A degree of mismatch between what qualifications and skills the population holds and where they end up working is inevitable. Chapter 2 notes people have a diverse range of motivations for undertaking tertiary education – and these motivations are not always related to an employment outcome. Montt (2015) notes that in any dynamic economy some level of mismatch is expected, and some mismatch

...results from workers accepting jobs in which they are mismatched by field of study as they search for the job that best fits their skills and interests; mismatch also results from the fact that individuals’ decisions to invest in training were made in the context of an economy that has changed. (pp. 10–11)

Although some level of mismatch is inevitable, it comes with a number of detrimental consequences.

- For individuals, field of study mismatch combined with over-qualification entails lower wages, increased likelihood of unemployment, lower levels of job satisfaction, and possibly frustration stemming from the inability to put all their skills to use in the workplace (Montt, 2015).
- For employers, mismatched workers are more likely to be dissatisfied with their position and this can lead to lower productivity and increased absenteeism (Quintini, 2011a).
- For society as a whole, mismatches entail the sunk cost of developing human capital that will not be used (although there are benefits from individuals undertaking education even if it is not put to use in the workplace) (Montt, 2015).
- Adalet McGown and Andrews (2015a) analysed the relationship between mismatches and labour productivity. Their results suggest higher skill and qualification mismatch is associated with lower labour productivity, with over-skilling and under-qualification accounting for most of the impacts.

F4.1

Compared with other OECD countries, workers in New Zealand are poorly matched with their positions (based on their qualifications, what they studied, and their literacy). The impact of these mismatches has not been analysed in a New Zealand-specific context; however, international studies show higher levels of mismatch are correlated with negative consequences, including lower labour productivity.

International literature presents a number of policy recommendations to reduce skill mismatches and to make the most of investments in human capital. Some of these recommendations are outside the scope of this inquiry. For example, Adalet McGowan and Andrews (2015b) note policies that create barriers to mobility (such as restrictions on housing supply, and high transaction costs associated with buying and selling dwellings) are associated with higher skill mismatch. Similarly, stringent labour market regulations can also exacerbate mismatches, as they reduce labour market flexibility and the ability of firms to adapt to changing circumstances. International studies also find qualification mismatches tend to be higher among migrants – which may well be influential in New Zealand given that migrants account for a relatively large share of the labour market.

There are also policies within the education system that affect matching.

- Policies to improve the responsiveness of the education system to changes in skill demand are crucial to reducing mismatches (Quintini, 2011b).
- High-quality career guidance counselling, accompanied by information on the returns to education by field of study, helps to ensure students make informed choices (Quintini, 2011a).
- Comprehensive lifelong learning frameworks are essential in addressing skill obsolescence as well as new skill requirements driven by technological change. Similarly, on-the-job training can help avoid skill obsolescence, and bring under-skilled workers up to the level required for the work they undertake (Quintini, 2011a).
- Encouraging the development of transferable skills and qualifications that enhance the flexibility of their recipients – allowing graduates from saturated fields to find jobs at their qualification level in a different field (Montt, 2015).
- Although not tested empirically, policies that enable students to switch between different study options are likely to improve matching (where switching enables students to achieve a qualification and skills more closely matched to their career aspirations).

F4.2

Career guidance, information about the returns to different tertiary education programmes, opportunities to upskill and retrain, development of transferable skills, and an education system that is responsive to employer demand are all important in improving matching between graduates and employment.

Each of these policy areas are covered in detail in this report. Chapter 12 presents a comprehensive package of reform designed to significantly improve the responsiveness of the tertiary education system, including mechanisms to reduce student switching costs. Chapter 12 also recommends an overhaul of New Zealand's careers advice system, and improved provision of information about employment outcomes associated with different study options. The development of transferable skills, in-work training, and lifelong learning are examined in greater detail in sections 4.4, 4.5, and 4.6 of this chapter, with associated policy recommendations in Chapter 12.

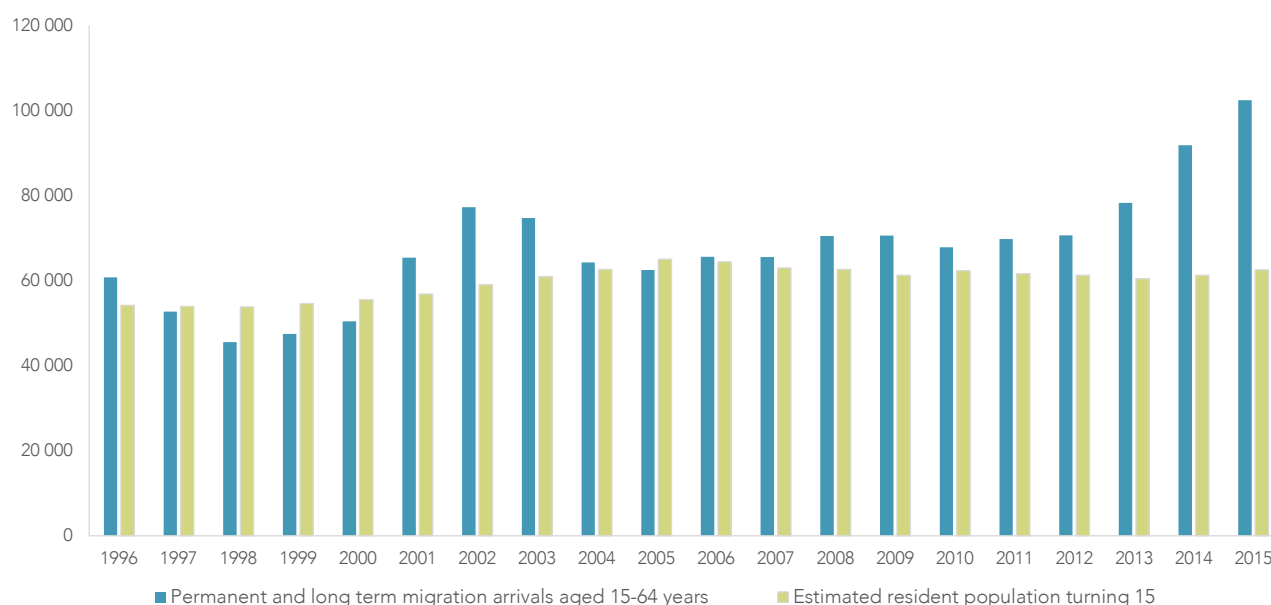
An open labour market can adjust through immigration and emigration

New Zealand's labour market is very open and is characterised by high levels of mobility across regions and national borders, between jobs and between industries, and in and out of training. In particular, the Trans-Tasman Travel Arrangement allows all citizens of Australia and New Zealand to travel, work and reside in both countries indefinitely. With the exception of the European Union, such free movement of people is rare (APC & NZPC, 2012).

New Zealand's net migration patterns tend to be cyclical and, over the past 20 years, has fluctuated between a net outflow of 11 000 in the year 2000, to a net inflow of 65 000 in 2015 (Statistics New Zealand, 2016b).

In all but five of the past 20 years, immigration has been a bigger source of new skills to the New Zealand labour market than local population growth (Figure 4.5). In recent years, a strong upswing in inward migration has resulted in new working-age migrants outnumbering New Zealand residents turning 15 by 44 000 in 2014 and by 55 000 in 2015.

Figure 4.5 Additions to the New Zealand labour market, 1995–2015



Source: Statistics New Zealand, 2016b.

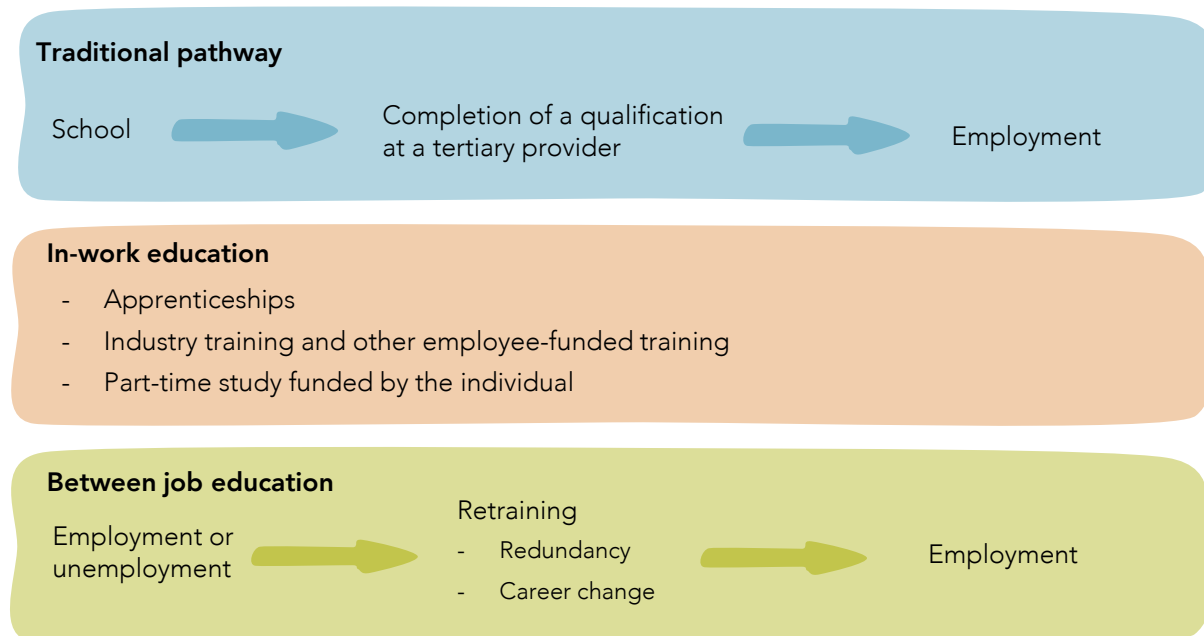
The openness of the labour influences the quantity and mix of skills available on the local labour market. In some cases, this can be detrimental to matching efficiency. For example, strong inward net migration may increase the pool of skilled labour, and if demand for skilled labour has not increased there will be fewer suitable jobs for people to fill. This creates a decline in matching efficiency. However, if inward migration were occurring in response to increasing demand for skilled labour, then the inflow would likely improve matching efficiency (Craigie, Gillmore & Groshenny, 2012).

Migration flows can also affect the incentives on employers to invest in the skills of their employees, and to engage with the tertiary system to influence the skills of potential future employees. As discussed in section 4.4, engagement between employers and tertiary education providers is a longstanding concern in New Zealand.

4.3 How do students transition from education to employment in New Zealand?

There are a range of different pathways between tertiary education and the workforce. Three broad pathways are set out in Figure 4.6.

Figure 4.6 Pathways between tertiary education and employment



The following sections of this chapter examine the role that employers play in each of the pathways outlined in Figure 4.6.

4.4 Role of employers in the traditional tertiary pathway

This pathway to employment typically involves a student entering tertiary education after secondary school, completing a qualification, and then moving into employment. Qualifications vary significantly in terms of how closely they are linked to specific occupations. For jobs subject to occupational licensing, a certain qualification is a mandatory requirement (for example law, teaching and nursing). Other jobs vary between those where a certain qualification is the norm, but not necessarily required, and those where employees have a diverse range of educational backgrounds. Reflecting this diversity, qualifications vary between job-specific and those that purport to equip graduates with skills and attributes that can be applied in a range of occupations.

This section examines two potential problems that can occur when students enter employment through a traditional pipeline. First, it considers whether there is sufficient coordination between employers and the tertiary education sector to ensure up-front investments in education are well-aligned with employer needs. Secondly, it examines the extent to which tertiary education is providing graduates with skills that can be applied to a range of employment types.

Coordination between employers and the tertiary education sector

There are several ways that employers can interact with the tertiary system to influence the nature of provision. These include formal mechanisms, such as engagement with curriculum development and NZQA quality assurance processes. Government has also developed specific initiatives to improve the links between education and employment in fields including ICT and engineering.

Employer input into curriculum development and quality assurance

If a tertiary education provider wishes to develop a new programme of study or qualification, they must first go through an approval process that is administered by NZQA or, in the case of universities, the Committee on University Academic Programmes (CUAP) (Chapter 5). Both approval processes include steps that require

engagement with employers. For example, NZQA requires qualification developers to provide “clear and robust evidence that a qualification will be useful, relevant and of value to learners, employers, industry and communities” (NZQA, 2014a, p. 8). Similarly, CUAP requires that universities establish the acceptability of new programmes through engagement with relevant communities including employer, industry and professional bodies (CUAP, 2015). Part of the qualification development process involves developing an outcome statement for prospective employers, which includes a profile of what a person awarded the qualification must be able to “collectively do, be and know” (NZQA, 2016).

Where qualifications are part of a professional registration process, the professional registration body will be involved in qualification development, approval and monitoring processes. NZQA will not approve a programme, or accredit an institution, until the specific requirements of relevant registration bodies have been met. These requirements are set out in written agreements between registration bodies and NZQA (NZQA, 2014b).

Quality assurance processes such as NZQA’s external evaluation and review (Chapter 5) also include requirements for TEOs to engage with employers. As part of the review process, TEOs are required to undertake a self-assessment, which includes an assessment of the extent to which “TEOs systematically determine and address the needs of learners, employers and the wider community” (NZQA, n.d. a).

NZQA uses the information in self-assessments to determine the relevance of provision. For example, in their 2016 external evaluation and review of MFH International Institute (a Wellington-based PTE), NZQA determined that there was a good match between MFH’s programmes and the needs of learners and other stakeholders. The review noted that MFH’s Training for Work programme “is based on strong business networks in the retail and hospitality industry and constantly uses employer feedback, informal and formal, to reflect on the relevance of the training courses and matching the needs of learners in workplaces” (NZQA, 2016a, p. 14).

Other mechanisms for employer input into tertiary education

Alongside the formal mechanisms for employer involvement in qualification design and quality assurance, providers noted a range of other mechanisms for employer engagement. For example, the University of Otago (sub. 37) lists a range of initiatives including:

- Employer, industry or professional representation on panels for our own internal reviews;
- Visits by employers for recruitment purposes;
- Involvement in student internships;
- Our academic staff sharing their expertise and undertaking research with industry, policy makers and/or end users;
- Periodic surveys of employers. (p. 30)

The College of Humanities and Social Sciences at Massey University (sub. 27) also provided an example of how it incorporates employer input into the design of qualifications:

The core curriculum recently introduced into the Bachelor of Arts (BA) at Massey University was substantially informed by input from employers. Three aspects of these changes speak to the ways in which interactions between employers and tertiary providers might be pursued.

- In the programme design phase, the views of employers were solicited (particularly in the lower North Island/Wellington region) – with the assistance of Business New Zealand – on a range of matters (e.g., skills likely to be in demand in the future; value of transferable skills).
- Consistent with the call for stronger links between tertiary providers and employers... the organisational arrangements designed to support Massey’s new model BA provides for an institutional ‘champion’ for the programme, one of whose responsibilities is to foster relations with employers. The arrangements also include digital and physical student engagement spaces in which BA students can engage with external interests.
- A new capstone paper designed for first delivery in 2017, will provide BA students with the opportunity to engage critically with issues relevant to employers in the public and private spheres. (p. 3)

Some tertiary qualifications include opportunities for students to develop work-relevant skills through internships or periods of work experience. In a survey of 149 major New Zealand employers conducted by the University of Otago in 2015, more than two thirds of respondents agreed that graduates who had been involved in an industry placement were better prepared for employment (University of Otago, sub. 37). The Tourism Industry Association also voiced support for industry placements, noting “programmes that involve a work-experience component are generally more highly valued by employers due to the experiences and on-job skill development those graduates gain during a work-experience component” (sub. 51, p. 6).

Tertiary providers acknowledged the value of work placements; however, several inquiry participants noted that it can be difficult to find employers willing to provide placements:

We often find that it’s very hard for employers to give even a small amount of time to students who are seeking to do projects with them. People are simply too busy; sometimes it’s not appropriate for people to talk openly to students about their business. In the private sector, they tend to say ‘too busy’; in the public sector, they often say that things are too sensitive and confidential. (Duncan, sub. 18. p. 7–8)

Employer/education interaction in nursing programmes is high due to the requirement for clinical placements for students to obtain the required clinical skills of their programmes. However... access to placements can be variable depending on the employer, and quality of placements can be variable due to a range of factors including staff shortages, heavy workloads and little value placed on having students in the workplace. (New Zealand Nurses Organisation, sub. 25, p. 6)

How effective is the engagement between employers and education providers?

Despite the presence of formal and informal mechanisms for employer input into the tertiary education system, there remains a perception that, on average, there is a need for stronger links between employers and the tertiary education system. For example, each of the past four Tertiary Education Strategies¹⁷ has expressed a desire for the tertiary system to be more closely aligned with the needs of employers, usually accompanied by statements calling for greater input from employers and industry groups.

We need to create... a comprehensive set of educational pathways to cater for modern lifestyles and employment patterns, informed by vastly better links between employers, unions and the tertiary education system. (MoE, 2002)

While the tertiary education sector can do a lot to plan for and respond to skill needs in the trades and technical occupations, tertiary education organisations cannot be expected to do this alone. Contributions will be needed from employer and industry groups to the planning by individual tertiary education organisations. (MoE, 2007)

The Government wants a tertiary system that rewards successful providers who demonstrate that they meet the needs of students and employers, for instance through their connections with firms. The system will also reward providers who respond to market signals, including the changing skill needs of industries. (MoE, 2010a)

TEOs need to create opportunities for industry involvement in planning and delivering education... while industry will need to clearly identify its medium and long term needs. (MoE & MBIE, 2014)

Several submitters to this inquiry also voiced similar concerns. For example, MBIE notes that skills utilisation is a weakness in New Zealand, and one reason for this is the relatively ineffective relationships between employers and the tertiary education system. MBIE also notes that:

We need to change TEOs’ behaviour so that they proactively seek employer engagement, and we also need employers to support providers by identifying demand for skills, helping anticipate demand and plan ahead, providing time and resources in the design and delivery of education and training, and taking responsibility for providing on the job training. (sub. 63, p. 2)

DairyNZ suggests that greater industry input is still needed:

In the current model of tertiary education, institutions typically decide what constitutes a coherent body of knowledge, with an inbuilt driver to preserve the traditional composition and size of qualifications. However, what makes up a coherent body of knowledge is changing rapidly and will continue to do so. Equally, what is coherent and deep for one person is not the same for another even in seemingly parallel work environments. The system has to become a lot more agile and tolerant to accommodate this

¹⁷For a description of the TES’s role in the tertiary system, and an overview of the current TES, see Chapter 5.

dynamism and diversity... We are seeking a greater industry input into what makes up a coherent body of knowledge and the practical skills that can apply it. (p. 3)

Students have also expressed concerns about coordination between tertiary providers and employers. The Victoria University of Wellington Students' Association notes there is a need for further industry interaction in the tertiary system:

They do not interact on a close basis. They [employers] are consulted on but are not regularly used in a practical basis for student courses and delivery. The extent needs to be a lot greater to prepare graduates for industry. (sub. 80, p. 5)

There is also evidence that some recent graduates feel their tertiary education could have been more closely aligned with the realities of employment. For example, a New Zealand survey of 785 lawyers, whose practising certificate had been issued in 2013 or later, found that respondents were satisfied with the theoretical components of their training, but were less satisfied with the practical aspects. 87% of surveyed law graduates suggested that their training at law school ought to have been more practical. Fewer than 50% of respondents agreed that law school gave them a good grounding in practical legal skills, and that law school prepared them well for practising law. By contrast, 93% agreed that law school had given them a good grounding in theory and analytical skills (Pemberton, 2016).

It is likely that the apparent disconnect between some parts of the tertiary education sector and employers is a by-product of the incentives that motivate employers and tertiary providers.

Employers are not directly faced with any of the costs associated with education (where somebody enters employment through the traditional pipeline). This contrasts with industry training where employers are required to meet some of the costs, and other forms of in-work training where employers frequently meet some of the costs (Section 4.5). Some inquiry participants noted the absence of a direct financial contribution to tertiary education was a driver of employer behaviour:

If employers are to have greater involvement, in terms of specifying the types of graduates they want, then they need to make greater investment. Tertiary education is an intriguing market where the customer (industry) does not pay for the product (the graduate) except indirectly through general company taxation.

It might be advisable, if greater industry involvement is desired, to remedy this "false market" by introducing an industry levy whereby if industry wish to shape the graduates provided, they pay. This avoids them demanding features for which they will bear absolutely no cost. (Alach, sub. 8, p. 6).

New Zealand's migration policy settings are another factor that may dampen the incentive for employers to engage with the tertiary education system. As set out in Figure 4.5, new working-age migrants have typically been roughly equal to the number of New Zealand residents turning 15, while in recent years migrants have comfortably outnumbered local additions to the labour market. As a result, it may be easier for some industries to buy in skilled labour through international migration, rather than engaging with the domestic tertiary education system to make skills locally.

For tertiary providers, the vast majority of funding is sourced directly from government. Funding is allocated through investment plans negotiated between providers and government, and funding comes with tight specifications on the nature and volume of delivery it can be used toward (see Chapter 5 for further detail). As a consequence, providers are incentivised to respond to the signals sent by government, rather than employers. For example, the Methodist Mission Southern and BusinessNZ both voiced doubts about the effectiveness of current employer engagement:

Our experience was that we were heard, and then the agenda of the ITPs – principally, what was convenient for them to teach – was allowed to outweigh the voices of employers. (Methodist Mission Southern, sub. 5, p. 3)

Industry and employers provide a range of government agencies and tertiary education organisations with information about their needs but at no point is this intelligence pulled together and utilised. (BusinessNZ, sub. 77, p. 6)

F4.3

Employers can have input into the tertiary education system through a range of formal and informal avenues. The incentive for employers to engage with tertiary providers may be muted by the relative ease of access to skilled migrants while tertiary providers lack incentives to respond to employer input in a meaningful way, as the majority of their funding comes from government

Recent initiatives to improve the links between education and employment

In some instances, government has established specific mechanisms to improve the links between education and employment. ICT Graduate Schools are a prominent example (Box 4.3).

Box 4.3 ICT Graduate Schools

Budget 2014 allocated \$28.6m over four years for an ICT Graduate School programme. The aims of the programme are to improve the links between tertiary providers and the ICT industry, and to produce graduates that are well-prepared for a career in the industry through real-world learning experiences (MBIE, 2015b).

Universities New Zealand notes the initiative has provided much-needed additional funding for the education and up-skilling of ICT graduates, but also raised concerns:

They have added significant administrative overhead and administrative complexity because they are managed as discrete contracts with separate performance and reporting arrangements and separate governing bodies. (sub. 17, pp. 36–37)

They are unwieldy – requiring at least two organisations to collaborate on delivery.

The University of Otago noted similar concerns:

The ICT Graduate School initiative... has been characterised by extraordinarily complex contracts, unwieldy and inefficient governance suggestions, and protracted negotiations. (University of Otago, sub. 37, p. 10)

Ed.Collective was also critical of the Graduate School initiative, suggesting the skills needed for employment in the industry could be developed without the need for postgraduate study:

Internationally, companies have also been able to take people from ‘zero’ to employable computer programmers in 6 months. Why, then, do we send the message that aspirant computer programmers need to spend a full 3 years getting a computer science degree? Worse still, we are now encouraging them to spend even longer and take on even more debt studying in graduate ICT schools. (sub. 89, p. 25)

The Sector Workforce Engagement Programme is another government initiative that addresses education and employment issues. MBIE notes:

...this programme has supported dairy employers to develop new employment relationships and co-develop new training programmes with TEOs that better meet skill requirements of employers and utilise employer resources for pre-employment experience. Such a programme requires sector leadership and the flexibility and incentives for developing new models of delivery. (sub. 63, p. 2)

MBIE notes that a feature of this initiative and the ICT Graduate Schools was the requirement for government intervention to support greater coordination between the tertiary sector and employers.

From 2017, employers will be able to provide direct feedback on the value of qualifications held by their employees through a “Rate My Qualification” survey. The survey will pose questions to both employers and recent employees on how well the recent employee’s qualification has prepared them for their current role. The Tertiary Education Commission (TEC) will be responsible for collecting and collating the dataset, and will provide the data to TEOs for publication on their websites. The data will also be made available for third-

party information providers to publish, allowing users to compare information across a range of providers and qualifications (MoE, 2015b).

Chapter 11 provides an overview of the Engineering Education to Employment (E2E) programme, which is another example of a government initiative to improve coordination between employers and tertiary providers.

The existence of various government initiatives to improve the links between education and employers is symptomatic of a tertiary system that is not responsive to employer needs.

Despite a lot of ad hoc activity and initiatives there is little robust evidence that business and industry engagement is currently effective and has had the desired impact. One point solutions like ICT Grad schools fail to recognise the complexity involved in developing a supply of talent to better meet the needs of industry in the medium term. The Engineering Education to Employment programme also highlights the shortcomings of existing funding levers and a single agency approach. (BusinessNZ, sub. 77, p. 6)

F4.4

Government has established numerous initiatives that seek to improve coordination and links between the tertiary education sector and employers. The need for such initiatives is symptomatic of a system that often fails to respond to employer needs.

Transferable skills for a changing employment market

One potentially problematic feature of the traditional pipeline from tertiary education to employment is the employment prospects associated with certain qualifications can change rapidly. Several inquiry participants noted that the tertiary education system should seek to equip students with skills that can be applied in a diverse range of situations – such as communication skills, ability to work well in a team, planning and organisational skills, and problem-solving skills.

There is a range of different terms to define such skills, including *soft skills*, *key competencies*, *non-cognitive skills*, *employability skills* and *transferable skills*. This chapter uses the term transferable skills.

... we consider a skills-based education that heavily focuses on immediate employability to be limited and short-termist. Workplaces require graduates who are, first and foremost, informed, flexible and critical thinkers. Given the changing nature of work, the disappearance and the emergence of new jobs, alongside the recalibration of existing jobs, the future demands on workers will continually change. (Massey University Business School, sub. 96, p. 2–3)

I do think that universities cannot be expected to meet specific technical skills of every employer in the country (also because over the course of a degree that takes 3-4 years, the work market can change). Instead, universities should provide a set of basic skills that could be useful for a range of jobs. Graduates should then be expected to pick up the specific skills they need for a specific employer over a short period of time but also to be self-learners over their working life. (Ben-Tal, sub. 15, p. 1)

Flexible and transferrable skills are the best solution for an employment market that is constantly changing. (University of Canterbury Faculty of Arts, sub. 35, p. 2)

Several providers gave examples of how they seek to develop transferable skills that can be applied in numerous settings (Box 4.4).

Box 4.4 Provider initiatives to prepare graduates for a changing employment market

The University of Waikato notes it is redeveloping its curriculum to ensure graduates can maintain pace with the fast-changing employment market by being able to:

1. Apply discipline (and profession) specific knowledge
2. Apply critical thinking in systematic, innovative and creative ways
3. Communicate and collaborate effectively

4. Demonstrate competence in culturally diverse local and global contexts
5. Exhibit professional and personal integrity. (sub. 93, p. 6)

NZITP and Metro Group note soft skills are a growing part of ITP provision:

For several decades employers have continued to emphasise the importance of 'soft skills' and graduates with the right aptitude and attitude for employment as well as the significance of graduates with work or work related experience; such skills are an integral aspect of all ITP provision. The transferable skills sought by employers are a growing part of all ITP provision and a hierarchy of transferable skills, starting with literacy, numeracy and communication, working through areas like STEM, problem solving, analysis and decision making and moving up to areas like accountability, entrepreneurship, research, internationalisation and leadership... (sub. 42, p. 24)

The University of Canterbury has developed a co-curricular record to help quantify non-academic skills:

UC has also developed the co-curricular record (CCR). The CCR keeps verifiable records of those activities which foster the development of skills and attributes, but that are not directly credited to degrees such as volunteer work, sporting achievements and some internships. This record is a useful mechanism that enables students to identify and keep connected with their own co-curricular development that aligns with the graduate profile. As employers indicated that highly desirable employees present with a well-rounded suite of experiences, the CCR facilitates students to be able to pro-actively respond to this. (Sampson et al., sub. 14, p. 2)

While many providers acknowledged the importance of transferable skills, some inquiry participants questioned whether tertiary education is equipping students with these skills:

Only about a quarter of employers believe recent graduates are well prepared in critical thinking and analytic reasoning, written and oral communication, complex problem solving, innovation and creativity, and applying knowledge and skills to real-world settings. (New Zealand Union of Students' Associations, sub. 19, p. 1)

Industry is increasingly asking for students to have 'soft skills' that represent their work ethic. The system has not responded to the flexibility, adaptability and entrepreneurship graduates currently need to survive in the 21st century work environment. (Victoria University of Wellington Students' Association, sub. 80, p. 9)

One way to gauge how transferable skills are incorporated into curricula is to examine the skills reflected in assessment techniques. Box 4.5 sets out the assessment techniques used in undergraduate political science and sociology courses at Victoria University of Wellington (VUW).

Box 4.5 **Assessment techniques, sociology and political science**

The College of Humanities and Social Sciences at Massey University notes the following:

Within the HSS [Humanities and Social Sciences] in New Zealand there is substantial everyday innovation to incorporate and leverage changes in technology, internationalisation, and a focus on non-cognitive/soft skills and employability. (sub. 27, p. 1)

A recent survey, conducted by the Careers and Employment service at Victoria University of Wellington (VUW), of employers who were recruiting between January 2013 and May 2015, supports the suggestion that transferable skills are important (Kusmierczyk & Medford, 2015). The 10 skills and attributes most valued by employers were:

- | | |
|--------------------------|-------------------------------------|
| 1. Work ethic | 2. Verbal communication skills |
| 3. Energy and enthusiasm | 4. Analytical and critical thinking |
| 5. Problem solving | 6. Teamwork |
| 7. Interpersonal skills | 8. Written communication skills |

9. Self-management

10. Initiative and enterprise

However, the assessment approaches used in the 12 undergraduate political science and sociology papers offered in 2015 at VUW focus heavily on written work (primarily essays), and on tests and exams. On average, these traditional forms of assessment accounted for 96% of total assessment in both disciplines. Assessment techniques clearly linked to verbal communication skills, interpersonal skills and teamwork were used very infrequently and accounted for a very small share of the total assessment (Table 4.1). Only one assessment involved a verbal presentation (accounting for 10% of the course total), and only one assessment was based on group work (accounting for 5% of the course total). All other assessments were completed individually.

Table 4.1 Assessment in 2015 undergraduate political science and sociology courses, VUW

Assessment technique	Political science		Sociology	
	Frequency used	Average weighting	Frequency used	Average weighting
Essay	19	49%	21	56%
Other written exercise	5 ¹	8%	8 ⁴	12%
Verbal presentation	0	0%	1	1%
Interpersonal exercise	5 ²	4%	4 ⁵	3%
Exam or test	12 ³	39%	10 ⁶	28%

Source: Victoria University of Wellington, 2016.

Notes:

1. Examples of “other written exercises” include a research proposal, literature review, and blog posts.
2. Interpersonal exercises were tutorial attendance, a peer review exercise, blog comments, and group work.
3. Seven assessments using a formal end-of-semester exam, and five take-home or in-class tests.
4. Examples of “other written exercises” include a research poster, a practical observation exercise and experiential essays.
5. Interpersonal exercises were tutorial attendance (used twice), an open space meeting, and a peer review exercise.
6. Four assessments using a formal end-of-semester exam, and six take-home or in-class tests.

It is not clear whether the predominately essay and exam-based approach to assessment that dominates undergraduate political science and sociology at Victoria University of Wellington is indicative of wider assessment practices in tertiary education disciplines that purport to equip students with transferable skills. Also, the assessment methods may not be a fair reflection of the full range of learning that sociology and political science students are exposed to. However, the predominance of written and exam-based assessment does indicate there is considerable scope for greater integration of transferable skills into at least some subject areas (if this is what those qualifications purport to deliver).

F4.5

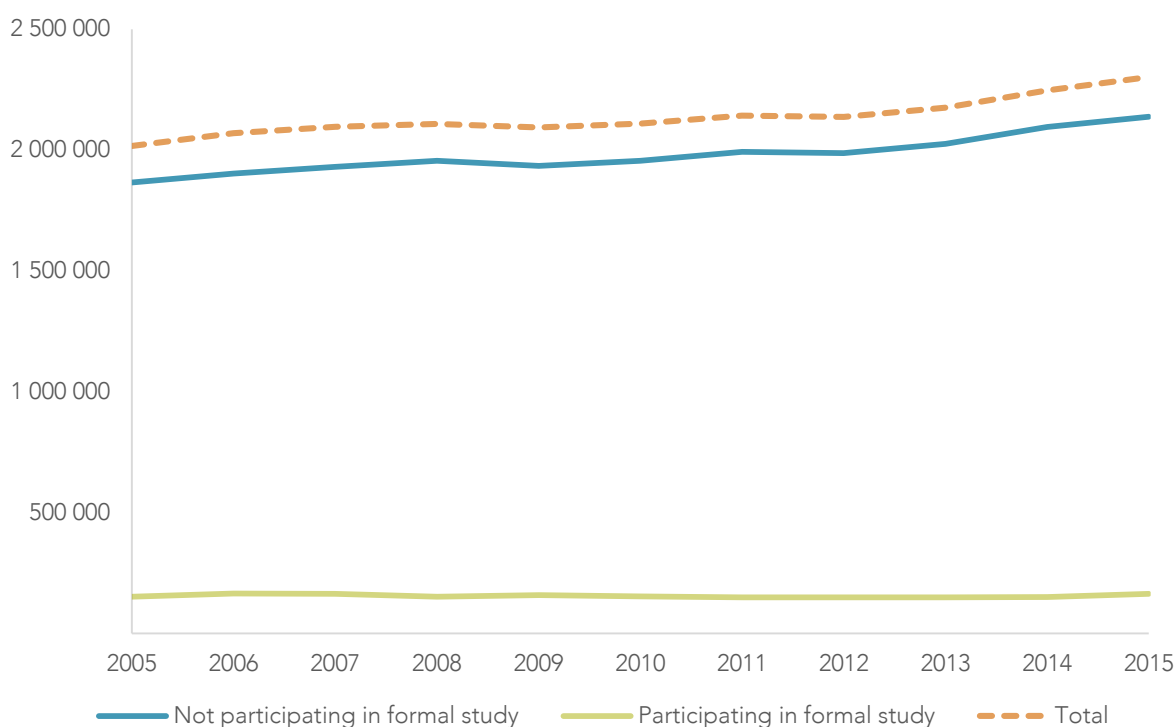
Tertiary education qualifications that equip graduates with transferable skills are desirable in that they retain their relevance in a changing job market. Several providers noted they are focusing on developing transferable skills; however, in some cases, these skills are poorly integrated into assessment processes.

4.5 In-work education and industry training

In most workplaces, workers gain skills and experiences on the job. This can include informal learning (such as learning from colleagues and learning by doing), or specific training programmes – including those delivered through the tertiary education system and fully-private professional development courses.

Figure 4.7 shows the study status of New Zealand's total labour force. Between 2005 and 2015, the number of people employed not participating in formal study has increased steadily from 1.86 million to 2.14 million. In contrast, the number of workers participating in formal study has remained relatively constant, fluctuating between 150 000 and 165 000.

Figure 4.7 Numbers employed in the labour force by formal study status, 2005–2015



Source: Statistics New Zealand, 2016a.

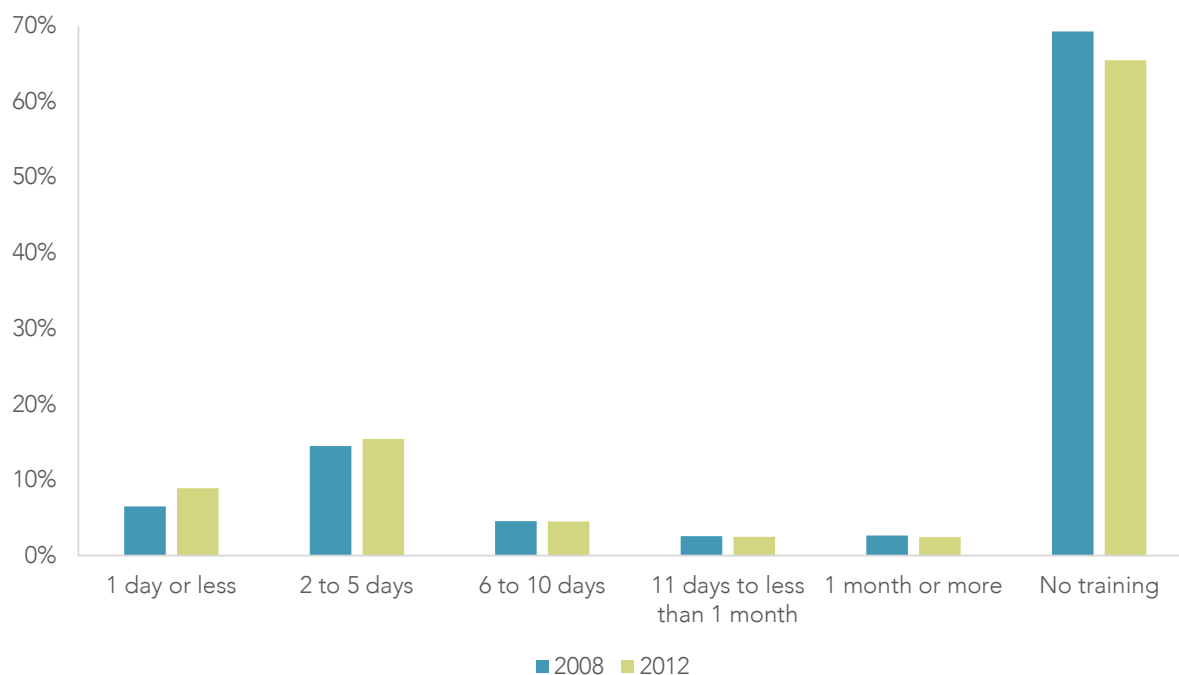
Notes:

1. To be participating in formal study, a person must be working towards a qualification that takes three or more months of full-time study (at least 20 hours per week) to complete.
2. The household labour force survey is reported quarterly. The figures shown here are the average for the four quarters in each calendar year.

The data shown in Figure 4.7 only shows whether or not an individual has participated in formal study – defined as study toward a qualification that would take three or more months of full-time study to complete – and hence excludes a range of other types of education and training. Figure 4.8 shows the results of a 2008 and 2012 survey of employees, which asked if they had done any training courses or education¹⁸ paid for by their employer (in part or in full) in the last 12 months. 31% of employees had received some training in 2008, and this increased to 34% in 2012. In both instances, the majority of education was for a duration of 10 or fewer days.

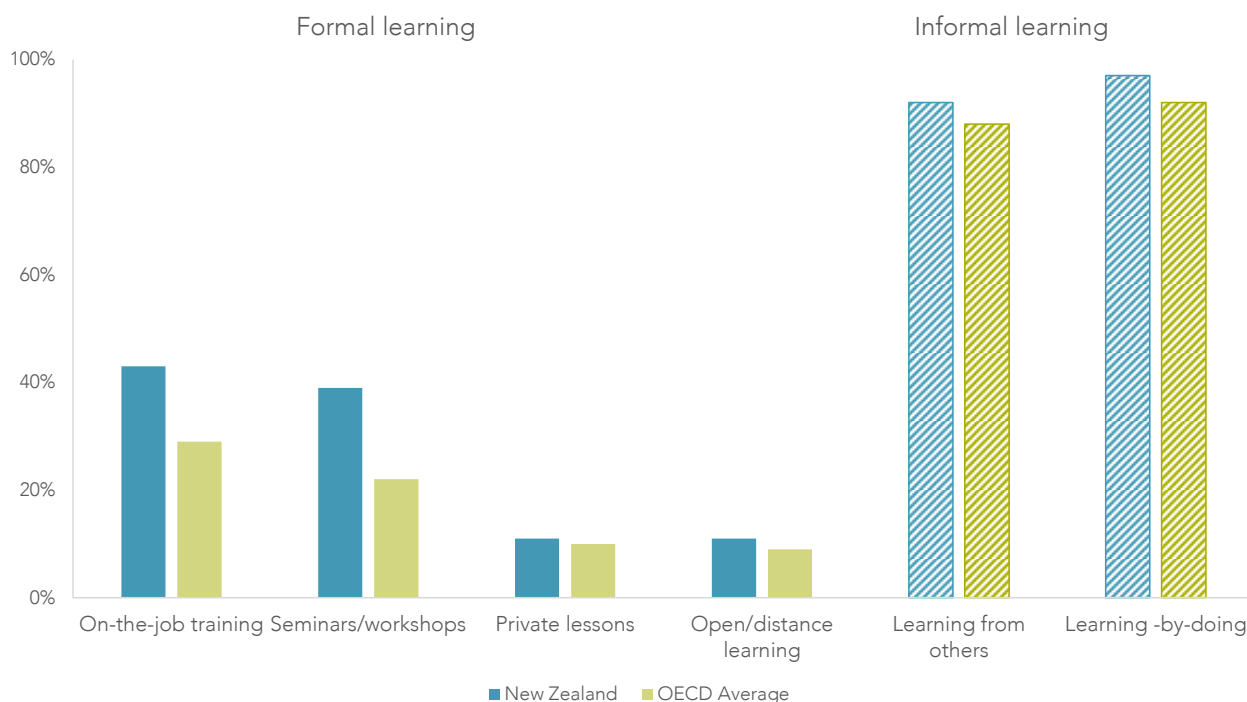
Analysis of the 2008 survey results identified that participation in employer-funded education was positively correlated with workers' levels of education, number of hours worked, length of tenure in the role, and employment in the public sector. Gender did not affect the likelihood of having participated in employer-funded education, and participation rates were lower for young (24 and under) and older (60 plus) workers (Barnes and Dixon, 2008).

¹⁸ The definition of education and training included training that was organised by the employer or an external training provider, conducted in-house or externally, and delivered by the company's own employees or external training providers. On-the-job training at an employee's desk or normal place of work was excluded, as was attendance at conferences.

Figure 4.8 Employer-funded education and training that employees receive, 2008; 2012

Source: Statistics New Zealand, 2008; 2012.

The OECD collects information about New Zealanders' participation in work-related learning. Participation in work-related learning exceeded the OECD average on all measures of formal and informal learning (Figure 4.9).

Figure 4.9 Participation in formal and informal learning

Source: MoE & MBIE, 2016a.

Industry training

The industry training system is a formalised approach to learning within the workplace that provides employees with training linked to the New Zealand Qualifications Framework. The Industry Training Federation notes that the close links between education and the labour market sets industry training apart from other forms of tertiary education in New Zealand:

Industry training is the part of the tertiary education system with the closest link to the labour market. Industry training happens in the workplace, with existing employees. The majority of the training is delivered on-job by knowledgeable and experienced staff members and managers, in real rather than simulated situations... Firms are intimately involved in both the creation of the content for the training, and the training itself. This enables them to evaluate and influence the 'education supply' first-hand, rather than being a passive recipient of this supply. (sub. 54, p. 4)

Industry training involves a mix of on-the-job training and off-job provision, usually delivered by ITPs or Private Training Establishments (PTEs). Around 140 000 trainees participated in industry training in 2014 (Chapter 3 contains an analysis of the types of trainees participating in the industry training system). Industry training can be broken into two broad categories: apprenticeships and traineeships.

Apprenticeships

Apprenticeships accounted for 26% of industry trainees in 2014. The main category of apprenticeship is the New Zealand Apprenticeship. It aims to enable learners of any age to become work-ready in an occupation or industry, including meeting any regulatory requirements for entry into an occupation. The apprentice must be employed in the occupation for which they are training, and must be supported by a training plan that is agreed by the apprentice, the employer, and the organisation arranging the training. All New Zealand Apprenticeships contain a strong theoretical component to support further learning, as well as a practical element, and result in (at least) a level 4 qualification (TEC, 2016a). New Zealand Apprenticeships have (from 2014) replaced the Modern Apprentice scheme, which was targeted specifically towards those aged 16 to 21 years.

There are two other types of apprenticeship. Industry training apprenticeships include those industry trainees not enrolled in the New Zealand Apprenticeship programme, but whose programme of study meets or exceeds the New Zealand Apprenticeship criteria. Managed Apprenticeships (discussed below) are funded primarily through Student Achievement Component (SAC) funding, not the industry training fund, and are administered by tertiary providers such as ITPs, with ITOs have little or no role in arranging training.

Traineeships

Traineeships are industry training programmes that do not meet the New Zealand Apprenticeship criteria. Traineeships accounted for 74% of industry trainees in 2014. Trainees are often involved in "short-burst, just-in-time skills acquisition training" (MoE, 2015a).

Industry Training Organisations

Eleven industry-owned ITOs oversee the industry training system under the Industry Training Act 1992. ITOs are required to undertake one or both of the following core activities:

- developing and maintaining skill standards to be listed on the Directory of Assessment Standards and used in the assessment of trainees; and
- developing and maintaining arrangements for the delivery of industry training that will enable trainees to achieve the relevant skill standards.

"Skills standards" are a specification of skills and a level of performance in skills. The Industry Training Federation (sub. 54) notes development of skill standards is undertaken in consultation with employers, industry associations and education providers in an effort to ensure training arranged by ITOs is relevant to the employer.

Since the 1992 establishment of the industry training system, the number of ITOs grew to 52 in 1996 (MoE, 2012). Subsequently, the subsector has consolidated significantly and there are currently 11 ITOs receiving TEC funding. Some concentrate on a relatively narrowly defined industry such as the Hair and Beauty ITO, and Skills Active Aotearoa Limited which represents the sports, fitness and recreation industry. Other ITOs are larger and cover multiples industries – such as Service Skills Institute, which represents tourism, travel, hospitality, museums, retail, aviation and wholesale goods operations. The Industry Training Federation notes that differences between ITOs and their industries results in different approaches to training:

There are... significant differences in business models and drivers among the industries they serve, so the models for arranging training and assessment can vary greatly. (sub. 45, p. 6)

MITO (the ITO for the automotive, transport, logistics, industrial textile fabrication and extractive industries) noted that close links between industry and ITOs are critical to the effectiveness of the industry training model.

The fact that ITOs would not exist if they didn't have the support of their industries is testament to the effectiveness of the model. Before an ITO is recognised under the Industry Training and Apprenticeships Act the Minister must take into account whether the organisation is, or will be, adequately funded by employers in the specified industry and whether the organisation has in place adequate arrangements for involving employers in the governance of the organisation. These matters ensure the ITO model is effective in meeting the needs of learners and employers. (sub. 53, p. 12)

Careerforce (the ITO for the health and wellbeing, youth work and cleaning industries) made a similar point, noting that ITOs deliberately match the supply and demand for skills.

A unique strength of the existing industry training model is that it strongly matches skills to employer demand. Careerforce sees industry training and ITOs as a bridge or nexus between tertiary education and employers, therefore mitigating the risk of disconnect between stakeholder expectations and realities. (sub. 56, p. 5)

Funding for industry training

Funding arrangements for industry training are split between industry and government. The sharing of costs between government and industry is intended to reflect an expectation that both parties gain from industry training.

Society as a whole benefits from having a skilled labour force which is able to work productively and efficiently, and industry also benefits from increasing the pool of skilled labour, which in turn helps lower the direct cost to employers of employing skilled labour. (Mahoney, 2012, p. 4)

Government contributions

The Industry Training Fund is the government's main funding contribution to industry training. The available funding is set through the government's annual budget process, and the Ministry of Education develops a funding mechanism setting out conditions on how the fund can be used. Funding is allocated through the investment plan process (Chapter 5). Funding is calculated based on the anticipated number of standard training measures¹⁹ (STMs) that an ITO or eligible organisation intends to deliver, with a different rate for industry training and apprenticeship training (Table 4.2). ITOs then purchase services from contracted providers, workplace-based trainers, and assessment staff who assess skills in the workplace (Mahoney, 2012). In 2015, TEC allocated \$167 million through the Industry Training Fund.

Table 4.2 Industry training funding rates, 2016

	ITO	Direct Funding Scheme organisations
Industry training	\$3 200	\$2 880
New Zealand Apprenticeship	\$5 200	\$4 680

Source: TEC, 2016a.

The Ministry of Education (2012) sets out the following rationale for government funding of industry training.

- The practical skills of many occupations are most effectively gained on the job. Industry training utilises employers' capital and equipment, which may be more efficient for government than investing in replicating similar education in tertiary providers.
- Industry training incentivises the credentialisation of practical skills, increases labour market flexibility for employees, and reduces transaction costs for employers making hiring decisions.

¹⁹ An STM is defined as the amount of training that is required for a trainee to achieve 120 credits (or equivalent) on the New Zealand Qualifications Framework in an approved structured training programme.

- Education in the workforce reaches people who may be unlikely to enrol at tertiary providers, and takes place in a familiar setting. It therefore may provide an opportunity for educational achievement for people who had limited success in secondary school or other forms of tertiary education.

In addition, many of the arguments for government funding of industry training, such as the benefits of a more highly skilled workforce and the fact that higher education levels are associated with improved health and social outcomes, are the same as those for funding other types of tertiary education (MoE, 2012).

Industry contributions

ITOs are expected to receive cash contributions from the industries they represent. The value of this contribution is expected to be at least 30% of the cost of traineeships, and 20% of the cost of apprenticeships (Mahoney, 2015). For example, MITO charges an annual training fee for each year of an apprenticeship, which covers all training and assessment costs including off-job training, visits and support from an industry training advisor, and study materials. This fee is charged to the employer, who may either cover all or part of the costs, or they may recover the costs through deductions from the apprentice's salary (MITO, 2016).

Restrictions on industry training provision

The funding mechanism for the Industry Training Fund states that the purpose of the fund is to subsidise training, predominantly at levels 1 to 4 on the New Zealand Qualifications Framework. TEC may allow ITOs to spend up to 10% of their industry training funding at level 5 and above.

The government rationale for funding industry training (set out above) provides no compelling reasons why provision should be restricted to levels 1 to 4. It has been noted that industry training may provide a particularly valuable educational pathway for people who had limited success in secondary school or other forms of tertiary education. While this may be the case, 32%²⁰ of industry trainees in 2014 already held a qualification at level 4 or higher, indicating industry training is valued by people from a range of educational backgrounds.

Many inquiry participants anticipated that the increasing speed of technological progress will result in growing demand for upskilling and on-the-job training (Chapter 10). If this trend does materialise, the responsiveness of the industry training system would be limited. In addition, the restriction on higher-level industry training is limiting the ability of the tertiary system to adopt new models, such as degree apprenticeships. Degree apprenticeships have recently been developed in the United Kingdom and Singapore (chapter 11). Competenz submitted that industry training should be expanded beyond level 4, and ITOs should have the opportunity to develop advanced apprenticeships:

We also believe ITOs should have the opportunity to explore the development of advanced apprenticeships within their industries at levels 5 to 7. The recent work through the Engineering E2E initiative ... identify Apprenticeships as a valid and high quality model for delivering higher level qualifications. International research from the UK and US also support this as a highly regarded pathway. ITOs specialise in apprenticeship delivery; the expansion of this beyond level 4 is a natural progression. (sub. 45, p. 4)

F4.6

Funding for industry training is predominantly restricted to provision at levels 1 to 4 on the NZQF. This limits the ability of the industry training subsector to respond to demand for higher-level training, and inhibits the adoption of new models such as degree apprenticeships.

New approaches to industry training

Until recently, all industry training was facilitated by ITOs. However, a new approach known as the Direct Funding Scheme was introduced in 2014 which allowed employers to apply directly for access to the industry training fund (Box 4.6).

²⁰ This figure is based on those trainees for whom prior qualification data was available – for 20% of industry trainees the previous qualification was not specified.

Box 4.6 Direct Funding Scheme

The Direct Funding Scheme (the scheme) for industry training was incrementally introduced from 2014. The scheme allows for employers or consortia of employers (with at least 40 trainees) to apply for direct access to industry training funding without the need for facilitation by an ITO. Funding granted through the scheme comes with the same obligations and requirements as funding granted to ITOs.

The scheme aims to improve educational participation and achievement, as well as drive performance and innovation, by encouraging competition in the provision of industry training.

The anticipated benefits of this approach for employers are that they can:

- organise training themselves to suit their business needs;
- use innovative approaches to training;
- deal directly with education providers; and
- reduce the transaction costs associated with training.

In the first two years, participation was limited to four organisations that TEC selected through a tendering process, and available funding was limited to \$10 million. TEC conducted an initial evaluation of the scheme which identified a range of issues, including:

- a lack of tailored support from TEC for employers through the application process;
- a lack of flexibility around numbers of trainees and what funding can be used for; and
- significant costs of reporting training information to TEC and complex funding and accountability requirements.

TEC is currently “considering how the scheme might operate more effectively”, and is not accepting any new applications to the scheme until any changes (in response to the evaluation findings) are finalised.

Source: TEC, 2016b; 2015m.

The Managed Apprenticeship system

The main differences between Managed Apprenticeships and New Zealand Apprenticeships are that the former are administered by ITPs and are eligible for SAC funding. As with ITO-administered apprenticeships, Managed Apprenticeships involve a significant amount of on-the-job training. However, because ITPs are registered training providers they can deliver the off-job training requirements and may also be involved in producing materials for use in workplace-based training (Mahoney, 2015).

Between 2003 and 2013, 13 ITPs offered Managed Apprenticeships in automotive engineering, carpentry, and plumbing and gas fitting. A feature of the managed apprenticeship system is that providers are eligible for SAC funding rates. These funding rates are significantly greater than those available through the Industry Training Fund (Table 4.3).

Table 4.3 SAC funding and industry training funding for apprenticeships, 2014

	SAC funding per EFTS (Managed Apprenticeship)	Industry training funding per STM (New Zealand Apprenticeship)
Automotive engineering	\$9 724	\$5 200
Carpentry	\$9 856	\$5 200
Plumbing and gas fitting	\$9 821	\$5 200

Source: Mahoney, 2015.

Notes:

1. STM refers to a standard training measure, and is the industry training equivalent of an EFTS.

In addition, learners enrolled in Managed Apprenticeships are eligible to apply for student loans and allowances, whereas these supports are not available for trainees completing a New Zealand Apprenticeship. Several inquiry participants, including MITO (Box 4.7), raised concerns about the lack of consistency in funding rates and student support availability.

Box 4.7 Extract from MITO submission: study to become a qualified automotive technician

In its submission, MITO provided an example of the different funding, fee and student support arrangements between apprenticeships delivered through an ITP or ITO. The example is based on a learner in full-time employment studying to become a qualified automotive technician²¹, and compares the arrangements for ITO delivery with the offerings of two ITPs:

Comparative information tabled below shows these [two] ITPs receive \$32,964 from the government for a "course where delivery is comparable to industry training" and the ITO receives up to \$17,248 from the government for the same training. Further, the ITP is able to compress the course duration as there is no cap on annual funding, and the students enrolled with the ITP are able to apply for a student loan; a benefit not available to an ITO apprentice. Student loans can be used to purchase tools needed for the on-the-job practical training; ITO apprentices have to fund these themselves.

	ITO	ITP "A"	ITP "B"
Fund	Industry Training Fund (ITF) for provision of a New Zealand Apprenticeship programme.	Student Achievement Component (SAC) funding for provision at level 3 and above.	
Funding rate	New Zealand Apprenticeship Standard Training Measure (STM) rate: 1 STM = \$5 200	Equivalent full-time student (EFTS) at the SAC rate for courses that fit within the course classification Vocational Training for Industry funding category P1 (trades): 1 EFTS = \$9 938	
Total government contribution	3.317 STMs = \$17 248	3.317EFTS = \$32 964	
Duration	Funding from the ITF is limited for each apprentice up to a maximum 70 credits per year. For this programme this equates to a total duration of 5.75 years. In reality apprentices complete in less time than this, so the ITO receives less government funding (a maximum of \$3 000 per year the learner is enrolled).	Advertised as taking approximately 120 weeks part-time over 3 years.	Advertised as taking up to 4 years of part-time study.

²¹ The learners in this example would be enrolled in a programme leading towards the National Certificates in Motor Industry (Automotive Electrical and Mechanical Engineering) with a strand in Light Vehicle (level 3 & 4) [NZQA Ref: 1421 & 1422]. The level 3 qualification is a pre-requisite for the level 4 qualification; together they are 398 credits.

Annual government contribution, based on durations above	\$3 000	\$10 988	\$8 241
Employer cash contribution	Expected. A condition of the ITF is that the TEO must ensure that all employers of industry trainees or apprentices who are enrolled with the TEO make a financial contribution towards the cost of each industry trainee's or apprentice's training. For MITO this contribution takes the form of an annual training fee payable to the employer.		There is no requirement for the employer to contribute to the cost of training.
Eligible for student allowances and student loan?	No	If a course is approved as eligible for SAC funding, students enrolled in the course may be eligible for the Student Loan Scheme.	

If there was a common framework (i.e. a level playing field) for all industry training that covered training of learners in employment this would encourage enhanced strategic relations between subsectors, rather than competition based on differentiated funding rates and funding conditions.

Source: MITO, sub. 53, pp. 7–8.

Despite the higher rate of government subsidy, and the availability of student loans and allowances, the qualification completion rates for Managed Apprenticeships are slightly lower than those for New Zealand Apprenticeships (Table 4.4). These completion rates, combined with the higher subsidy rates for managed apprenticeships, result in much higher costs to government for each apprenticeship completion, irrespective of whether subsidies for non-completers are included or excluded (Figure 4.10).

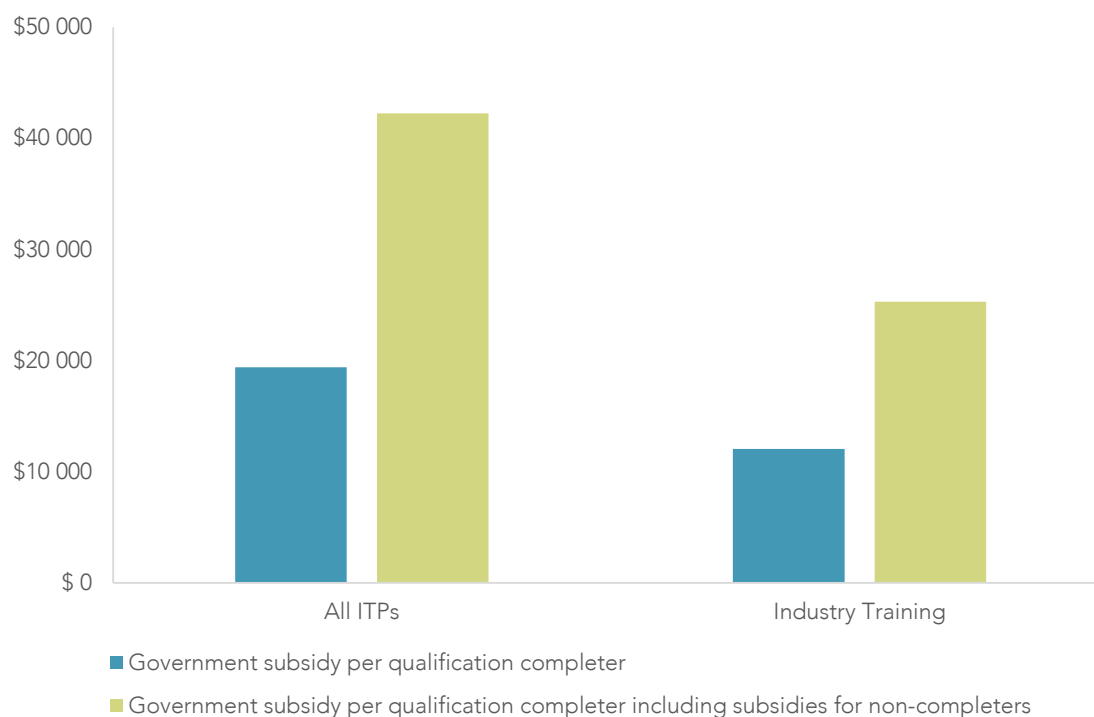
Table 4.4 Five-year qualification completion rates for apprenticeships

Broad field of study	5 year qualification completion rate	
	ITPs (Managed Apprenticeship)	ITO (New Zealand Apprenticeship)
Automotive	32%	45%
Carpentry	38%	44%
Plumbing and gas fitting	43%	42%
All	38%	44%

Source: Mahoney, 2015.

Notes:

1. Completion rates are based on blended cohorts of people starting apprenticeships between 2005 and 2008.

Figure 4.10 Government funding per apprenticeship completion

Source: Mahoney, 2015.

F4.7

The government funding rate for apprenticeships differs markedly, depending on whether apprenticeships are administered by an ITO or an ITP. The rationale for this difference is unclear.

4.6 Retraining and between-work education

Many inquiry participants suggested that retraining for mid-career workers will occupy an increasing share of tertiary education provision in the coming years, as technological advancements create the need for new types of skills and certain occupations become obsolete.

As routine tasks are automated and work becomes more flexible and dynamic, the importance of creativity, soft skills and cross-cultural competencies grows. Even if these changes are half as radical and widespread as some experts predict, large numbers of people could need to refresh their skills frequently to remain employable. Some of these people will be looking ... for 'just-in-time' provision aimed at giving them the skills they need to get back into the workforce as quickly as possible. (TEC, sub. 2, p. 3)

In the future people in late middle age will need to re-train for new jobs because of technological changes and as people work longer if the retirement age moves into the 70's. While many workplaces will be prepared to invest in staff capability ... in the future this will become a personal responsibility. (Victoria University of Wellington Centre for Lifelong Learning, sub. 39, p. 2)

The University of Otago notes it is already familiar with developing and delivering programmes that explicitly address retraining and upskilling:

More substantial upskilling will likely see increased demand for the types of courses and programmes many universities – Otago included – already offer. These typically comprise a mix of non-credit and credit-bearing courses that sit under the general umbrella of executive education, and specialist qualifications – typically at the postgraduate coursework level. This has been targeted as an area for development and growth by Otago for some years. (University of Otago, sub. 37, p. 38)

While mid-career retraining is anticipated to become increasingly prevalent in future, data about students enrolled in 2014 suggests this form of study has declined in recent years. As set out in Chapter 3, the share of EFTS in employment prior to entering tertiary education has declined from 37% in 2007 to 31% in 2015.

Despite this decline, being in employment was still the most common activity prior to study when measured as a share of student numbers (40%), and the second most common prior activity in terms of EFTS (31%) behind secondary school education (39%).

The Household Labour Force Survey records the number unemployed based on their study status (Figure 4.11). The number of unemployed people who participate in formal study increased sharply in 2008; however, this largely reflects an increase in the total number unemployed. The share of all unemployed people who are participating in formal study has remained relatively constant at around 15% between 2005 and 2015.

Figure 4.11 Numbers unemployed in the labour force by formal study status, 2005–2015



Source: Statistics New Zealand, 2016a.

Notes:

1. To be participating in formal study, a person must be working towards a qualification that takes three or more months of full-time study (at least 20 hours per week) to complete.
2. The Household Labour Force Survey is reported quarterly. The figures shown here are the average for the four quarters in each calendar year.

Barriers to retraining

There are several funding and regulatory settings for tertiary education that affect the ability of providers to respond to demand for retraining.

A focus on qualification completions and younger learners

Chapter 5 provides an overview of the tertiary funding system and finds the current system includes tight specifications on the type of provision that can be offered, including a requirement that students be enrolled in a qualification, and restrictions on the provision of short courses or micro credentials. Chapter 3 concluded that, in recent years, students in New Zealand have become more likely to be engaged in a “traditional” conception of tertiary education: the average student is becoming younger; the share of full-year, full-time study is increasing; and the share of intramural (on campus) study is increasing.

One consequence of these two phenomena is tertiary providers may be less inclined or able to cater for the predicted increase in demand for retraining and mid-career study. For example, the Industry Training Federation notes that a full qualification can be important for students who enter the tertiary system directly from secondary school, but that “this value becomes less clear for mid- and late-career workers, particularly those who already hold an entry-level qualification... many employers and students want the portability and flexibility of short, targeted training” (Industry Training Federation, sub. 54, p. 2).

Limits on student support

The New Zealand Union of Students' Associations (NZUSA) argues that restrictions on access to the student support system are a barrier to those seeking to retrain or enter tertiary education later in life:

NZUSA believes that education is necessary life-long process. With a rapidly changing employment market students will need to reskill and retrain so they are able to make meaningful contributions towards society. There are many late-in-life learners, or those needing up retrain after redundancies or change in life circumstance. These people need to be able to access tertiary education but have limited access due to Studylink restrictions. Without the opportunity to access tertiary education throughout their life they will have restricted access to quality employment and their opportunity to contribute meaningfully to society will be restricted. (NZUSA, sub, 19, p. 6)

Table 4.5 shows a selection of changes to the student support system in recent years. Some changes are likely to affect those seeking to retrain or enter tertiary education later in life. For example, if somebody over the age of 40 had already completed a Bachelor's degree over three years with support from the student allowance scheme, they would likely have used close to the 120 week life-time limit. This would mean they would not be eligible for a student allowance if they sought to retrain.

Table 4.5 Selected changes to the student support system, 2010–2014

Year	Changes to student allowances	Changes to the Student Loan Scheme
2010		7-EFTS life-time limit introduced to borrowing entitlement. ¹
2011	Exceptions to the 200-week limit on student allowances removed. ²	
2012		Part-time full-year students are no longer able to borrow through the Student Loan Scheme for course-related costs.
2013	Student allowance eligibility removed for postgraduate certificates or diplomas, masters and doctorates.	Student loan access for people aged 55 years and over is restricted to compulsory fees only. Borrowers who have overdue payments amounting to \$500 or more and who have been in default for one or more years are not eligible to access new borrowing from the Student Loan Scheme.
2014	The student allowance life-time limit reduced to 120 weeks for those aged 40 and over. Student allowance eligibility was removed for those aged 65 years and over.	

Source: MoE, 2016c.

Notes:

1. Possible additional entitlements allow up to an overall maximum of 10 EFTS units to support higher level study.
2. Tertiary transition courses were previously not counted toward the 200-week limit. And prior to 2011, the Chief Executive of the Ministry of Social Development was able to grant an exemption to the 200-week life-time limit.

Recognition of prior learning

Recognition of prior learning (RPL) (or "recognition of current competency", or "recognition, validation and accreditation" or one of a number of other labels), involves assessing what an incoming learner already knows and can do, and providing them with credit toward a qualification on that basis. Learners wanting to take advantage of RPL are often people with workplace experience and vocational expertise, whose lack of qualification is a barrier to career advancement or further study.

Several inquiry participants anticipated greater demand for RPL in the future, and questioned whether New Zealand's tertiary system is well-equipped to meet this demand (for example, the New Zealand Union of Students' Associations, sub. 19; ACG Tertiary and Careers Group, sub. 84). Ako Aotearoa suggests

technological changes are likely to increase the demand for upskilling and re-credentialing, and notes this will require:

... changes to government policy settings in areas such as financial support, funding rules, TES priorities etc., to ensure that the system is accessible for and evaluates its performance with regard to older learners. This also suggests that our system will also need to pay more attention to Recognition of Prior Learning (RPL), both in terms of TEO approaches to RPL and how funding and regulation creates barriers or incentives for TEOs in this regard. (Ako Aotearoa, sub. 58, p. 21)

NZITP and Metro Group note there are “a number of areas where the current accreditation, recognition, and funding systems are not as flexible as wished” and that “recognition of prior learning is not funded despite being hugely desirable for thousands of learners” (sub. 42, p. 6).

Although RPL is not funded by TEC, many tertiary providers do offer programmes of RPL. In most cases, students’ prior learning is assessed through an examination or submission of a portfolio of relevant work. If the prior learning meets assessment standards, students are awarded a certain amount of credit toward their qualification. In most cases, the amount of credit that can be obtained through RPL is capped. For example, at Massey University, the maximum credit from RPL towards an undergraduate degree is 120 credits (out of a total of 360), and these credits can only be at 100- or 200- level (Massey University, 2016). Southern Institute of Technology also limits RPL to one third of a programme’s total credit (SIT, 2016). The University of Otago limits RPL credits to nine first-year courses (University of Otago, 2016).

The fees associated with this type of RPL vary; however, they are typically significantly lower than the course for which RPL is a substitute. For example, students applying for RPL at Whitireia Community Polytechnic are required to pay an application fee of \$50. If they are granted the RPL, they are charged 15% of each paper/course/module or unit standard approved (Whitireia, 2016).

Some tertiary providers, such as Otago Polytechnic, have developed their RPL processes further and offer full qualifications based primarily on RPL (Chapter 11).

F4.8

Current funding and regulatory settings for tertiary education that focus on younger, full-time learners completing full qualifications, the design of the student support system, and funding rules that make recognition of prior learning difficult, all present barriers to mid-career retraining.

4.7 Conclusion

Tertiary education is an important source of skills for employers. However, there is some evidence that the current tertiary system does not always prepare students well for employment. While tertiary providers believe that they do a good job in preparing students for employment, this view is not always shared by employers or students.

There is also evidence that the current tertiary system performs relatively poorly in terms of producing a mix of skills that are well-matched to the needs of employers. Compared with other OECD countries, workers’ qualifications and fields of study are poorly matched to the roles they hold. This calls into question the effectiveness of the current centrally-managed approach to the allocation of resources in the tertiary system.

There are long-held concerns about the level of coordination between the tertiary education sector and employers. There are a range of mechanisms built into the quality assurance system that seek to improve coordination between tertiary providers and employers, and many tertiary providers supplement these with additional engagement approaches. Despite these mechanisms, engagement between the tertiary system and employers does not always occur in a meaningful way. This reflects underlying incentives in the system that encourage providers to respond to their primary funder – government. The incentive for employers to engage with tertiary providers may be muted by the relative ease of access to skilled migrants.

Government has established various initiatives that seek to improve the links between tertiary education providers and employers. These initiatives are targeted toward specific parts of the tertiary system, often require additional government funding, and can come with high administrative costs.

Transferable skills are important, particularly if young students are undertaking a lengthy qualification in the hope this will serve them well over the remainder of their working life and beyond. Several providers noted they are focusing on developing transferable skills. However, in some cases, these skills are poorly integrated into assessment processes.

In-work training is an important part of the tertiary system – it enables employed people to upskill in order to keep pace with the changing nature of employment, and to gain qualifications. The industry training system is a formalised approach to learning within the workplace. Industry training is overseen and arranged by 11 Industry Training Organisations (ITOs), involves a mix of on-the-job training and off-job provision and includes apprenticeships and shorter bursts of training. The design of the industry training system encourages close links between ITOs and employers, and unlike other forms of tertiary education, industry training is part-funded by industry. Funding for industry training is limited predominantly to provision at levels 1 to 4 on the New Zealand Qualifications Framework. This limits the ability of the industry training subsector to respond to demand for higher-level training, and inhibits the adoption of new models.

Many inquiry participants suggested that retraining for mid-career workers will occupy an increasing share of tertiary education provision in coming years, as technological advancements create the need for new types of skills and certain occupations become obsolete. However, some features of the current funding and regulatory settings create potential barriers to such training. These include a focus on younger, full-time learners completing full qualifications, the design of the student support system, and funding rules that make recognition of prior learning difficult.

5 Government's many roles

Key points

- Government performs many roles in the New Zealand tertiary education system through a complex array of government agencies.
- Government's involvement in the tertiary system significantly subsidises provision, but also limits flexibility and responsiveness in the system through a set of prescriptive rules that dictate the nature, volume and location of delivery.
- Government seeks to set the overall direction of the tertiary system with the Tertiary Education Strategy (TES). But because funding decisions are the primary driver of behaviour in the system the effectiveness of the strategy is limited if it is not congruent with funding decisions.
- A large share of government expenditure on tertiary education is directed toward students through student loans and allowances. The fiscal cost associated with student support is an important driver of other tertiary policy settings, such as the cap on total enrolments.
- Government subsidies paid to tertiary providers are formulated into numerous different funds, each with a set of tight specifications. The rules and specifications attached to funds limit the ability of tertiary providers to develop new or innovative offerings. Funding models, such as Performance-Linked Funding, have served to reinforce this rigidity.
- Tertiary providers apply for government funding through an investment plan process whereby they forecast their volume and mix of provision. Once an investment plan has been approved, there are limited opportunities to adjust delivery in response to changes in student demand, and providers must adhere to detailed monitoring and reporting requirements.
- Because the total number of domestic student places in the tertiary system is capped, and the proportion of total government funding that shifts between different providers year-to-year is small, there is little scope for high-performing providers to grow at the expense of poor performers.
- Government regulates the fees providers charge by placing a limit on increases to fees for existing programmes, and by requiring that fees for newly developed programmes are comparable to those of existing programmes. This significantly limits the amount of differentiation possible within the system.
- As the agency responsible for quality assurance in the non-university tertiary sector, the New Zealand Qualifications Authority (NZQA) administers a registration process for new entrants, accreditation processes and approval processes for new programmes and qualifications. The costly and protracted nature of these processes can be a barrier to innovation in the system.
- Quality assurance in the university subsector, which is largely delegated to Universities New Zealand, is also characterised by slow timeframes for the approval of new degrees, and focuses primarily on processes rather than student outcomes.
- In the event that an Institute of Technology and Polytechnic (ITP), wānanga or university is disestablished, government, although technically not an owner, is legally liable for all of the organisation's debts, liabilities and obligations. This arrangement creates an unusual allocation of risk and encourages government to closely monitor these organisations' financial performance.
- Several government agencies are responsible for gathering and publishing information about tertiary education and careers options for students and employers. Government also plays a role in the promotion of New Zealand as a destination for international students.

5.1 Government involvement in the tertiary system

As described in Chapters 2 and 3, students accrue a wide range of benefits from investments in tertiary education, most evidently through improved employment prospects and higher future earnings. In addition to the benefits accrued by the individual, tertiary education is also generally accepted to bring a range of benefits for society as a whole. These include contributions to national economic growth through developing workers' knowledge and skills, along with non-financial social benefits such as contributions to democracy and civic society, the reduction of crime and poverty, and the creation and dissemination of new knowledge (Chapter 2).

Government's involvement in the tertiary system seeks to capture these public benefits by ensuring a substantial proportion of the population receives a good quality education. Individuals should not be prevented from accessing tertiary education because of financial barriers. Government support, including through the availability of income-contingent student loans, is an important mechanism to enable access for those who could not otherwise afford it.

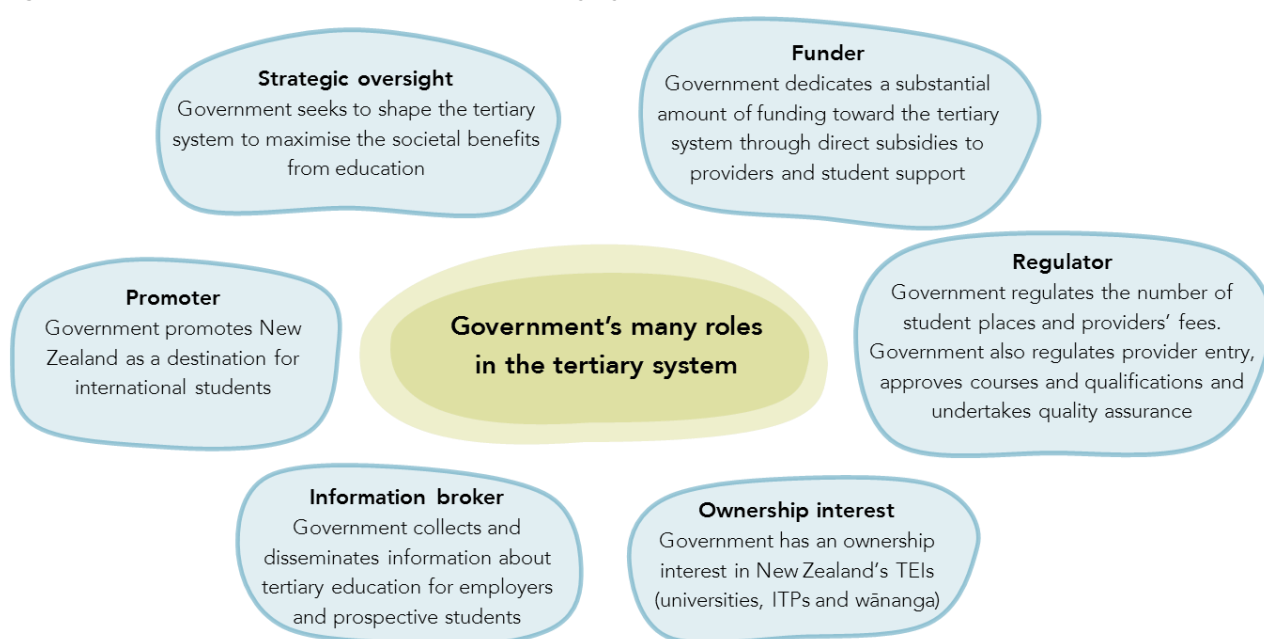
The way New Zealand governments have approached their involvement in the tertiary system has evolved and changed over time. Crawford (2016) suggests that since the late 1980s, there have been two significant shifts in government's approach to tertiary education and six rounds of reform. These reforms resulted in many changes to the system including:

- the enactment of the Education Act 1989 which sets the framework for all tertiary education;
- creation of the Student Loan Scheme (SLS) in 1992;
- introduction of demand-driven funding in 1999 and a return to a capped funding environment in 2006;
- establishment of the Tertiary Education Commission (TEC) in 2003 as the agency responsible for allocating government funding among tertiary providers; and
- publication of provider performance data and the introduction of Performance-Linked Funding from 2010.

Government's current roles in the tertiary system

Under current government settings in New Zealand, government's involvement in the tertiary system plays out in many different ways, and involves a range of government agencies. The main functions that government performs are set out in Figure 5.1.

Figure 5.1 Government's roles in the tertiary system



The roles played by government seek to address a number of problems that may prevent the tertiary system from working as efficiently as it could. For example, as an information broker, government seeks to address information asymmetries, such as those between prospective students (who have less information about the quality and relevance of different education options) and tertiary providers.

Another explanation for government's wide-ranging involvement in the tertiary system stems from the various different groups with an interest in the tertiary sector, including employers, students and their families, taxpayers, and tertiary providers and their staff. These groups all lobby government in relation to different incentives, aspirations and demands. Frequently, this requires government to balance different priorities and interests.

While government involvement in the tertiary system appears omnipresent, there are some areas of the system where government is less involved. One example of this is the provisions in the Education Act 1989 regarding academic freedom for tertiary institutions, and universities' role as critic and conscience of society. Academic freedom is defined in the Education Act 1989 (s 162) as the freedom of academic staff and students "to question and test received wisdom, to put forward new ideas and to state controversial or unpopular opinions". Universities are specifically asked to play a role as critic and conscience of society in recognition that freedom to publish ideas and conclusions without fear of retribution or persecution can help to enrich societal debates, encourage reflection and critical thinking within society, and facilitate an ongoing discussion about how society could be improved (Ambury, 2004).

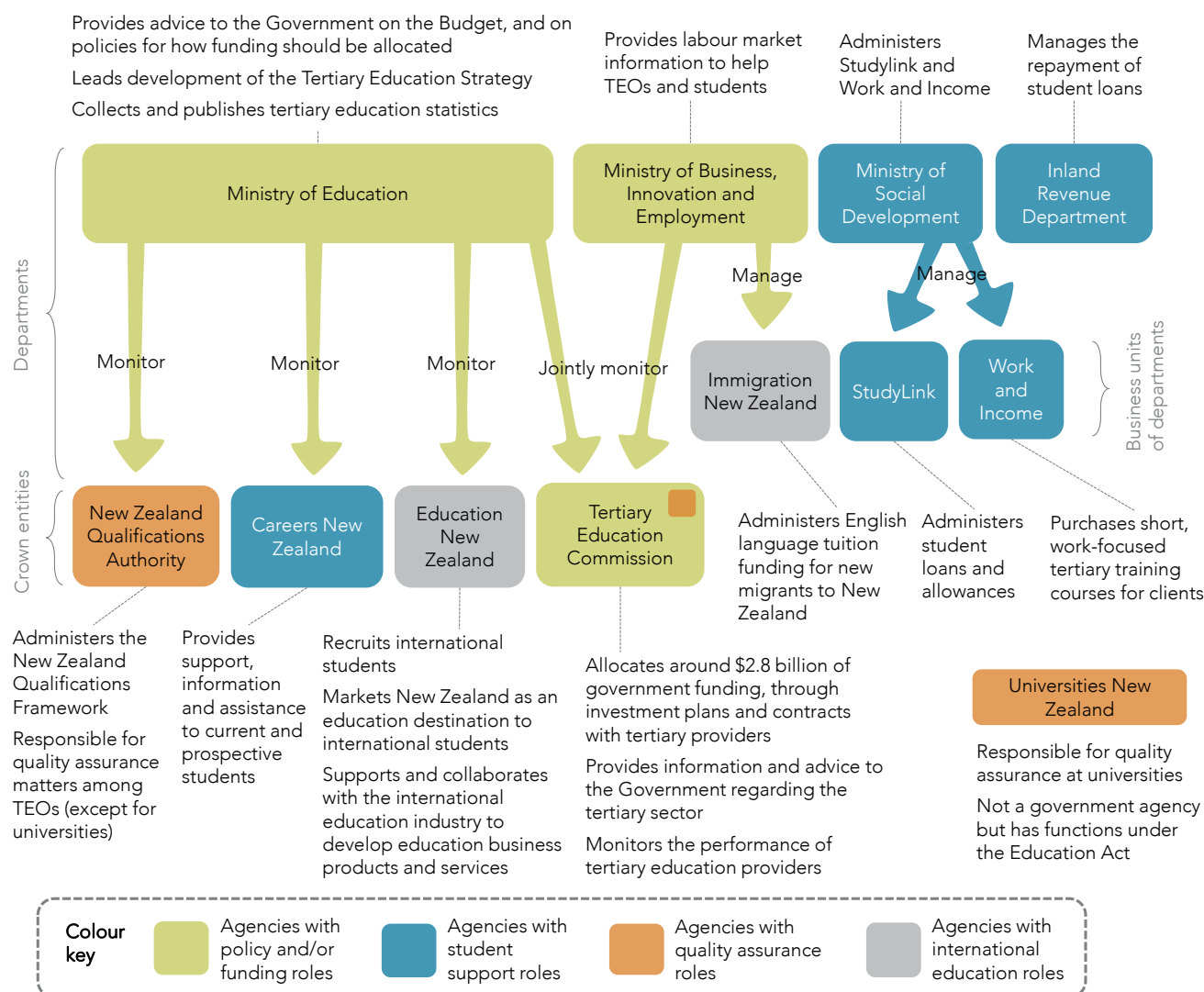
In addition, there is scope for fully private businesses to deliver education, such as professional development programmes, that is totally separate from the tertiary system that government funds and regulates. While these businesses can operate with relative freedom, they are not eligible for TEC funding, are not able to deliver qualifications on the New Zealand Qualifications Framework (NZQF), and are not able to enrol international students.

Current architecture

To fulfil the various roles government plays within the tertiary sector, it has created a complex architecture of agencies that includes:

- four government departments reporting directly to ministers;
- four Crown agents reporting to boards (whose members are appointed by the responsible minister); and
- one statutory body, Universities New Zealand, with specific functions relating to universities.

The roles and relationships between the agencies involved in the tertiary system are set out in Figure 5.2. The nature and design of government architecture surrounding the tertiary system are not fixed – agencies have been created and disestablished over the years, and functions and responsibilities have moved between agencies over time.

Figure 5.2 Government agencies involved in the tertiary education system

Notes:

1. Careers New Zealand will merge with TEC in early 2017.

5.2 Strategic oversight

The Tertiary Education Strategy

The Education Act 1989 sets out the framework for tertiary policy, funding and governance. It identifies the Ministry of Education (MoE) as the principal policy advisor on tertiary education matters. The Education Act 1989 requires that the Minister for Tertiary Education, Skills and Employment periodically releases a Tertiary Education Strategy (TES) setting out government's long-term strategic direction for tertiary education, and the short- and medium-term priorities for the system. The Act states that the part of the strategy that sets out the long-term direction for tertiary education must address economic, social and environmental goals, as well as the development aspirations of Māori and other population groups. TEC and NZQA must both take account of the TES when exercising their respective roles. Tertiary education organisations (TEOs) are required, through the investment plan process (section 5.5), to demonstrate how they will respond to the priorities in the TES.

New Zealand's legislative requirement that a strategy be prepared at reasonably regular intervals is distinctive from an international perspective. Other countries tend to have less formalised processes, and instead derive strategic direction from periodic policy reviews of their tertiary education systems. For example, since the late 1980s, there have been seven major reviews of the Australian higher education sector (Department of Education and Training, 2015).

New Zealand's current TES includes six priorities. These are:

- delivering skills for industry;
- getting at-risk young people into a career;
- boosting achievement of Māori and Pasifika;
- improving adult literacy and numeracy;
- strengthening research-based institutions; and
- growing international linkages.

Attached to each of the priorities are "indicators of success". Some indicators include specific quantifiable targets. For example, success indicators for the priority to get at-risk young people into a career include 85% of 18-year-olds achieving NCEA level 2 or an equivalent qualification, and 55% of 25-34-year-olds having a qualification at level 4 and above. However, other indicators refer only to vague descriptions of desirable outcomes. For example, an indicator of success for the priority to deliver skills for industry is "better employment outcomes for graduates" (MoE & MBIE, 2014, p. 10).

Another potential issue related to the composition of the TES's indicators is that some are poorly defined and appear difficult to measure. An example can be seen in one of the indicators for the priority to deliver skills for industry: "Investments in education (by students, employers and Government) make use of good information about employment outcomes" (MoE & MBIE, 2014, p. 10). The TES does not specify what constitutes good use of information, nor is it clear how the use of information might be measured.

The Ministry of Education (MoE) is responsible for monitoring the progress of the tertiary education sector towards the goals of the TES. However, the most recent publicly available monitoring report (as at September 2016) relates to the previous TES, covering the period from 2010 to 2012.

Inquiry participants questioned the effectiveness of the TES in directing or shaping the behaviour of tertiary providers. For example, Ako Aotearoa (sub. 58, p. 7) notes there is "little evidence that the priority given to Pacific success in the Strategy has resulted in agencies clearly steering TEOs to take actions that will improve performance for Pacific learners". Alach (sub. 8) suggests that a lack of progress toward TES priorities can be explained by a disconnect between the TES and the tertiary funding system:

One of the key principles of public policy is that funding influences behaviour. We have an input-focused funding system and an outcomes-focused TES. Institutions will validly pursue funding at the expense of other goals. (p. 7)

Several inquiry participants raised concerns about the composition of the TES, noting there is little incentive to pursue objectives, including innovative new models that are not included as TES priorities.

- Nichols (sub. 6, p. 7) noted there is nothing in the TES "that promotes innovation, transformation or efficiency across the sector. Instead, priority groups are identified. What of the rest of the sector and its development?"
- Alach (sub. 8, p. 6) noted that while the TES "lists six priorities, it fails to provide clear guidance for the (very large) field of tertiary education overall and the pieces that fall outside those priorities".
- COMET Auckland (sub. 50, p. 4) noted the TES "omits one key area – the need for adults to have access to high-level learning, to increase their skills and to retrain for new areas of work... This is especially important in our changing job market, where workers need to continually build skills to keep up with technological change and to move into expanding industries."
- Marshall (sub. 73, p. 2) also noted the absence of any reference to ongoing learning in the TES:

The major feature shaping the system currently is the focus on transitioning school leavers into employment. While this is important, it is not the only reason for investing in a national system of

education. The TES also notes other priorities such as Maori and Pasifika success but is virtually silent on how the system supports the ongoing development of individual capability through life. (p. 2)

F5.1

The Tertiary Education Strategy contains some worthy priorities, but indicators are frequently vague and monitoring against the strategy is sporadic. It is not clear that the strategy is an effective tool for driving outcomes.

5.3 Government funding

One of government's most influential roles in the tertiary education system is that of a funder. In 2014/15, total government expenditure on tertiary education amounted to \$4 181 million (MoE, 2016a). This expenditure can be split into two broad categories:

- expenditure directed toward students – this includes student allowances, scholarships, and the costs of operating the SLS; and
- expenditure directed toward tertiary providers – this includes tuition subsidies (which are split into numerous different funds, such as the Student Achievement Component (SAC) Fund, and the Industry Training Fund), research funding, and several smaller funds.

Such expenditure is variously described as funding, purchasing and subsidising according to context (Box 5.1).

Box 5.1 Funding, purchasing and subsidising

This report variously describes the financial relationship between government and providers using the terms “funding”, “subsidising” and “purchasing”. Each term has its place in different contexts.

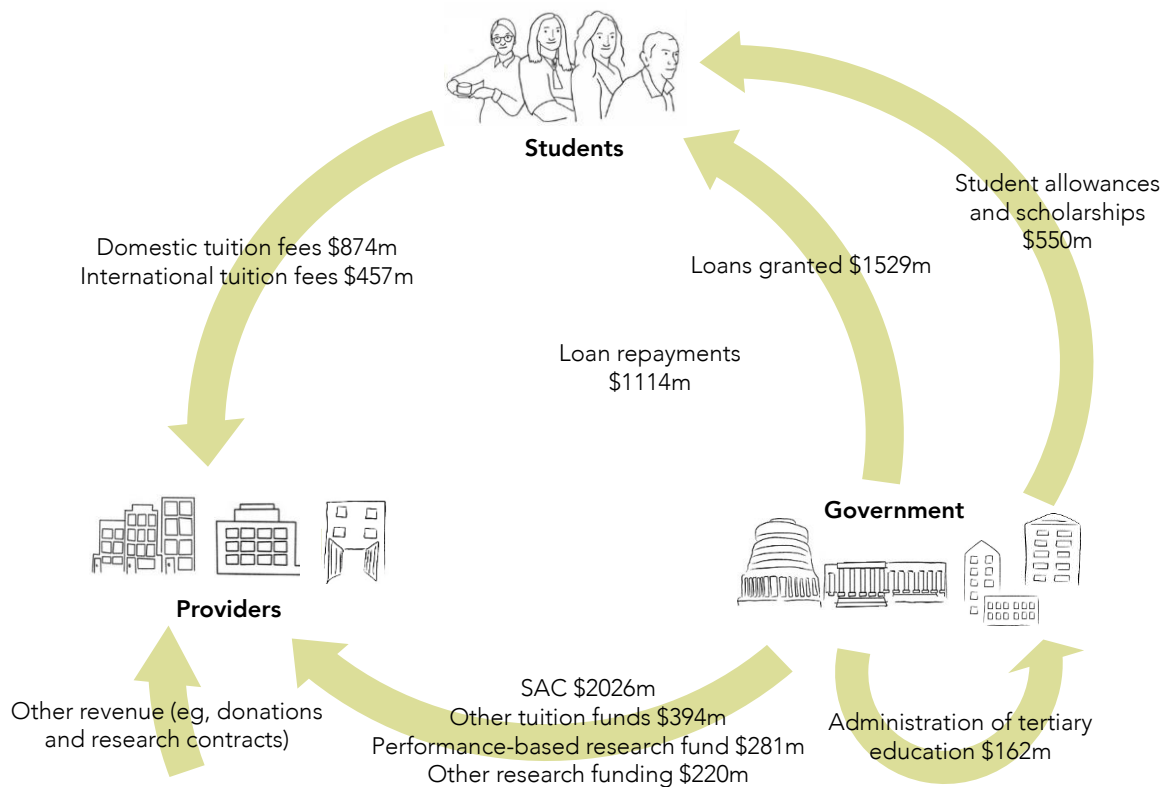
- *Funding* reflects the language in the Education Act, and this term is commonly used within government and providers. Providers have no inherent right to funding from government. Government can choose both how much it spends on tertiary education, and how it allocates those funds.
- *Purchasing* is a better description of the nature of the transactions between government and providers. Government enters into contractual arrangements with providers that specify the quantity and type of education that providers must deliver, usually specified in terms of EFTS. Payment is ultimately conditional on delivery within the terms specified in the contract.
- *Subsidising* describes the economic effect of government funds paid to providers and students. Some tertiary education would happen in a purely private market. Government, wishing to increase the quantity of education provided and consumed, subsidises both students and providers.

This report generally uses the term appropriate to the context. This chapter, for example, mostly uses the term funding, reflecting the legislation and government's administrative arrangements. Chapter 7 describes the market for EFTS as a purchasing arrangement. And Chapter 12 describes the implications of subsidising providers versus students.

Figure 5.3 sets out the main funding arrangements in the tertiary system, including the contributions from students through tuition fees.

The following sections provide further detail about funding for students (section 5.4) and funding for tertiary providers, including government's role in regulating tuition fees (section 5.5).

Figure 5.3 Tuition subsidies, student support and student fees in the tertiary education system, 2014/15



Source: MoE, 2015c; 2016a.

Notes:

1. Tuition fees are for the 2014 calendar year.
2. Other tuition funds include Youth Guarantee, Industry Training, Gateway, Intensive Literacy and Numeracy, Workplace Literacy, Community Education, and Foundation-Focused Training Opportunities.
3. Other research funding includes Centres of Research Excellence, Building Research Capability in the Social Sciences, Building Research Capability in Strategically Relevant Areas, the Marsden Fund, and funding from the Health Research Council and the Ministry of Business, Innovation and Employment.
4. Tuition fee data is based only on tertiary education institutions (data for total fees at private training establishments (PTEs) are not available).
5. For tertiary education institutions, other income (which includes research contracts and interest) amounted to \$1 148m in 2014 (data on other income are not available for PTEs).

5.4 Funding for students

Student support

Through the student support system, government aims to support affordable and equitable access to quality, relevant tertiary education (MoE, 2015c). The two main student support mechanisms are student allowances and student loans.²²

Student allowances

The student allowance is a weekly, non-repayable grant to help students cover their living costs. Access to the student allowance varies depending on students' income, age, living situation, relationship status, and whether the student has children. The number of students receiving a student allowance nearly doubled between 2005 (56 800) and 2011 (99 300), before falling to 75 050 in 2015 (MoE, 2016a). Government spending on student allowances in 2014 was \$511 million.

²² Government also provides support through scholarships – over \$30 million of government funding was allocated to scholarships in 2015/16 (New Zealand Treasury, 2015).

Student loans

Most domestic students are able to access the SLS to cover course fees and some course-related costs, and to help with living costs. Student loans are currently interest free while the borrower lives in New Zealand. The Inland Revenue Department collects repayments. Repayment is mandatory once the borrower earns over a certain threshold, which has been set at \$19 084 per year since 2009.

- In the 2014 calendar year, 186 500 students borrowed from the SLS, with total lending of \$1 529 million in 2014/15.
- At 30 June 2015, there were 728 348 student loan borrowers (people who have borrowed from the SLS at any stage that have not yet fully repaid their loan) and the nominal value of all outstanding loans was \$14.8 billion.

One feature of the SLS is that it reduces the effective cost of study to students. Contingent repayment and a zero nominal interest rate mean students face a negative real interest rate and strong incentives to repay loans as slowly as possible. In addition, loans are written off when a borrower dies or becomes bankrupt, and a large proportion of overseas-based borrowers do not meet their repayment obligations. Some of these overseas borrowers are expected to not fully repay their loan (MoE, 2015c). The combination of these features means Treasury writes off a significant share of the total amount loaned each year (Figure 5.1).

In the 2014/15 financial year, borrowers took up \$1 529 million in loans and \$602 million was written off – an average of 39.37 cents for each dollar lent. This write-off equates to a subsidy of around \$2 500 per equivalent full-time student (EFTS) enrolled in 2014.

Based on lending in 2011, Baxter (2011) found about 45% of the government write-off is attributable to the interest-free nature of the SLS.

Table 5.1 Student loan lending and initial write-down on lending, 2008/09–2014/15

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
New lending (\$ millions)	1 269	1 434	1 465	1 489	1 481	1 522	1 529
Initial write-down (\$ millions)	532	728	713	702	536	629	602
Average cost of lending (cents per dollar)	41.92	50.77	48.67	47.15	36.19	41.33	39.37

Source: MoE, 2015c.

Another feature of the student support system is that the number of students who benefit from the system is not capped. Although a number of restrictions have been applied to the SLS in recent years (Chapter 4), most domestic students enrolled in an approved programme (a programme funded by TEC and part of an NZQA-approved qualification) are eligible to access the SLS.

A consequence of these two design features is that if student numbers increase, so too does the immediate cost to government through allowances, and the write-down on the SLS. Similarly, if the fees charged by providers increase, student borrowing for fees will increase – meaning the write-down on loans will also increase. This creates a strong incentive for government to control student numbers and provider fees. Indeed, as set out in the following section, government applies controls on student places and regulates provider fees.

F5.2

Government typically recovers just 60 cents per dollar lent through the Student Loan Scheme – due in large part to the use of a zero nominal interest rate. This fiscal cost, along with the cost of other student support payments, creates a strong incentive for government to control student numbers and provider fees.

5.5 Funding of tertiary education organisations

The total budget allocated for tertiary education is set through the Budget appropriation for Vote Tertiary Education. This appropriation includes specific allocations for tuition and industry training subsidies, research funding for tertiary providers, and for services delivered by government agencies such as MoE, TEC and Education New Zealand.

Funding for research and tuition is broken down into a selection of different funds that tertiary education organisations (TEOs) can apply for. Broadly speaking, MoE is responsible for defining the purpose and parameters of different funds (including the total value of funding available) through funding determinations. TEC is responsible for implementing funding determinations and allocating funding to TEOs. Through this process, TEC allocated around \$2.8 billion for research, tuition and training subsidies in 2015 (TEC, 2015a). TEOs can also access research funding administered by other government agencies such as the Health Research Council and the Ministry of Business, Innovation and Employment (MBIE).

Funding determinations

The Minister for Tertiary Education, Skills and Employment must “from time to time, determine the design of the funding mechanisms that the [Tertiary Education] Commission must use to fund organisations” (Education Act 1989, s 159L). Funding mechanisms must identify the general form and essential components of the fund (and may also specify the amount of money available under the fund), provide for funding for specific types of TEO or particular groups of students, and specify conditions TEC must attach to funding. The main restriction on funding mechanisms is they may not identify a specified organisation or organisations to which funding is to be provided or denied.

Once the design of a funding mechanism has been determined, it is TEC's responsibility to develop the operational policy and practices needed to implement the mechanism. Because funding determinations tend to contain prescriptive specifications, TEC has relatively little discretion in the way that it allocates funding. For example, the funding determination for the largest fund TEC administers (Student Achievement Fund for provision at levels 3 and above) includes the following:

- a matrix of 60 different funding rates per EFTS based on 18 different disciplines and five levels of study;
- minimum amounts of funding that must be allocated to each subsector, with 10% of funding free for allocation without reference to the subsector;
- restrictions on the use of funding for delivery of programmes longer than 34 weeks in a calendar year;
- restrictions on the use of SAC funding for specialist professional qualifications – for example, health and safety, regulatory compliance, and some health-related professional qualifications;
- a formula that places 5% of each provider's funding at risk based on a set of performance indicators;
- restrictions on the use for the funding for short programmes of study such as Certificates of Proficiency; and
- a requirement that funding is only used for courses that form part of a programme of study or training scheme that leads to the award of a qualification.

Inquiry participants noted some of the controls specified in funding mechanisms make it difficult to introduce new or innovative offerings. The most frequently cited examples were the requirement that students be enrolled in a qualification, and restrictions on the provision of short courses or micro-credentials (smaller packages of learning designed to meet particular learner needs).

Several submitters noted that these restrictions are at odds with a growing demand from mid-career students looking to upskill or acquire specific skills needed for their work. For example, the Victoria University of Wellington Centre for Lifelong Learning (sub. 39, p. 1) notes that with the nature of work changing rapidly, “employers and sector groups are increasingly asking for credentialing of shorter pieces of learning that are delivered flexibly”.

NZITP and Metro Group (sub. 42, p. 6) notes that micro-qualifications “are subject to unhelpful rules” and funding systems are not flexible enough to enable provision that is responsive to the learner’s circumstances, including learners who are not school leavers (who make up at least 50% of the ITP student body). Otago Polytechnic has developed, and is currently piloting, a micro-credential model, but notes that “current policy settings not only do not support this approach but directly oppose it” (sub. 91, p. 3).

F5.3

Funding determinations, set by the Ministry of Education, include tight specifications regarding how funding is allocated, and what providers can deliver.

New funding models

While the specific conditions attached to different funds was a source of concern for TEOs, the funding system is not static. In recent years, several new approaches to allocating funding have been introduced, including Performance-Linked Funding and a competitive process for funding at levels 1 and 2. These approaches have drawn criticism from some TEOs.

Performance-Linked Funding

Performance-Linked Funding conditions were added to the funding determinations for SAC funds from 2012. As a result, a maximum of 5% of a TEO’s funding is based on the TEO’s performance in the previous year. Performance is measured using four educational performance indicators (EPIs) – qualification completion, course completion, retention, and progression. Different weightings apply to these indicators for provision at different NZQF levels.

TEC sets upper and lower performance thresholds. For TEOs performing above the upper threshold, TEC allocates the full amount of reserved funding. For those providers below the lower threshold, all of the reserved funding is withheld. A portion of the reserved funding is withheld for those providers whose performance scores fall between the upper and lower threshold.

One submitter suggested Performance-Linked Funding has little impact, given the amount of funding at risk under the policy is very small when compared to the amounts provided through standard EFTS-based measures (Alach, sub. 8). However, the majority of submitters were critical of the policy and suggested it is a barrier to innovation:

The TEC’s metrics... dampens innovative teaching, since staff become risk-averse to drops in educational performance indicators that may initially result from trialling new teaching developments. (Sampson et al., sub. 14, p. 5)

Innovation requires an element of risk and the current EPI funding performance driven model does not encourage innovation because if a new model of delivery is tried and there are not high rates of learner success this could have adverse financial consequences for institutions. (NZITP & Metro Group, sub. 42, p. 21)

...a significant potential barrier to innovation lies in the nature of our funding system, which can (or at least is perceived to) penalise attempts to innovate. Innovation often involves an element of risk – even models that have worked successfully elsewhere can fail when implemented in a new setting... yet we have a funding and monitoring system that discourages risk-taking because the stakes of potential failure can be high. (Ako Aotearoa, sub. 58, p. 17)

As it stands, Performance-Linked Funding could be better described as “Non-Performance Linked Funding.” It makes providers more cautious about innovation as they have little (financially) to gain and potentially a lot to lose if innovation does not work out. (Independent Tertiary Institutions, sub. 81, p. 23)

Inquiry participants also noted that the inclusion of the Qualification Completion Rate in Performance-Linked Funding calculations “militate[s] against institutions which seek to recognise student achievement in less than entire qualifications” (NZITP & Metro Group, sub. 42). For example, entering full-time employment before completing a qualification may be a “positive outcome for the learner but has negative consequences for the institution” (Otago Polytechnic, sub. 91, p. 4).

Table 5.2 shows the total allocation of SAC funding for provision at levels 3 and above (SAC 3+) between 2013 and 2015, along with the amount of funding TEC withheld under Performance-Linked Funding. In each

of the four tertiary subsectors, the amount withheld was less than 0.5% of funding. The maximum amount withheld from any single provider ranged from 0.1% in the university subsector to 5.2%²³ in the private training establishment (PTE) subsector. The median amount withheld was highest in the wānanga subsector (1.2%), and was much smaller in the other three subsectors.

Table 5.2 Funding withheld under Performance-Linked Funding, 2013–2015

	Total SAC 3+ funding (2013–2015)	Funding withheld under Performance- Linked Funding (2013–2015)	Funding withheld as a proportion of SAC 3+	Maximum proportion withheld from a single provider	Median proportion withheld
PTE	\$521.6m	\$2.2m	0.4195%	5.2629% ¹	0.0077%
Wānanga	\$363.2m	\$1.5m	0.3993%	2.3450%	1.2342%
ITP	\$1 421.9m	\$5.7m	0.3995%	1.5559%	0.3844%
University	\$3 464.8m	\$0.95m	0.0276%	0.1093%	0.0073%

Source: Data provided by TEC.

Notes:

1. The theoretical maximum amount that can be withheld is 5%; but, in any given year, the amount withheld as a proportion of funding that is distributed may be more than 5% because of carry-over effects from the performance scheme in previous years.

TEC notes that Performance-Linked Funding “is targeted to encourage all SAC-funded TEOs to reach an acceptable standard of educational performance” (TEC, 2015b). The tiny share of funding withheld under the policy suggests that most provision is already delivered to an acceptable standard (assuming the standard is set at an appropriate level). The behavioural impact of Performance-Linked Funding as reported by submitters appears to be much greater than the fiscal impact of the policy.

F5.4

The fiscal effect of Performance-Linked Funding is frequently overstated. Between 2013 and 2015, less than 0.2% of SAC 3+ funding was withheld under Performance-Linked Funding. However, Performance-Linked Funding does appear to have strong behavioural effects that may be detrimental to innovation and the development of new models.

Performance-Linked Funding conditions have also been introduced for industry training funding. The system for industry training applies just one performance indicator: that at least 80% of industry trainees and apprentices actively training with an ITO for 90 days or more in the calendar year achieve at least 10 credits. Failure to achieve this results in a funding reduction of up to 5%.

The proportion of funding withheld under Performance-Linked Funding for industry training is also very small. In 2015, payments from the industry training fund to ITOs amounted to \$163 million – the total amount of funding withheld was \$81 259.

Competitive funding

In 2012, government introduced a competitive funding process for allocating a portion of SAC funding for foundation-level provision (levels 1–2 on the NZQF). Under this process, eligible providers are invited to submit applications for competitive funding, which are then assessed by TEC against criteria including the provider's capability in delivering foundation learning, and ability to achieve successful learner outcomes (TEC, 2016c).

²³ The theoretical maximum amount that can be withheld is 5%; but, in any given year, the amount withheld as a proportion of funding that is distributed may be more than 5% because of carry-over effects from the performance scheme in previous years.

Since introducing competitive funding in 2012, TEC has increased the portion of funding allocated through the competitive process, with 100% of funding to be allocated through this approach for the years 2017/18.

The competitive funding approach appears to be less locked-down than funding allocated through the regular investment plan process, as it provides greater opportunity for funding to move among providers. For example, a provider with a good track record of effective provision may be able to increase their share of funding at the expense of lower-performing providers. The process also allows an opportunity for providers not previously funded for delivery at these levels to receive funding.

However, Wellington Institute of Technology (WelTec) and Whitireia Community Polytechnic (Whitireia) note there is very little flexibility in how funds allocated through the competitive process can be used:

In 2016, WelTec and Whitireia will be making a bid in the competitive level one and two funding process. We have to be sure that we pick the 'right' programmes, at the 'right' volumes, and at the 'right' price. If we are successful then we receive specific conditions, performance measures, and reporting requirements that lock these specific programmes, to a location, to a volume, and at a specific time (over a two-year period). We have limited, to no, ability to change this provision on any parameter than that approved through the bid process.

Prior to the competitive processes we had the ability to move funding around our wider mix of provision to accommodate changes in industry, learner demand and impacts in the market/economy. This flexibility enabled us to be somewhat more responsive and agile... the competitive bid process ended all flexibility and has created a rigid, fragmented and siloed set of programmes that struggle to meet need in a modern economy...

The rigidity of these contracts, as if the future was certain, does not put the learner, the societal need, the public (or even private) good first, but is actually about the probity of the process. (sub. 59, p. 24)

In June 2016, TEC announced up to \$35 million of SAC funding for provision at levels 3–4 in 2017/18 will be allocated through the competitive process (previously, the competitive process had only been used for SAC funding at levels 1–2). Two of TEC's aims for this process are to "direct investment towards higher quality delivery" and to "increase responsiveness to industry needs" (TEC, 2016d). However, any progress toward these aims is likely to be hindered by the tight timelines for providers to respond to the new funding model (Box 5.2).

Box 5.2 **Tight timelines for the competitive funding process at levels 3–4**

TEC opened the competitive tender process in June 2016, and tenders closed on 24 August 2016. TEC expects to make provisional announcements about successful tenders in early October 2016, with final funding confirmed in October or November 2016.

This timeline gives providers as little as two months to make any necessary changes to staffing and facilities in order to be ready to deliver (or to cease delivery) in 2017, significantly limiting providers' ability to depart far from the status quo in terms of their proposed delivery arrangements. TEC also states providers must have NZQA programme approval by November 2016, which effectively prevents providers tendering for delivery of a new programme unless they are willing to seek NZQA approval for it before they know whether the programme will attract any funding.

Source: New Zealand Government, 2016; TEC, 2016e.

Allocation of funding

Once a funding determination has been issued, it is the responsibility of TEC to operationalise the determination and allocate funding to tertiary providers.

At the time of writing, TEC administered 26 different funds across six different categories (TEC, 2015c).

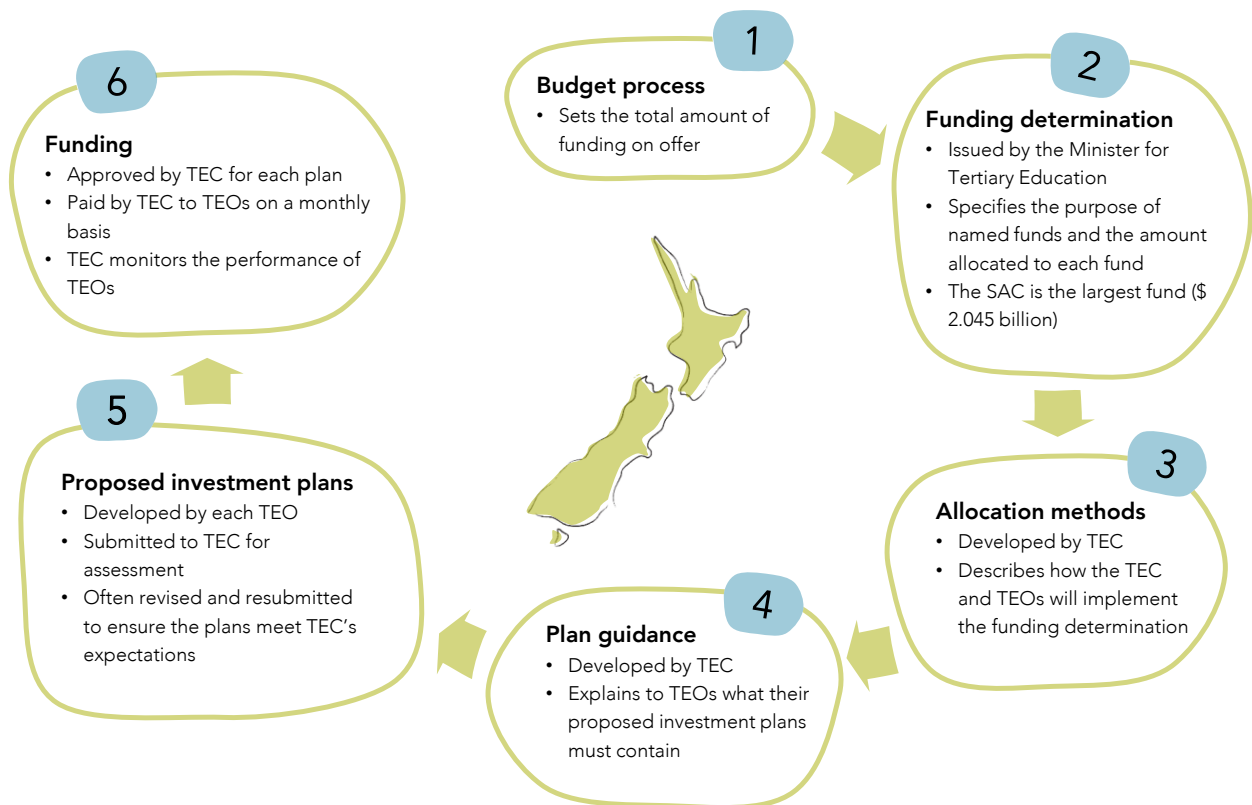
- Teaching and learning (10 funds).
- Literacy and Numeracy and English for Speakers of Other Languages (six funds).

- Adult and Community Education (five funds).
- Funding for industry (one fund – the Industry Training Fund).
- Research capability (four funds).

There is significant variation in the size and purpose of these funds. For example, in 2015, the SAC fund for provision at level 3 and above was allocated to all TEIs and 171 PTEs, and accounted for 70% of total TEC funding. By contrast, the fund for Adult Community Education Search and Rescue was allocated to just one TEO in 2015, and the amount of funding available (\$1.3 million) amounted to less than 0.05% of total TEC funding.

TEC's main process for allocation of funding is the investment plan-based system (Figure 5.4).

Figure 5.4 The plan-based funding system



Most providers seeking funding from TEC are required to prepare an investment plan. However, from 2016, some smaller PTEs and community education providers are exempt from the requirement. Providers' investment plans must set out the following information for a three-year timeframe:

- their mission and role;
- how they will address the needs of stakeholders;
- how they will give effect to the TES;
- a description of programmes, activities and outcomes (including those programmes for which no TEC funding is sought);
- the amount of funding sought in relation to the programmes and activities; and
- a description of proposed outcomes and indicators to measure whether outcomes are achieved (TEC, 2016f).

In deciding to approve a plan, TEC applies a decision-making criteria that includes: alignment of delivery with government priorities; accurate identification of stakeholders and their needs; and whether

performance commitments are set at a level that represents a meaningful improvement on past performance (TEC, 2015k). The criteria also includes consideration of whether delivery is desirable and appropriate in the context of regional and national need. In the case of ITPs, TEC applies a specific policy regarding regional provision (Box 5.3).

Box 5.3 ITP regional provision restrictions

TEC's criteria for approving ITPs' investment plans sets an expectation that ITPs should concentrate primarily on delivering education that meets the needs of their region. If an ITP wishes to deliver outside their own region, they must first seek TEC approval. As part of the approval process, the ITP is required to demonstrate there is a regional industry or community need for the proposed provision, and to engage with the local ITP to determine that the proposed offering is not already offered in the region.

Source: TEC, 2015e.

TEC's timelines state that TEOs will be notified of final funding decisions for the coming calendar year in October 2016. However, several inquiry participants reported it is not uncommon for providers to receive confirmation of their funding allocations for a coming calendar year in the last business week before Christmas. This timeline gives providers very little time to plan and prepare for the coming year.

F5.5

Tertiary providers apply for government funding through an investment plan process whereby they forecast their volume and mix of provision. TEC's approval criteria for investment plans restricts the ability of ITPs to deliver outside their own region, and the confirmation of funding allocations is often granted very late in the year – giving providers little time to plan and prepare.

In theory, the investment plan process allows TEC discretion to incentivise and reward performance by shifting funding between different providers. However, the University of Otago (sub. 37, p. 9) notes that "with so much funding being formula-driven – there is no genuine investment decision being made ... one of the problems with the current system is a lack of funding for allocation in support of institution-led innovations that do not fit within the existing funding levers". Independent Tertiary Institutions (sub. 81, p. 23) noted that "the shift of funds from under-performing PTEs to quality PTEs, while welcome, is slow and unpredictable".

Ako Aotearoa (sub. 58, p. 7–8) raised similar concerns about the plan process:

The intent of these [investment] plans ... was that they would be negotiated strategic documents that managed funding to support priority outcomes and development of the TEO, the organisation's 'distinctive contribution' within a network of provision, and government priorities. In practice, they appear to have largely become passive funding contracts that simply outline deliverables to be achieved by a TEO. We believe that there is potential for these Plans to be used more effectively as genuinely strategic documents, and Investment Managers to take a more active partnership role in supporting the future development of TEOs.

One manifestation of the passive nature of the investment plan process is that the allocation of funding between different providers changes very little year-to-year. As shown in Table 5.3, the allocation of the SAC 3+ (which typically accounts for around 70% of all funding allocated by TEC) has shifted very little between different subsectors.

Table 5.3 Distribution of SAC 3+ funding between subsectors, 2008–2014

	% share of SAC 3+ funding			% point change in share of SAC 3+ funding			
	2008–2010	2011–2012	2013–2014	2015–2016 ¹	2008–10 to 2011–12	2011–12 to 2013–14	2013–14 to 2015–16 ¹
All universities	59.3%	59.1%	59.7%	60.5%	-0.3%	0.6%	0.8%
All ITPs	25.7%	26.1%	25.1%	24.3%	0.4%	-0.9%	-0.8%
All wānanga	5.8%	6.1%	6.2%	6.1%	0.3%	0.2%	-0.1%
All PTEs	9.2%	8.8%	9.0%	9.0%	-0.4%	0.2%	0.0%

Source: Data provided by TEC.

Notes:

1. Data for 2009–2014 are for actual funded delivery. Data for 2015 and 2016 are for funding allocations.
2. Figures are rounded to one decimal place (as a result, some figures showing the percentage point changes in the share of funding may appear inconsistent with other figures in the table).
3. Data exclude the Universities Tripartite Adjustment Fund, which had its final year of payment in 2008.

The absence of significant shifts in the distribution of funding is also apparent within subsectors. Table 5.4 shows the allocation of SAC 3+ within the university subsector has remained relatively constant between 2008/10 and 2015/16.

Table 5.4 Distribution of SAC 3+ among Universities

	% share of SAC 3+ funding				% point change in share of SAC 3+ funding		
	2008–2010	2011–2012	2013–2014	2015–2016 ¹	2008–10 to 2011–12	2011–12 to 2013–14	2013–14 to 2015–16 ¹
University of Auckland	15.2%	15.2%	15.6%	16.2%	0.0%	0.5%	0.5%
University of Waikato	3.7%	3.7%	3.7%	3.6%	0.1%	0.0%	-0.1%
Massey University	8.1%	7.7%	7.7%	7.5%	-0.4%	0.0%	-0.1%
Victoria University of Wellington	7.0%	6.8%	6.7%	6.7%	-0.2%	-0.1%	0.0%
University of Canterbury	6.3%	6.3%	6.2%	6.3%	-0.1%	0.0%	0.1%
Lincoln University	1.3%	1.3%	1.4%	1.5%	0.0%	0.2%	0.0%
University of Otago	11.2%	11.3%	11.2%	11.4%	0.1%	0.0%	0.2%
Auckland University of Technology	6.6%	6.8%	7.0%	7.3%	0.3%	0.2%	0.3%
All universities	59.3%	59.1%	59.7%	60.5%	-0.3%	0.6%	0.8%

Source: Data provided by TEC.

Notes:

1. Data for 2009–2014 are for actual funded delivery. Data for 2015 and 2016 are for funding allocations.
2. Figures are rounded to one decimal place (as a result, some figures showing the percentage point changes in the share of funding may appear inconsistent with other figures in the table).
3. Data exclude the Universities Tripartite Adjustment Fund, which had its final year of payment in 2008.

One possible explanation for the static nature of funding allocations under the investment plan process is that providers have been unable to convincingly demonstrate a case for being granted a greater share of available funding. Two features of the funding system appear to support this diagnosis. First, if the tight specifications of the SAC 3+ funding determination are preventing providers from doing things differently, it would be difficult for providers to make improvements they could use to support a business case to justify a greater share of available funding. Secondly, the investment plan process requires providers to forecast in advance the number of EFTS in different programmes and activities the provider will deliver. Providers are then funded at the start of the calendar year for that delivery. Funding is recovered if actual delivery ends up being less than 99% of the volume set out in investment plans, and TEC factors the level of delivery achieved when determining future funding allocations. This requirement to forecast demand in advance may lead providers to take a relatively conservative approach in setting their plans and to stick with the status quo (ie, what they delivered the previous year).

A second explanation for the stability in funding allocations is a reluctance on the part of TEC to exert undue financial pressure on tertiary providers where government has an ownership interest (section 5.8).

F5.6

A very small share of funding allocated through the investment plan process shifts between tertiary providers, resulting in a very stable funding environment with little reward for successful innovation or high performance.

Delivery

As part of their investment plans, TEOs are required to set out their planned provision in different subject areas and different levels of study. Following approval of their plans, TEOs are allocated funding at the start of the calendar year based on the commitments in their investment plans. TEC will recover funding if the TEO delivers less than 99% of the provision set out in its plan. As a result of recent changes, most providers are able to access funding (which is paid in March of the following year) for over-delivery – up to 102% of what is set in investment plans.²⁴

Providers may initiate plan changes (amendments, significant amendments or replacement plans); however, there is no guarantee of being able to access funding over and above that already allocated through the initial plan.

In addition to specifying the amount of funded delivery, TEC also regulates unfunded delivery and imposes an upper tolerance band for over-delivery at 105%. This is because students enrolled in approved programmes of study are able to apply for student loans and allowances – both of which incur significant fiscal costs for government (section 0). Hence, government is exposed to the costs of providing this support, even if it is not paying a subsidy for students enrolled in unfunded places.

There are no caps on the number of international students providers may enrol. Section 224 (10) of the Education Act 1989 states that providers may not enrol international students if they take up places that could otherwise be offered to domestic students. However, this clause does not apply if the international student fills a place that is only available as a result of the fees payable by the international student who enrolls in it.

The capped nature of the domestic system means tertiary providers are allocated a certain number of EFTS for whom they must deliver a certain mix of programmes at specified levels on the NZQF. As a consequence, TEOs are locked into a predetermined pattern of delivery with limited options to adjust delivery in response to changes in student demand. Where demand exceeds allocations, providers are only able to access funding for up to 102% of the EFTS agreed in their investment plan. Where demand is insufficient to meet a provider's allocation, the provider is incentivised to retain existing learners for as long as possible, as failure to meet an EFTS target often have consequences for future EFTS allocations.

²⁴ To be eligible for funding for over-delivery, TEOs must have an NZQA External Evaluation and Review (EER) rating of category 1 or 2 (except for universities); deliver a minimum of 20 funded EFTS; and have an average course completion rate of 70% or higher.

Independent Tertiary Institutions (sub. 81, p. 5) notes delivery caps prevent quality providers from expanding their offerings:

In order to contain this loss of money, the Government constrained the number of EFTS in the whole system, thereby restricting the number of loans that would be taken out. In doing so, they turned a free market into a controlled one with perverse economic results.

For example: assume that in a particular discipline, prospective students have a choice between two providers, one that is very high quality and the other that is mediocre. The high quality provider is over-subscribed and so must turn away a number of applicants. Those declined applicants then find a place in the mediocre institution, which then meets its EFTS target. Two negative effects occur - a number of students receive a lower quality education than they might have had, and the mediocre institution stays in business.

ACG Tertiary and Careers Group (sub. 84, p. 13) raises a similar concern, noting that funding and delivery caps have “resulted in entry criteria being increased by many providers to manage their enrolment cap. This has impacted accessibility to high quality and high demand providers and is impacting the overall quality of tertiary outcomes as some students are forced to choose providers that may have lower levels of quality and/or performance”.

Inquiry participants noted significant frustration at the lack of options to increase their allocation of EFTS. Some reported they had resorted to purchasing less successful PTEs in order to access their EFTS allocation, before gradually reorienting the provision of that PTE toward what they want to deliver. This practice is accepted by TEC, provided it is informed of the change of ownership. However, inquiry participants noted the strategy is risky because TEC ownership rules state that “approval of funding does not automatically transfer to a new PTE as a result of a change of ownership” (TEC, 2014).

Other providers reported that the rigidity of the EFTS allocation system can be overcome through sub-contracting arrangements. However, such arrangements are relatively uncommon as they rely on the presence of a willing seller and buyer of EFTS, and involve relatively high transaction costs including gaining prior approval from TEC.

F5.7

Caps on the enrolment of domestic students means tertiary providers are allocated a certain number of EFTS for whom they must deliver a certain mix of programmes at specified levels on the NZQF. As a consequence, TEOs are locked into a predetermined pattern of delivery with limited options to adjust delivery in response to changes in student demand.

Alongside the frustrations outlined above, some inquiry participants also questioned whether enrolment caps are the most effective approach for managing fiscal costs associated with student support. Under current policy settings, government typically only recovers between 50 and 60 cents per dollar loaned (section 0). This suggests that there is considerable scope to reduce costs of student support through policies encouraging swifter repayment, or through a repayment system that more closely reflects the true costs of lending.

The cap on funded and unfunded tertiary provision in New Zealand differs substantially from the approach to tertiary education in Australia (Box 5.4).

Box 5.4 **Australia's uncapped tertiary funding approach**

In the past, the allocation of funding for universities in Australia was determined through a negotiation process between each institution and the federal government. From 2009, a new funding approach was phased in, which culminated in 2012 with the removal of the cap on the number of university places. As a result, Australian universities may enrol as many students as they wish based on their own entry requirements. Each student generates the same level of government funding, with different rates applying to different fields of study (King & James, 2014).

The shift to a demand-driven system resulted in a significant increase in student numbers (Table 5.5) and a rapid increase in government expenditure.

Table 5.5 Equivalent full-time student enrolments at Australian Universities, 2002–2014

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Equivalent full-time students (000s)	498	503	499	502	512	529	543	574	609	628	660	693	719
% change (from previous year)		1%	-0.9%	0.6%	2%	3.3%	2.6%	5.8%	6%	3.1%	5.2%	5%	3.8%

Source: Australian Government Department of Education and Training, n.d.

In a review of the demand-driven approach, Kemp and Norton (2014) identified a range of teaching-related innovations that emerged since the removal of enrolment caps – but note it is difficult to attribute innovations directly to the demand-driven system. One change that Kemp and Norton (2014, p. 47) do attribute to the change in funding approach is the sharp increase in online delivery which occurred from 2009:

While improved online educational technology must have contributed to this growth, it was the demand driven system that enabled a major expansion in online provision. Under the previous system of capped university places, universities had to apply for new places or reduce their on-campus enrolments if they wanted to expand online. Now those restraints have been removed, and we observe rapid growth in this market.

Fee regulation

In addition to funding TEOs through direct subsidies, government also regulates the fees providers charge students. For domestic students, the Minister for Tertiary Education, Skills and Employment administers the Annual Maximum Fee Movement (AMFM) policy, which limits annual increases providers can make to their fees. This policy's purpose is to promote affordability of study for domestic students and a level of certainty about the fees payable throughout the course of study for a qualification. The policy also controls flow-on costs to the SLS, while allowing providers some flexibility in fee-setting.

Fees for international students are unregulated. Providers are not able to charge a domestic student a fee that exceeds the maximum fee allowable under the AMFM policy (ie, a domestic student cannot be enrolled as if they were a full-fee-paying international student).

In setting the AMFM, ministers appear to be balancing two competing political risks – a high AMFM would enable significant fee increases, which would be unpopular with students and their families, and could impact levels of tertiary participation. And because most students use the SLS to pay for tuition fees, government incurs the fiscal costs associated with additional borrowing equivalent to fee increases. However, setting the AMFM too low may limit the ability of providers to deal with inflationary pressures, making them financially vulnerable and increasing the risk of poor quality provision.

The AMFM was set at 3% for 2016, and at 2% for 2017. Alongside restrictions on fee increases for existing programmes, fees charged for newly developed courses are also subject to regulation. When a TEO develops a new course, it must seek approval from TEC for the proposed fees. TEC considers “if the fee or course cost for the new course is consistent with the fees and course costs charged for existing similar courses” and expects “fees or course costs to be in the middle of the range of fees and course costs charged” (TEC, 2016e).

When combined with funding arrangements that apply a uniform subsidy per EFTS, the regulation of fees through the AMFM and the requirement for new courses to be priced at the same level as similar

programmes creates a very uniform funding rate. Universities New Zealand notes this “significantly limits the amount of differentiation possible across the system. For example, it is not possible for any one provider to offer a significantly higher quality range of programmes than any other provider” (sub. 17, p. 32). The University of Otago (sub. 37, p. 11) raises a similar point, noting “tight fee controls stifle the opportunity for differentiation on price that would, in most industries, be common for those who seek to position themselves as offering higher quality products”.

F5.8

Fee regulation inhibits differentiation in educational offerings within the system.

Alongside the effects described above, Independent Tertiary Institutions (sub. 81) notes that providers' fee rates are not publicly available. This means that when a provider is developing a new programme, they have no visibility of the fee mid-point for similar programmes. This generates uncertainty about what fees may be charged and creates a disincentive to invest in new programmes.

The fees charged for individual modules in any particular funding category are not publicly available – only TEC has access to the whole picture. With all the key cards held tightly to the agencies' chest, it is impossible for a provider to know when making a change to a module what fees they will be allowed to charge for it until after the module has been changed and approved by NZQA to be offered. (sub. 81, p. 21)

Monitoring and reporting requirements

TEOs that receive TEC funding are required to monitor their performance and report it to TEC. These requirements vary between different types of provider, and for different funds. The specific requirements are outlined in each TEO's Investment Plan funding approval letter.

TEOs must monitor their performance against commitments agreed in their investment plans and then report to TEC. TEC uses the data to inform subsequent funding decisions, and also publishes some performance information such as educational performance indicators. While each fund has specific reporting requirements, typical areas that TEC monitors include:

- delivery volume and mix of provision against agreed allocations;
- delivery against performance standards agreed in the Investment Plan;
- compliance with legislative requirements and funding conditions; and
- achievement of Performance-Linked Funding thresholds.

Where TEC identifies concerns, or receives complaints about funded providers, it has the option to review or investigate individual providers. Investigations of six providers were completed in 2014/15, along with a further six focused reviews. The outcomes of these investigations varied but, in several cases, resulted in TEC recovering funding and requiring providers to make changes to their operating procedures.

Inquiry participants noted that TEC monitoring requirements are cumbersome, and complying with them diverts resources away from more valuable activity.

Instead of a high trust, low touch, outcomes focused environment, we operate in a low trust, high touch, high compliance and reporting environment. Attached to our submission is an Investment Plan letter, as you can see it is nearly 100 pages long with a huge number of complicated funding conditions... Linked to this, is the multiplicity of funds and their associated conditions, reporting requirements and compliance. (WelTec & Whitireia, sub. 59, p. 22)

One of the consequences of remaining in a purchasing mindset is that TEOs continue to dedicate significant resources to ensuring that funding rules related to learner eligibility, capped EFTS, agreed mixes of provision and other factors are observed. This analytical capacity could be more productively utilised if the system shifted significantly to one of high trust where funding was invested over multiple years linked to strategic responses to regional learner demand, employment opportunities and demographics. (Manukau Institute of Technology, sub. 67, p. 2)

The system is often described (by officials) as high-trust/high-accountability. This is not totally accurate. It is low-trust/high-accountability, usually at the last minute. The level of compliance is excessive... (Independent Tertiary Institutions, sub. 81, p. 9)

As noted earlier, the Ministry of Education monitors the performance of the sector as a whole, particularly progress toward priorities contained in the TES, and NZQA is responsible for monitoring TEOs' effectiveness in providing quality education (section 5.6).

5.6 Quality assurance arrangements

Under current government settings, NZQA is responsible for quality assurance in the non-university tertiary sector. It does this by:

- operating a registration process for tertiary providers;
- an accreditation process that includes moderation of assessment standards;
- a programme approval process; and
- external evaluation and review.

The following section outlines each of these processes, and considers what objectives they fulfil and how they affect the ability of tertiary providers to innovate or respond to changing circumstances. Quality assurance for universities is conducted by a separate agency, Universities New Zealand, and is discussed in section 5.7.

Alongside its quality assurance role, NZQA is also responsible for managing the New Zealand Qualifications Framework (NZQF). The framework provides a way to classify and compare the different qualifications in New Zealand's tertiary education system and has 10 levels that range in complexity – from a level one certificate, to a level 10 doctoral degree. The NZQF is designed to optimise the recognition of educational achievement by providing information on the knowledge and skills that holders of different qualifications can be expected to have, and the types of further education or employment opportunities to which the qualifications may lead (NZQA, 2016b).

Registration process

Section 232 of the Education Act 1989 sets out the requirements that PTEs must be registered before providing approved training schemes or programmes of study, and before enrolling international students. In order to gain registration, PTEs must submit a written application to NZQA setting out the kinds of education the establishment proposes to provide, and the outcomes it seeks to achieve through the provision of this education. Applications must also demonstrate how the establishment intends to meet a set of requirements (contained in s 233 of the Education Act 1989) that include:

- that every governing member of the establishment is a fit and proper person;
- that the establishment has, or will have, adequate staff, equipment, and premises to provide its programmes or training schemes; and
- that the establishment has, or will have, acceptable financial management practices and performance.

If NZQA is satisfied the establishment meets the requirements set out in s 233, it must grant the registration. NZQA sets a timeframe of six months for the analysis of applications and, if successful, the process of granting registration (NZQA, n.d. b). NZQA charges a standard evaluation fee of \$150/hour²⁵. In assessing applications, NZQA will usually conduct a site visit, and will also make a validation visit to the PTE six months after registration to check the PTE is meeting registration requirements. Site visits are also charged at \$150/hour, plus travel costs (NZQA, 2013).

Obtaining registration opens a number of doors for tertiary providers. Registered providers are able to enrol international students, are eligible to deliver programmes of study leading to qualifications on the NZQF,

²⁵ All NZQA fees stated in this report exclude GST.

seek funding from TEC, and subsequently enrol students who are eligible for student loans and allowances. However, once registered, PTEs must comply with a series of conditions including complying with rules made by NZQA under s 253 of the Education Act 1989. At the time of writing this report, NZQA had eight sets of rules that apply to PTEs, covering a range of issues including the storage of enrolment and academic records (PTE Enrolment and Academic Records Rules 2012), and rules that provide protection for students in the event the PTE closes or stops offering a programme (Student Fee Protection Rules 2013).

Registered PTEs must also pay an Annual Registration Fee, consisting of a base fee of \$775 plus an additional \$10 for every EFTS enrolled in the previous calendar year. Wānanga and government training establishments are also required to pay the registration fee. The registration fee covers the cost of work undertaken by the Quality Assurance Division of NZQA that benefits the whole tertiary sector, which cannot be charged at an hourly rate to individual providers (NZQA, n.d. c).

Between 2009 and 2015, 96 newly established PTEs gained registration with NZQA and 45 PTEs received TEC funding for the first time.

Accreditation process

PTEs, wānanga and ITPs must be granted accreditation by NZQA for each programme of study they deliver. This check is designed to ensure the provider has the necessary capabilities and resources needed to successfully deliver the programme.

The accreditation process varies depending on the NZQF level of the relevant programme but, in broad terms, applications have to include evidence that the provider has the capability and resources to effectively provide the programme, and a description of the overall structure of the programme. A less onerous accreditation process applies for applicants that hold a category one rating based on NZQA's External Evaluation and Review process (described below), who can demonstrate a successful history of provision in programmes similar to that for which they are seeking accreditation.

NZQA charges its standard rate (\$150/hour) to review accreditation applications, and sets a timeframe of 30 working days for providers holding a category one rating, and 55 days for providers holding a lower rating.

Consent to assess

If a provider proposes to assess students against unit or achievement standards, it must apply for NZQA consent to assess the relevant standards. Consent to assess is granted to organisations that can provide evidence they have the necessary resources, skills, knowledge and experience required for assessing against the standards (NZQA, 2011).

To maintain consent to assess, providers must continue to meet the consent and moderation requirements for which they have been granted consent, carry out self-assessment and participate in external evaluation, accurately report credits for students within three months of assessment, and pay credit reporting fees to NZQA (NZQA, 2011).

NZQA sets a timeframe of 60 working days for processing consent to assess applications and charges \$150/ per hour for analysis of consent applications.

TEOs with consent to assess must engage in the national external moderation system for standards for which they are assessing and reporting credits. This involves periodically submitting samples of learner work which are then assessed by NZQA to determine whether judgements are consistent with the national standard.

F5.9

New providers must complete a multi-faceted set of entry requirements before being eligible to deliver qualifications on the NZQF or apply for TEC funding.

Programme approval process

Education organisations planning to provide a programme of study that leads to a qualification listed on the NZQF must first apply for NZQA approval for the programme. NZQA's criteria for assessing programme approvals requires providers submit good evidence demonstrating how the programme will meet the

requirements of the relevant qualification. Different processes apply depending on whether the programme of study relates to a qualification at levels 1 to 6, or to a degree or higher qualification.

Levels 1 to 6

Applications for programme approval must include:

- a self-assessment report illustrating how the programme design matches the qualification outcomes and strategic purpose; and
- a programme document that sets out details including how the programme is acceptable to relevant communities and stakeholders, how the learning outcomes map to the qualification's graduate profile, and a brief description of each of the units of learning that make up the programme.

Applications are assessed by NZQA.

The programme approval process includes provisions for making changes to approved programmes. Relatively minor changes (type 1) – such as a change to the content of a component, but not the learning outcomes – do not have to be reported to NZQA. However, education organisations need to retain evidence of the internal quality assurance processes that approved the changes. More significant changes (type 2), such as a change to learning components that change the learning outcomes of the programme, must be approved by NZQA before they are implemented (NZQA, 2014a).

In the year to June 2016, NZQA received 958 applications for programme approval and accreditation (including type 2 changes) of which 781 were approved, 45 were declined and 132 withdrawn. The average cost for these applications was \$1 400.

Degree level qualifications and above

Approval applications for degrees and postgraduate qualifications require similar documentation as for applications at levels 1–6, but involve a different assessment approach. After an initial assessment by NZQA, these applications are then subject to a panel evaluation. The composition of the panel is decided on a case-by-case basis; however, a full panel will normally be made up of:

- an independent chairperson;
- an NZQA representative;
- two university academics from the area of specialisation relevant to the application;
- one senior academic from the applicant institution, but from a different discipline;
- one senior academic, from a similar institution with accreditation to award a degree in a similar subject area;
- two representatives of industry; and
- one Māori representative and, where appropriate, a representative of Pasifika or other relevant communities, who has knowledge and understanding of the discipline to which the application relates.

The panel is required to provide specialist expertise in evaluating the application against NZQA rules, and to contribute to a final report that recommends whether to grant approval, and whether any conditions should be attached to an approval. As part of this process, the panel will typically visit the provider to view the facilities and to meet with management, teaching staff, programme developers, other staff, and students (NZQA, 2014a). Independent Tertiary Institutions (sub. 81, p. 12) questioned the need for the involvement of university representatives on the evaluation panel for degree approvals:

when a PTE seeks approval from NZQA for a degree, it must include a representative from the university sector. This is far from a “high trust, high accountability” model. It also suggests that the university sector is the owner of all degrees. Surely if the approval processes of NZQA are deemed by the government to be robust enough to award degrees, then the imprimatur of the universities is not

necessary. Or perhaps CUAP [Committee on University Academic Programmes] will recognise this and start requiring representatives of the PTE sector on their approval panels.

NZQA aims to complete the degree approval process in six months, and notes that total costs for approval (which include the NZQA evaluation rate of \$150/hour, costs for panel members and travel costs for site visits) can exceed \$20 000.

For minor changes to degree level programmes (type 1), providers need to notify NZQA of the changes made using an online application form. More significant changes require NZQA approval, and this may involve a panel assessment and a site visit.

Inquiry participants noted that a change of programme delivery site (such as moving to a different floor within the same building) was an example of a change that required NZQA approval. Indeed, NZQA guidance notes that any change to a delivery site can affect the quality of teaching and learning and the resources available to learners, and changes to the delivery site will normally require evaluation by an external panel (NZQA, n.d. d; NZQA, 2014b).

After degree and higher level qualifications have been approved, NZQA will appoint a monitor. The monitor will conduct an annual visit to the TEO and complete a monitoring report. This process is designed to provide assurance to NZQA and stakeholders that the programme and its delivery continue to meet the criteria for approval. Costs associated with monitoring are charged to the provider.

If the monitoring process highlights major concerns, NZQA may request the provider take remedial actions or, in the event of persistent concerns, initiate a procedure to withdraw the provider's accreditation to deliver the programme. If monitoring reveals the programme is stable, once the first cohort has graduated, the provider may request to replace external monitoring with self-monitoring. This involves the provision of an Annual Programme Evaluation Report to NZQA.

The programme approval processes outlined above describe the process by which providers can seek approval to deliver a programme of study towards a qualification listed on the NZQF. Separate processes apply if a provider wishes to develop a new qualification (Box 5.5).

Box 5.5 Listing qualifications on the NZQF

Qualifications at levels 1 to 6

Developing a qualification at levels 1 to 6 involves a two-step process. Developers first apply to NZQA for approval to develop a qualification. Applications must include:

- a summary and rationale of the evidence to establish the need for each qualification;
- the stakeholder profile for the qualification; and
- a completed qualification template containing information such as the qualification title, type, level and credit value and a qualification outcome statement (comprising graduate profile, and education and employment pathways).

The second step involves the development of the qualification and application to NZQA to list the qualification on the NZQF. Applications must include some of the information required at the Approval to Develop stage, along with additional information such as:

- details on the award of the qualification;
- a specification which contains mandatory and optional conditions for the qualification and programmes leading to the award of the qualification, including the evidence requirements for assuring consistency of graduate outcomes;
- a description of stakeholder involvement in developing the qualification and attestations providing evidence of support; and

- identification of, and explanation for, any changes to the qualification's type, level, strategic purpose statement and/or graduate profile subsequent to Approval to Develop (NZQA, 2014b).

Degree level qualifications and above

For degrees, NZQA considers the associated qualification beside the proposed programme. If approved, both the qualification and programme are listed at the same time.

Source: NZQA, n.d. e.

Most inquiry participants argued that NZQA approval processes are too time-consuming and present barriers to the development and delivery of new material:

It has become prohibitively time-consuming, for instance, even to make changes to the assessment processes in a single paper, thanks to excessive bureaucratic regulation and control. (Duncan, sub. 18, p. 14)

Generally the process is time consuming and requires considerable and often repetitive documentation. The approval processes tend to be all about compliance with existing regulations with no obvious interest in innovative or more productive proposals which may be outside established squares. (Hooker, sub. 36, p. 16)

We developed what we thought was an innovative, promising course/model for training advanced software developers, and NZQA turned us down on what seemed like a technical/administrative basis. (Francis, sub. 94, p. 17)

The current qualification approval and assurance systems relies on a centrally driven quality assurance system, currently led in our case by NZQA. This system requires operationally intensive, time-consuming and time delayed approvals through a plethora of quality assurance mechanisms from a macro to micro level, from establishing a new service provider to making changes to programmes. (WeITec & Whitireia, sub. 59, p. 24)

ACG Tertiary and Careers Group (sub. 84, p. 20) argues that NZQA programme approval process "lacks flexibility and is bureaucratic". This hinders innovation and deters those within the sector from seeking to develop qualifications because it is "too hard". By contrast, Alpha Training and Development Centre (sub. 9, p. 14) notes it has "not experienced any hindrances in our dealings with NZQA since 1992; only warm cooperation and encouragement by all persons at all times".

F5.10

NZQA processes are time-consuming, costly and a barrier to innovation in the development and delivery of programmes. Tertiary providers have no choice in what quality assurances NZQA undertakes and charges them for.

In addition to the approval processes listed above, NZQA also seeks to ensure graduates with the same qualification are achieving the same outcomes at an equivalent standard, irrespective of the different programmes, pathways and education organisations through which the qualification was obtained. This is achieved through the "assuring national consistency of graduate outcomes" process (Box 5.6).

Box 5.6 NZQA's consistency of graduate outcomes process

To be confident that graduates have achieved the "same" qualification, a new quality assurance process has been introduced that aims to ensure there is consistency of graduate outcomes for the same qualifications, regardless of the pathway.

Qualifications are scheduled for a consistency review, which is facilitated by an independent reviewer. TEOs are required to prepare a report, based on evidence from their self-assessment, which the reviewer uses to reach a decision on consistency of the qualification.

To cover the costs of the reviews, NZQA charges a consistency fee of between \$12 and \$20 per graduate when completions of New Zealand qualifications are reported by education organisations.

Source NZQA, n.d. f.

External evaluation and review

The quality assurance activities outlined above all monitor “front-end” aspects of provision. External evaluation and review (EER) is NZQA’s main policy mechanism to ensure ongoing compliance with statutory policies and criteria after initial programme approval, accreditation and registration is granted. The main purpose of EERs is to evaluate the:

- extent to which the TEO systematically determines and addresses learner and wider community needs
- key processes contributing to the achievement of outcomes for learners
- quality of educational provision and its impact on learner progress and achievement
- achievement of outcomes for learners and the wider community...
- effectiveness of the TEO’s self-assessment in understanding its own performance and using this for improvement. (NZQA, n.d. a).

All non-university tertiary providers, except for Adult and Community Education (ACE) providers who are not also PTEs, are required to undergo external evaluation and review (NZQA monitors and regulates ACE providers through the annual reports and attestations they submit). EERs are initiated through an annual schedule and occur at least once every four years. The process involves four main steps:

1. *Developing the scope and the plan of the inquiry* – this involves establishing the areas of the TEO’s business that will be included in the evaluation, reviewing available information such as recent investment plans and annual reports, and early engagement with the TEO.
2. *Undertaking the inquiry, on-site* – this involves the evaluation team meeting with key decision makers at the TEO and, where necessary, collecting additional data from staff, students and external stakeholders.
3. *Reaching judgements on educational performance and self-assessment capability* – judgements are classified as one of four levels of confidence: Highly Confident, Confident, Not Yet Confident or Not Confident.
4. *Reporting findings* – findings are reported using a standard template that sets out the findings and conclusions of the process, the reasons for conclusions being reached, and any recommendations for improved TEO performance.

TEOs must achieve and maintain a whole-of-organisation rating of Confident or Highly Confident (category 1 or 2) in order to comply with NZQA’s policies and criteria. If the EER reaches any judgements of “Not yet Confident” or “Not Confident” (category three or four), the TEO must take actions aimed toward improving performance. Progress is then monitored by NZQA, and a further external evaluation and review will be scheduled to determine whether the actions taken have resulted in satisfactory outcomes. If they have not, NZQA may take further regulatory action which, in some cases, may result in the removal of accreditation, course approval or (in the case of PTEs) registration.

Ako Aotearoa submitted that the approach to EER is broadly effective:

NZQA’s SA & EER [self-assessment and external evaluation and review] model balances top-down control with the flexibility to innovate and respond. The agency establishes broad expectations, individual organisations (and units within those organisations) then identify how those should be expressed and implemented in their context, and NZQA then evaluates how effectively the TEO has done this. Although engagement with this model has varied, the basic approach is based on encouraging and facilitating new models of education practice. (Ako Aotearoa, sub. 58, p. 18–19)

By contrast, WelTec and Whitireia (sub. 59) note the EER process is costly, and suggest there may be benefits from adopting a more targeted approach to quality assurance:

In terms of NZQA's External Evaluation and Review (EER) process WelTec and Whitireia urge further exploration of a quality assurance regime that places a heavy emphasis on the initial and comprehensive investigation of a tertiary provider's internal quality processes at establishment, which is then reviewed periodically, where providers receive delegated authority for internal approval at relevant levels. Between reviews, a light touch sampling for compliance can be carried out, and where providers are not measuring up, heavy penalties can be applied. It should also be noted that an EER is a high cost activity, beyond the costs to the institution preparing for the process and the visit itself it costs in excess of \$100,000, on top of the amount paid to NZQA annually. (WelTec & Whitireia, sub. 59, p. 23).

This criticism suggests there may be scope for NZQA to adopt a more risk-based approach to EER. Risk-based regulation focuses on identifying and assessing the risk of harm and on channelling resources to modify or reduce harm (NZPC, 2014a).

NZQA's current approach does include some differentiation based on the level of risk. For example, following a provider's first EER, the frequency of subsequent reviews varies depending on the results of the initial review. Category 1 and 2 providers are reviewed within four years of their previous EER, category 3 providers within 12 to 24 months, and category 4 providers within six to 12 months. However, the fact the Education Review Office applies a four to five-year timeframe for reviewing highly-rated schools in the compulsory education system suggests there may be scope to extend the timeframe for reviews of highly-rated tertiary providers.

Some inquiry participants also raised concerns about the measures used in evaluations. Marshall (sub. 73) notes the NZQA *Policy and Guidelines for the Conduct of EER* state that "evidence of actual learner achievement, including, where possible, the progress or value-added component, is the primary indicator of effective educational delivery" (NZQA, n.d. a). However, Marshall suggests evaluations are "dominated by the TEC EPI [Educational Performance Indicator] data" and that there is "no evidence from the available reports or the external review that the value-added component is measured in any way other than the aggregate measures of cohort achievement generated through the EPI process" (p. 18–19).

Recently published EER reports do refer heavily to providers' EPI results. But reports also make use of employment outcomes information – however, this tends to be based on the provider's own data, and hence may not be externally verifiable. This issue should be resolved from 2017 when provider-level employment outcomes data is publicly available (section 5.9). EER reports also include feedback from employers, industry representatives and recent graduates.

F5.11

There is scope for NZQA to adopt a more risk-based approach to external evaluation and review, and for reviews to concentrate more on providers' value-add and student outcomes.

5.7 Quality assurance in the university subsector

The quality assurance arrangements for universities are distinct from the rest of the tertiary sector. Sections 240–241 of the Education Act 1989 grants the New Zealand Vice-Chancellors Committee quality assurance functions for the university subsector, including course approval, moderation procedures and accreditation processes.

The New Zealand Vice-Chancellors Committee operates under the name "Universities New Zealand". Membership is comprised of the Vice-Chancellors from the eight universities.

Universities New Zealand undertakes its quality assurance role through two entities.

- The Committee on University Academic Programmes (CUAP) approves qualifications and undertakes moderation processes across universities.

- The Academic Quality Agency for New Zealand Universities (AQA) is an independent body that supports universities through regular institutional audits and the promotion of quality enhancement practices (Universities New Zealand, 2013).

The CUAP process

CUAP's membership is made up of a representative from each university (usually at Deputy Vice-Chancellor Academic level), a chair (a Vice-Chancellor), a deputy chair and a student representative. CUAP conducts a peer review process on all new qualifications or significant changes to existing qualifications.

Universities New Zealand's submission (sub 17, p. 122–123) sets out an overview of the CUAP process:

The CUAP approval process is based on peer review. All submissions to CUAP (which encompass new qualifications and programmes and substantial modifications to qualifications and programmes) are subject to inter-institutional university review at a disciplinary level. Through the CUAP online system, proposals are made available for review by disciplinary experts in each of the universities. Where disciplinary expertise is lacking within New Zealand, it is a CUAP requirement that an international reviewer with disciplinary expertise provides feedback on the proposal.

Universities peer reviewing another university's proposal cannot oppose it on the grounds that a programme is already being offered elsewhere; they can only challenge it on academic criteria such as:

- Is there any chance that it will cause confusion for students or employers – for example, a one-year taught master's with a similar name to a two-year research-based master's qualification?
- Is the graduate profile (the expected skills and capabilities of a graduate) appropriate for the qualification? Has it had suitable input from relevant employers and sign-off by industry bodies? Where appropriate, has it had input from community and Iwi, whānau, hapū, and hāpori Māori?
- Is the proposed curriculum likely to produce graduates who conform to the graduate profile?

After being granted approval to deliver a new qualification, universities must prepare a report that demonstrates the programme is meeting its original objectives and an acceptable standard of delivery. These reports are prepared once a programme has produced its first cohort of graduates and must include consultation and input from industry, employers, graduates and other stakeholders. Reports are reviewed by members of CUAP and decisions are made as to whether the programme has approval to continue.

The Productivity Commission received a broad range of views from inquiry participants regarding the CUAP process. Tarling (sub. 10) suggests the CUAP process does not hinder innovation and notes that if existing regulatory constraints were loosened, one would see a reduction in quality and a subsequent decline in reputation. The New Zealand Union of Students' Associations (sub. 19) noted a preference for CUAP processes over those of NZQA:

We understand that others have suggested that the unique roles of CUAP and AQA should be done away with, and all brought into an NZQA administered system. We do not agree. Students are well ensconced within the CUAP/AQA processes and they are superior to the alternative. (p. 4)

Sampson et al. (sub. 14, p. 6) noted that the CUAP process helps to facilitate productive exchanges of ideas. However, the "limitations of the two annual rounds and the length of time for approval dampen enthusiasm and creativity. Internal approval requirements mean that proposals must be developed up to 18 months before they can be offered".

Several other inquiry participants raised concerns about the timeframes involved in the process:

Under the current CUAP system new courses and qualifications can take up to two years to be approved. This does not work for employers who want the development and delivery within a much shorter period. (Victoria University of Wellington Centre for Lifelong Learning, sub. 39, p. 1).

...the CUAP process may in some circumstances hinder innovation due to the lengthy and protracted review processes. Innovation is usually associated with opportunities to react and provide services and programmes rapidly. The CUAP process does not facilitate this timely response. (College of Health, Massey University, sub. 70, p. 18).

I have been on committees reviewing proposals for new programmes requiring CUAP approval and also reviewed proposals from other universities. The processes, internally and externally, are bizarre,

laborious, time-consuming and slow. Proposals take several years to work through the system, hardly a model of agility and fleet-footedness... I see no reason for CUAP at all – if universities want to offer a degree in Obscure Studies they will wear the consequences of either having no students because the course is unwanted or has a bad reputation, or has a low calibre of graduates who devalue the brand-name of the university. In short courses should be a university-level decision. (McNeill, sub. 13, p. 3)

The University of Otago (sub. 37) acknowledges that CUAP processes are time-consuming, but suggests this is largely due to approval processes within universities:

It is certainly true that qualification approval via CUAP is a time-consuming process: the most obvious way to deal with this would be to follow what is the norm in many parts of the world, and delegate complete authority over qualification approval to the universities themselves. However, the advantages of this would likely be far less than expected because:

- Most of the time taken to develop a qualification is actually development, review and approval time within the institution;
- In the absence of CUAP approval, the TEC and NZQA would likely have to require additional steps in institutional approval to ensure that a new qualification complied with the relevant qualification framework and funding requirements. (p. 40)

Other inquiry participants suggested that the CUAP process suppresses innovation and reduces competition:

The idea that the quality of a programme can be proven before it has been offered, and that peer review of pre-documentation somehow guarantees quality, runs **counter to models of innovation** which recognise and provide for prototyping, agile and iterative development of products and services before going to market. The current very time consuming approval process over-emphasises documentation and does not incentivise innovative approaches that are genuinely game-changing. Instead it encourages the reproduction of existing models as a straightforward way of satisfying the compliance requirements... we need a quality assurance process that enables us to prototype and test programmes in the market before final accreditation. (College of Creative Arts, Massey University, sub. 33, p. 6 – 7)

The self-accreditation of university programmes through CUAP serves as both a mechanism to ensure minimum levels of quality in teaching programmes and standardisation in degree nomenclature, and as a mechanism that constrains the scope for competition. (University of Waikato, sub. 93, p. 5)

Sainudiin (sub. 74, p. 6) argued that CUAP processes need to take greater account of development of qualifications in other countries:

An explicit comparison of NZ's BSc and BA degrees with those in other English speaking countries, including the UK and the US would make the quality assurance arrangement for Universities through CUAP more meaningful and internationally synchronised. To ensure graduating students are up to speed with international standards and expectations in a fastchanging world, it is equally important that curricula are revisited periodically (minimally every 5-10 years) to ascertain whether they continue to meet these objectives.

F5.12

The New Zealand Vice-Chancellors Committee's CUAP process is not conducive to innovation in the university subsector.

Academic Quality Agency

The Academic Quality Agency for New Zealand Universities (AQA) was established in 1993 by the New Zealand Vice-Chancellors' Committee to carry out audits of university processes which underpin academic quality. AQA's Governing Board is appointed by the New Zealand Vice-Chancellors' Committee, but AQA is operationally independent of Universities New Zealand.

AQA's submission describes its work as follows:

Since its creation, the AQA has conducted 4 cycles of academic audit of New Zealand universities, with a fifth cycle in progress. The frameworks for each of the cycles of academic audit have drawn on international best practice and the requirements of the New Zealand universities. Academic audits for an individual university occur every five years and universities are required to provide follow up reports on progress on recommendations made in audit reports. (Academic Quality Agency, sub. 29, p. 2)

Audit Reports are structured around a framework of 40 Guideline Statements (grouped into seven themes), which articulate qualities or standards that a university of good international standing would be expected to demonstrate (Table 5.6).

Table 5.6 Academic audit guideline statements: themes and examples

Academic audit themes	Example of guideline statements
Leadership and management of teaching and learning	Universities should have appropriate strategic and operational planning documents which include objectives related to student achievement and teaching quality, with key performance indicators which inform academic quality assurance processes.
Student profile: access, transition and administration processes	Universities should use processes for providing academic advice and course information to both new and continuing students.
Curriculum and assessment	Universities should have clearly-defined intended graduate outcomes (graduate attributes) which are publicly available and are accessible to students and staff.
Student engagement and achievement	Universities should use processes for monitoring and enhancing students' engagement with their study and learning.
Student feedback and support	Universities should use processes for gaining feedback from graduates regarding their satisfaction with their university experience and learning outcomes, and should be able to demonstrate that this feedback is used.
Teaching quality	Universities should use processes for assessing teaching quality and for monitoring and enhancing individual teaching capability of all teaching staff.
Supervision of research students	Universities should use documented processes for ensuring staff supervising research students are appropriately trained and experienced as supervisors, including processes to enable new or inexperienced staff to gain experience as supervisors.

Source: AQA, 2016.

A feature of the AQA process is that it focuses on “enhancing quality processes rather than directly examining the quality of delivery, for example AQA works to enhance the process of student support but does not evaluate the outcomes of this support” (Crawford, Harvey & Keng-Mun Lee, 2015, p. 26). Box 5.7 sets out two examples that illustrate the focus of AQA reports, drawing on the most recently published audit report (at the time of writing this report).

Box 5.7 Examples from an AQA audit report, Auckland University of Technology

One of the guideline statements assessed in the 2015 audit of Auckland University of Technology (AUT) is “Universities should use processes for assisting the retention, academic success and completion rates for particular groups, including Māori and international students”. In the case of AUT, Māori and Pasifika students were the priority groups identified for targeted assistance.

Drawing on AUT's self-assessment report, the audit describes a number of processes AUT uses to support these students, including pedagogical enhancements and regular assessment of EPI data. The audit notes the university has achieved slight increases in EPI results for Māori and Pasifika students in recent years. However, the audit report provides no further evidence as to how EPI results compare with other groups, or how the results compare with other universities, and does not provide any assessment regarding the acceptability of current retention and completion rates.

Another guideline statement that is assessed is “Universities should use processes for gaining feedback from graduates regarding their satisfaction with their university experience and learning outcomes and should be able to demonstrate that this feedback is used”. The audit report notes AUT runs an annual graduate survey that seeks feedback from graduates on their satisfaction with their university experience and on how relevant their programme of study was for employment. The audit report

provides no detail on the response rate to this survey or its results. The report does note that it is unclear how any feedback gained from graduates is used for programme or service improvement.

Source: AQA, 2016.

The emphasis of audits on process, rather than outcomes, appears to be a missed opportunity to identify improvements that matter most for students.

Inquiry participants had mixed views about the effectiveness and independence of the AQA audit process:

AQA audits are not in themselves consequential, they have no impact on funding and any impact is entirely dependent on the alignment of the recommendations with university priorities. The collegial nature of the process combined with the focus on self determination of priorities and evidence mean that these audits are unlikely to ever stimulate a re-examination of university priorities, mechanisms or focus... Although the focus of audit has shifted between cycles it is clear that the quality model is very much aimed at incremental improvements of existing activities dominated by internal systems and process improvements with no real evidence of any impact on student outcomes. (Marshall, sub. 73, p. 20)

The current AQA systems of periodic audit based on self-review reflect international best practice following guidelines issued by the OECD. National quality assurance arrangements via AQA are sufficiently robust to assure stakeholders that universities are operating in a transparent manner, which is fit for purpose. (Sampson at al., sub. 14, p. 6–7)

This divergence in views was also apparent in the independent review of AQA commissioned by Universities New Zealand in 2015. This review ultimately concluded the AQA audit system “meets the highest standards of independence and integrity” (Crawford, Harvey & Keng-Mun Lee, 2015, p. 27). However, the report does note that several stakeholders who were interviewed suggested the relationship between universities and AQA was too close to be truly effective. One interviewee from the university sector noted that “AQA owes its existence to the universities and could draw fire if it were seen to be challenging the universities too much. It appears unusual that the main university quality agency for an entire (albeit small) country is funded entirely by the universities themselves” (Crawford, Harvey & Keng-Mun Lee, 2015, p. 27).

F5.13

Audits conducted by AQA focus on process rather than the quality of delivery or outcomes achieved. This is a missed opportunity to identify improvements that matter most for students.

5.8 Financial monitoring

In addition to monitoring all TEOs that receive funding (section 5.5), under section 159KBA of the Education Act 1989, the Chief Executive of TEC must monitor TEIs in order to assess whether the operation or long-term viability of any institutions is at risk. The outcome of monitoring must periodically be reported to the Minister for Tertiary Education and Employment. This responsibility recognises that the Minister (on behalf of the Crown) has an ownership interest in TEIs (Box 5.8).

Box 5.8 The Crown’s ownership interest in TEIs

Although TEIs are not technically owned by the Crown (in the way that state-owned enterprises and other Crown-owned enterprises are), the Crown takes an ownership interest in TEIs. This stems in part from the requirement that the Crown act as a guarantor of TEIs’ financial obligations:

TEIs are statutory corporations and for general purposes are separate from the Crown. Moreover, despite their status as “Crown entities” under the Fourth Schedule of the Public Finance Act 1989, it is generally agreed that they are not, at least in common law, owned by the Crown. Instead the assets of TEIs are deemed, under the Education Act 1989, to be vested in each institution’s

governing body (ie, the council)... Nonetheless, it is argued by many of the government's advisers that the Crown is the "in-substance" or "economic" owner of TEIs. Such a case rests on at least two grounds: first, the government's long-standing role as the primary funder and regulator of tertiary education; and second, its legal liability, under section 217 of the Education Act 1989, "to pay and discharge all the debts, liabilities and obligations" of a TEI in the event that such an institution is disestablished (eg, because of its financial difficulties). For such reasons, TEIs have been included in the Crown's balance sheet... Whether the claim that the Crown is the in-substance owner of TEIs, especially universities, is justified is open to debate. Nevertheless, there can be little doubt that the Crown's legal responsibilities as the ultimate guarantor for the financial obligations of TEIs give it a legitimate ownership interest in the tertiary sector. (Boston, 1997, p. 7)

Until government disestablishes a TEI, it provides a comprehensive financial guarantee for the TEI's creditors and council members. This includes actions taken and liabilities incurred after the TEI became insolvent (ie, it could not raise enough cash to meet its obligations, or to pay debts as they became due for payment).

This differs from the standard arrangements for both for-profit and not-for-profit organisations, in which there are no guarantees for creditors, and any guarantee for directors extends only to the point of insolvency.

TEC has developed a financial monitoring framework which is the primary method it uses to monitor the financial wellbeing of TEIs. The framework bundles together a range of financial measures pertaining to the institution's immediate viability, and its longer-term sustainability (TEC, 2011). TEC uses the framework to establish a financial risk rating for each TEI that is reported to the Minister. TEC also reports to the Minister on the capital asset management of each TEI.

The Education Act 1989 allows the Chief Executive of TEC or the Minister to formally intervene in the management of TEIs if it is considered the operation or long-term viability of the institution is at risk. There are three intervention options.

- Requiring the institution's council provide the Chief Executive of TEC with specified information about the institution's operation, management, or financial position.
- The Minister may appoint a Crown observer to the council of the institution.
- Where other methods of reducing the risk have failed or appear likely to fail, the Minister may dissolve the council of an institution and appoint a commissioner to act in its place (s195B-D).

A commissioner was appointed at the Western Institute of Technology Taranaki from late 2006 to mid-2008, and at Te Wānanga o Aotearoa between 2005 and 2007. More recently, in December 2015, TEC and Lincoln University jointly agreed to appoint an independent financial advisor to provide specialist financial support to the university, and to report monthly to TEC.

Some inquiry participants suggested TEC's dual role as an independent funder and Crown monitor are "complementary and appropriately managed" (University of Otago, sub. 37, p. 9). Others noted there is a tension between TEC's two roles:

There is an inherent tension between the funding role seeking cost efficiencies and the monitoring role seeking to strengthen the performance and viability of organisations... funding decisions made on the one hand could undermine the Crown's ownership interest on the other. (NZITP & Metro Group, sub. 42, p. 13)

Two submitters from the PTE subsector noted the government guarantee for TEIs creates a significantly different operating environment compared with that of PTEs:

TEIs, with an effective Government guarantee, will never be allowed to fail. There may be implications for individual managers and staff (though in many cases there are not), but a PTE can fail utterly and the Government will let it. This can have massive consequences for owners, staff and students. The game is

a lot more real for PTEs without a Government safety net. (Independent Tertiary Institutions, sub. 81, p. 4)

With no option of a Government bailout, unlike the public sector, PTE's must operate with significantly more flexibility, speed, and efficiency to ensure financial sustainability and ongoing relevancy. (ACG Tertiary and Careers Group, sub. 84, p. 2)

Government's role as a financial guarantor for TEIs creates an unusual allocation of risk and responsibility. The standard arrangements for both for-profit and not-for-profit organisations provide a strong incentive for both creditors and directors to monitor closely for insolvency, and to act quickly to avoid or reveal such insolvency. In the case of TEIs, responsibility for responding to the consequences of financial failure sits with government. Therefore, government is compelled to undertake its own financial monitoring. However they do so based on the data that is reported to them periodically by TEIs which inevitably will be less current and more aggregated than that available to TEI council members.

F5.14

Government's comprehensive financial guarantee for TEIs' creditors and council members compels it to undertake financial monitoring of TEIs. However, government is not in the best position to fulfil this role as it has neither the most current or comprehensive information, nor is it best placed to intervene if financial issues emerge.

Other financial monitoring

Although the Crown's ownership interest is limited to TEIs, TEC acknowledges that any TEO failure would have negative consequences for learners. Accordingly, TEC monitors the financial performance of non-TEI providers. For example, TEC requires each industry training organisation to provide financial information each year such as statements of comprehensive income, movements in equity, financial position and cash flows.

TEC also monitors the financial viability of PTEs with a view to minimising any future failures; to provide additional assurance to students that PTEs are viable; and to provide greater assurance and security over the use of public funding. PTEs are required to annually submit financial data pertaining to a set of prudential standards. Where a PTE does not meet minimum standards, TEC may opt to cease funding, impose funding conditions, or require the PTE to enter into an action plan to ensure it meets minimum standards within a specified period.

PTEs are also required to have their accounts audited, or reviewed by a Chartered Accountant (depending on the amount of TEC funding they receive).

5.9 Information broker

Another role of government in the current tertiary education system is to provide information and careers advice to prospective students. Career information typically includes information about education and training, the content and nature of different jobs, and the level of demand for different skills. One reason for this type of government involvement in the tertiary system is that it can help to improve labour market efficiency by creating better matches between the skills of individuals and those required by employers. Career advice can also improve the efficiency of education markets by assessing learning needs and interests, and helping students to enrol in programmes that match their interests and abilities. In addition, career advice can promote social equity when it helps individuals maximise the use of their talents, regardless of their social background:

Disadvantaged groups are likely to be less familiar with key educational and labour market information than more advantaged groups. They may be less confident in, skilled in, or used to negotiating access to, complex learning systems. They may need more assistance in finding opportunities that can maximise their talents, and in overcoming barriers to accessing these opportunities. (OECD, 2003, p. 46)

Government's primary involvement in the provision of careers information and advice is through the Crown entity Careers New Zealand. Careers New Zealand has a staff of 102 (full-time equivalent) and receives Crown funding of \$15.5 million (Careers New Zealand, 2015). Its current strategy focuses on young people, Māori and Pasifika through:

- connecting educations and employers to improve career pathways and transitions;
- developing capability among people in organisations who influence other people's career choices; and
- developing new and existing digital tools and resources to help people make informed decisions about education and careers (Careers New Zealand, 2015).

In May 2016, it was announced Careers New Zealand would become part of TEC.

Alongside Careers New Zealand, at least three other government agencies are also involved in the provision of information. MBIE publishes *Occupation Outlook*, which is designed to be one of the first places young people look when making career decisions. *Occupation Outlook* provides information about occupations, including the expected future demand for the occupation, current study fees, average salary, qualifications valued and needed by employers, and information about where to study or train (MBIE, 2016).

Ministry of Education maintains some information for students such as the *Which Course Where* website, which enables students to search for providers of specific courses and qualifications in different parts of the country. Since 2009, the Ministry of Education has also published national-level information about graduates' labour market outcomes as part of its Employment Outcomes of Tertiary Education (EOTE) project, and will be publishing provider-level information from 2017.

TEC also provides information targeted toward students, trainees and apprentices, including the educational performance of each TEO as measured by four EPIs (course and qualification completion rates, student progression to higher level study, and student retention). As discussed in Chapter 4, from 2017, employers and graduates will be able to provide direct feedback regarding the value of qualifications through a TEC-administered "Rate My Qualification" survey.

Reflecting the fact information for prospective students is spread across several locations, TEC has developed, and is currently piloting, a Key Information Set for tertiary learners. The Key Information Set pulls together a structured set of information such as entry requirements, tuition fees and student success from a range of publicly available sources, and presents it in a consistent and comparable format on the websites of tertiary providers (TEC, 2016g).

F5.15

Government has a multitude of initiatives to provide information about careers and tertiary education to students and businesses. Responsibility for these initiatives are spread across four government agencies.

The effectiveness of government information initiatives in helping students to make informed decisions about study and career options is examined in Chapter 3.

5.10 Promoter

Government takes an active role in promoting New Zealand as a destination for international students. Education New Zealand (ENZ) was established in 2011 to increase the value of the international education industry, strengthen the capabilities of the industry and to ensure export education providers deliver high-quality and high-value education. Its main areas of activity are marketing, student recruitment and business development. ENZ sets out its role as follows:

ENZ is a Crown Agency tasked with growing the value of New Zealand's international education industry. It works collaboratively with industry and Government partners to market New Zealand as an international education destination, and to help grow New Zealand's education's products and services and associated industry capabilities. (Education New Zealand, sub. 52, p. 1)

The *Leadership Statement for International Education* (New Zealand Government, 2011) sets out three goals for ENZ and the international education sector. Each of these goals is linked to a set of measurable objectives (Table 5.7).

Table 5.7 Goals and objectives in the Leadership Statement for International Education

Goals	Objectives
New Zealand's education services, delivered in New Zealand, are highly sought after by international students.	Double the annual economic value of international education delivered in New Zealand to \$5 billion over the next 15 years, through increasing international enrolments.
New Zealand's education services in other countries are highly sought after by students, education providers, businesses and Governments overseas.	Over the next 15 years: <ul style="list-style-type: none"> • Develop and sustain mutually beneficial education relationships with key partner countries. • Increase annual revenues from providing education services offshore to at least \$0.5 billion. • Increase the number of international students enrolled in providers offshore, from 3 000 to 10 000.
New Zealand makes the best possible use of its international education expertise to build skills in the New Zealand workforce, to grow research capability and to foster wider economic connections between New Zealand and overseas firms.	Over the next 15 years: <ul style="list-style-type: none"> • Double the number of international postgraduate students from 10 000 to 20 000. • Increase the transition rate from study to residence for international students with Bachelor's level qualifications and above. • Increase New Zealanders' skills and knowledge to operate effectively across cultures.

Source: New Zealand Government, 2011.

ENZ's focus in the four years since its establishment has been largely on the first of these goals, and the number of international students studying in New Zealand has increased since ENZ's establishment.

New Zealand is not alone in establishing a dedicated government agency with a target to increase the scale of the international education sector. For example, the United Kingdom's strategy for international education sets a target to increase the number of international students in higher education in the United Kingdom by 15% to 20% over five years (Department for Business, Innovation and Skills, 2013a). To support this goal, the UK Government established the International Education Council, which works to identify actions that will lead to a major increase in UK education exports.

The Australian Government recently released the *National Strategy for International Education 2025*, which sets out a 10-year plan for further developing Australia's international education sector and seeks to increase Australia's share of the international student market (Australian Government, 2016). In addition, the Australian Trade Commission is tasked with helping education institutions develop international markets and promote international education (AusTrade, 2016). Canada also has an international education strategy, which includes the target of increasing the number of international students in Canada from 239 000 in 2011 to more than 450 000 in 2022 (Canada's International Education Strategy, 2014).

Policy and regulatory framework for international students

In addition to directly promoting New Zealand as a destination for international students, government also sets the migration policy settings for international students, and regulates providers who enrol international students.

Regulatory controls regarding source countries, visa conditions and potential pathways to longer-term migration all have an important influence on the ability of New Zealand's tertiary providers to recruit international students (Bestwick & Ewan, 2016). Foreign nationals who want to study for more than three months usually have to apply for a student visa. Immigration New Zealand grants student visas, which allow students to stay in New Zealand for the duration of the course they are enrolled in, and usually allow

students to work for up to 20 hours per week. Immigration New Zealand will only issue a student visa if the course, programme or qualification the student plans to undertake is approved by NZQA or CUAP.

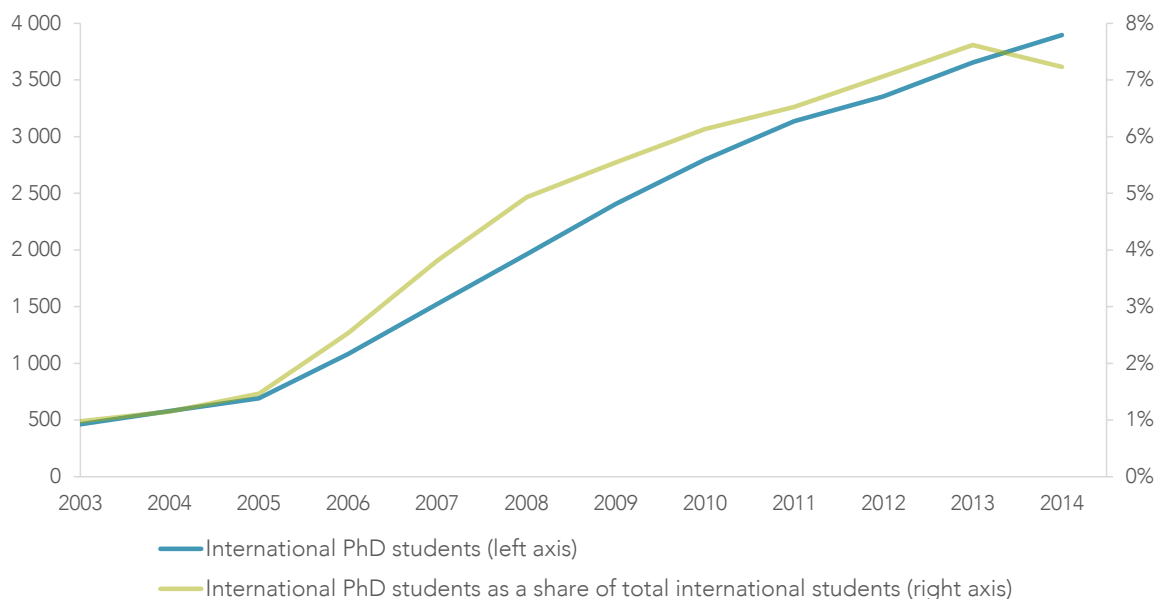
In 2014/15, 48 000 international student visas were granted and, in June 2015, there was a total of 74 400 student visa holders in New Zealand (MBIE, 2015a).

NZQA requires all tertiary providers that enrol international students are signatories to the *Education (Pastoral Care of International Students) Code of Practice 2016*. The code sets out minimum standards of advice and pastoral care, and sets out procedures that international students can follow if they have concerns about the treatment they receive from their education provider.

Unlike the arrangements for domestic students, government does not set limits on the number of international students enrolled, and does not limit fees. In 2014, New Zealand tertiary providers collected a total of \$753 million in fees from international students. The average fees charged per international EFTS in 2014 were \$14 200 (ITPs), \$23 200 (universities) and \$10 900 (PTEs) (MoE, 2016b).

In 2006, a policy of subsidising international doctoral students as if they were domestic students was introduced. This enabled providers to reduce their fees for international PhD students to the same level as for domestic students. This significantly reduced the annual fees charged for international PhD students at the time from around \$28 000 to \$5 000 (Gerritsen, 2010). The introduction of this policy resulted in a sharp increase in the number of international PhD students enrolled in New Zealand, both in absolute terms, and as a share of total international student enrolments (Figure 5.5).

Figure 5.5 International PhD enrolments, 2003–2014



Source: MoE, 2016b.

More recently, a government subsidy was made available for international students enrolled in research-based postgraduate qualifications (such as a thesis-based Master's degree). This value of this subsidy is less than half that paid for domestic students enrolled in equivalent qualifications, and providers are still able to charge international fees for these programmes.

Several inquiry participants (University of Auckland Society, sub. 38; Auckland University of Technology, sub. 64) supported the policy of charging domestic fees for international PhD students. The University of Auckland notes:

Domestic fee levels for international PhD students support our UG/PG [undergraduate/postgraduate] profile and boost the pool from which we can recruit well trained and high achieving postgraduate researchers. Many of these highly qualified graduates will be available to meet the needs of New Zealand employers. (sub. 85, p. 12)

By contrast, Hansen (sub. 55, p. 1) suggested that “New Zealand taxpayers receive very little value in return for paying for students from overseas to do PhDs and Masters”.

5.11 Conclusion

Government’s role in the tertiary system is pervasive and wide-ranging. Each year, government allocates a significant amount of funding to tertiary education, which is delivered as direct subsidies to tertiary providers and to students through the student support system. The fiscal costs associated with student support and interest free student loans is an important driver of other tertiary policy settings, such as the cap on total enrolments and fee regulation.

Tuition subsidies allocated to tertiary providers come with tight specifications on the nature and volume of delivery, which limit the ability of providers to develop new or innovative offerings. Government also regulates the fees that providers charge. These settings have created a very stable funding environment in which resources rarely move between providers, and providers are unable to differentiate on the basis of fees or quality.

A small number of submitters were relatively satisfied with the current policy settings for tertiary education. However, for the majority of inquiry participants the rigidity of the tertiary system that stems from government involvement is a source of considerable frustration. One inquiry participant summarised that extent of government control as follows:

The Government only controls the number of students, the amount of funding available, the level of fees and what you can teach. Everything else is up to you. (Independent Tertiary Institutions, sub. 81, p. 20)

Alongside a tightly-controlled funding system, government plays a quality assurance role within the system by setting entry requirements, an accreditation process and programme and qualification approval processes. These processes are time-consuming, costly and make it difficult for providers to adjust existing programmes or to develop new offerings to meet changing student demand. Quality assurance in the university subsector, which is largely delegated to Universities New Zealand, is also characterised by slow timeframes for the approval of new degrees, and focuses primarily on processes rather than student outcomes.

6 Providers of tertiary education

Key points

- Most providers, including all tertiary education institutions (TEIs), are not-for-profit “mission maximisers”. They want to generate a surplus to support activities that further their mission. These missions vary within and between tertiary subsectors.
- Many tertiary education staff are strongly committed to, and believe in the moral value of, the work that they do. There is a widespread, though not universal, view among tertiary education staff that “red tape” and excessive management increase costs and reduce their ability to do good and enjoyable work, without any compensating gains in quality.
- Academic culture is a powerful force in TEIs, especially universities. It tends to run along disciplinary rather than organisational lines, and places value on independence, reputation and prestige.
- Government funding is the most important revenue source for most providers, including all TEIs. Funding for teaching and learning is much larger than funding for research.
- Most TEIs are very capital-intensive. This may be in part because of prestige associated with owning very old, or very modern, buildings; and because good facilities attract fee-paying international students. Another possible reason is that providers want to avoid showing a large visible surplus, and investing in land and buildings is an attractive means to this end – as described in Chapter 8.
- The Performance-Based Research Fund and international rankings incentivise providers to focus on particular kinds of research, and to prioritise investment in research over investment in teaching.
- New Zealand providers do relatively little research into tertiary pedagogy and into the quality of tertiary teaching. This is a missed opportunity for internally informed improvement.

Previous chapters describe the nature of tertiary education (Chapter 2), students and employers (Chapters 3 and 4), and government involvement (Chapter 5).

This chapter is largely descriptive, setting the context for the analysis in Chapters 7 and 8. It makes generalisations about what the Commission observed, and these will not be true for all providers or all activity within providers. But they will be true enough, for enough system participants, to support meaningful analysis in the following chapters:

- Chapter 7 describes the Tertiary Education Commission (TEC)-funded market in which providers operate, and the incentives in that market; and
- Chapter 8 examines the implications for providers, students, system efficiency, employers, and innovation.

6.1 Providers and funding

The government controls the number and form of providers

Chapter 5 documents the extensive licensing controls government applies to tertiary education. The vast majority of tertiary funding is only available to TEIs; and the number and form of those TEIs is fairly static. Government controls entry, and some types of delivery are limited to particular TEIs or to specified

subsectors. Chapter 5 also explains that government provides an unusually comprehensive guarantee of the finances of TELs.

Figure 6.1 shows New Zealand's TEC-funded tertiary education organisations (TEOs), including ITOs, which Chapter 4 discusses. These TEOs supply to one or both of two main markets²⁶ in tertiary teaching and learning: domestic provision funded by the Tertiary Education Commission (TEC), and unsubsidised (user-pays) domestic and international provision.

Provision funded by the Tertiary Education Commission

TEC provides the bulk of its funding to 27 public tertiary education institutions (TEIs: eight universities, 16 Institutes of Technology and Polytechnics (ITPs), and three wānanga). Together, these institutions received about 81% of TEC funding in 2014 and accounted for about 75% of all funded equivalent full-time students (EFTS) (TEC, 2015a).

Around 250 private training establishments (PTEs) also receive TEC funding. The largest of the PTEs rival the smaller TEIs in size, but most are smaller (in many cases, much smaller).

TEC also funds 32 Community Education Providers (CEPs) and a large number of schools for specific programmes, including Adult and Community Education (ACE), Gateway and STAR.

TEC funds 11 ITOs to arrange training for employers.

Chapter 7 expands on the nature of competition in the market that TEC funds.

Provision not funded by the Tertiary Education Commission

Many providers deliver unfunded user-pays services alongside TEC-funded provision, to international students and sometimes to fee-paying domestic students (eg, user-pays ACE at universities).²⁷

In addition, about 240 providers registered with the New Zealand Qualifications Authority (NZQA) receive no TEC funding. Such providers include English language schools aimed at international students.

The main business of a large number of companies is to provide training (eg, professional development, sports coaching or unfunded personal-interest learning). Some of these companies are not registered with NZQA and do not receive any TEC funding. In 2015, some 534 enterprises in New Zealand were working in the field of "tertiary education", and a further 3 507 in "Adult and Community Education" (Statistics New Zealand, 2016c).

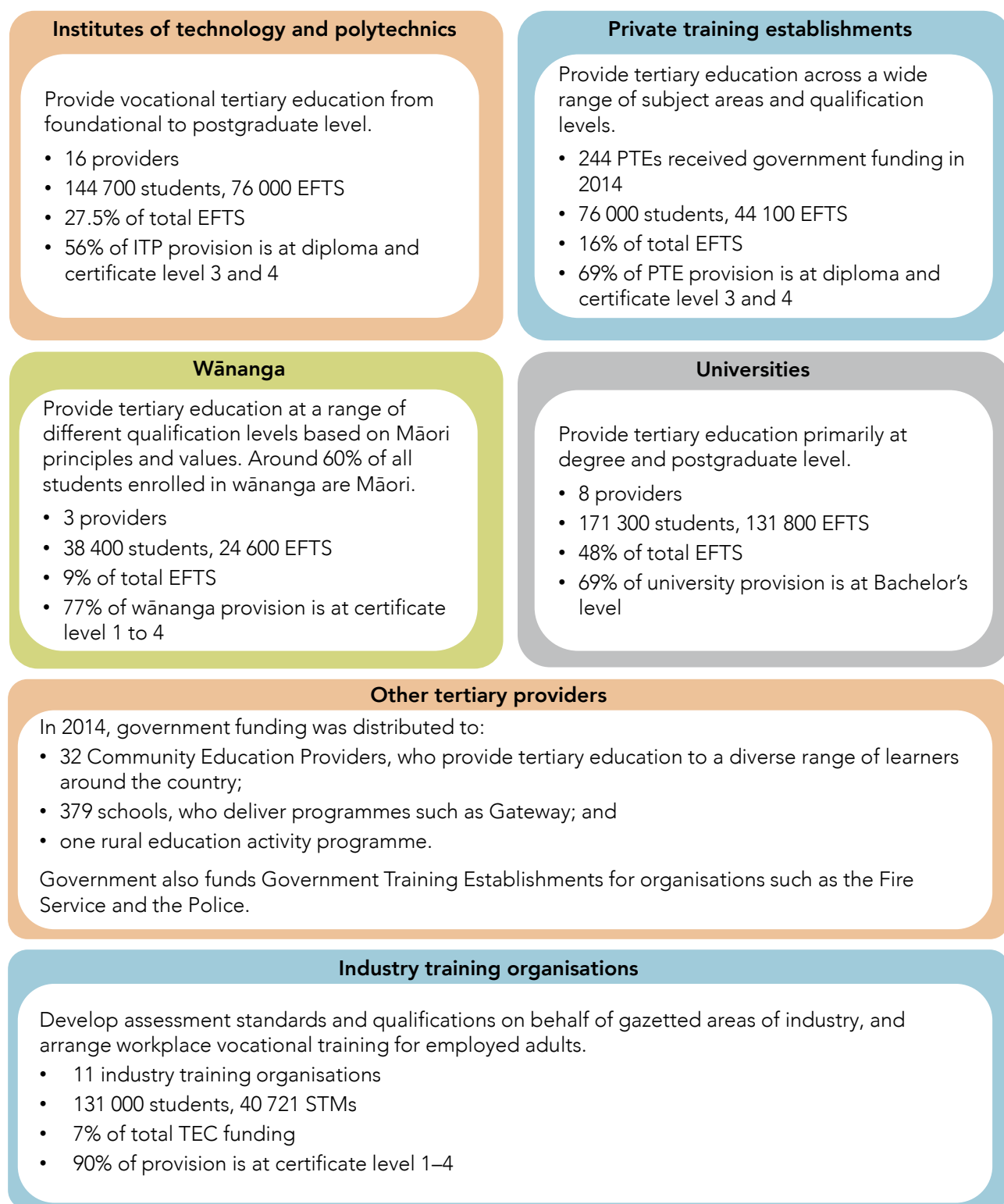
In addition, employers across all industries train employees in aspects of their work. They manage much of this training informally and in-house, though larger employers may employ their own training staff.

Other markets

As well as TEC-funded and unfunded teaching and learning, providers may also supply goods and services in markets for student accommodation, research and consultancy, and philanthropic donations (Chapter 7).

²⁶ While many inquiry submitters used the term "market" in describing tertiary education, the Commission acknowledges that the term has negative connotations for some submitters (eg, TEU, sub. 83; Quality Public Education Coalition, sub. 48). These submitters may take "market" to imply an inappropriate commodification of education. As the discussion in this chapter about complex goods makes clear (in addition to the more extended discussions in Chapters 2 and 7), the Commission does not consider that characterising tertiary education delivery as happening in a market means it must be viewed as a simple commodity.

²⁷ Fee regulation prevents tertiary education providers from offering full-fee delivery to domestic learners on any courses that attract TEC funding. Courses that attract no TEC funding are not subject to fee regulation, but students cannot borrow from the Student Loan Scheme to cover fees for these courses.

Figure 6.1 Tertiary education providers that receive TEC funding**Notes:**

1. New Zealand had 17 ITPs at the time the Issues Paper was published. Since then, Bay of Plenty Polytechnic and Waiariki Institute of Technology have merged into a new single entity.
2. The summary figures for PTEs include only those PTEs that received funding from government in 2014. Data are not available for the approximately 240 PTEs that receive no government funding.
3. The Industry Training Federation provided the data on industry training.

6.2 Most providers are not-for-profit “mission maximisers”

Public TEIs can be characterised as not-for-profit firms that seek to maximise their mission, as opposed to for-profit firms that seek to maximise profits. The Education Act 1989 clearly sets out the purpose of TEIs (Box 6.1) and requires people in governance positions to pursue that purpose (s 176A).

Box 6.1 Statutory characterisation of TEIs in section 162(4) of the Education Act 1989

(4) In recommending to the Governor-General under subsection (2) that a body should be established as a college of education, a polytechnic, a specialist college, a university, or a wananga, the Minister shall take into account—

(a) that universities have all the following characteristics and other tertiary institutions have 1 or more of those characteristics:

(i) they are primarily concerned with more advanced learning, the principal aim being to develop intellectual independence:

(ii) their research and teaching are closely interdependent and most of their teaching is done by people who are active in advancing knowledge:

(iii) they meet international standards of research and teaching:

(iv) they are a repository of knowledge and expertise:

(v) they accept a role as critic and conscience of society; and

(b) that— ...

(ii) a polytechnic is characterised by a wide diversity of continuing education, including vocational training, that contributes to the maintenance, advancement, and dissemination of knowledge and expertise and promotes community learning, and by research, particularly applied and technological research, that aids development: ...

(iii) a university is characterised by a wide diversity of teaching and research, especially at a higher level, that maintains, advances, disseminates, and assists the application of, knowledge, develops intellectual independence, and promotes community learning:

(iv) a wananga is characterised by teaching and research that maintains, advances, and disseminates knowledge and develops intellectual independence, and assists the application of knowledge regarding ahuatanga Maori (Maori tradition) according to tikanga Maori (Maori custom).

New Zealand also has some private providers, including PTEs and CEPs. Some are for-profit, but many are not-for-profit mission maximisers.

Mission maximisers that produce multiple services (as do all TEIs) can treat some activities as “profit centres”, and use those profits to do more of other activities that are most important to their mission. This gives them essentially the same incentives as for-profit firms that want to maximise profits for the benefit of owners or shareholders. The motivation is different, and so is the destination of surplus funds – but the incentivised behaviour is largely the same.

This is consistent with the observations of Philipson and Posner (2009) that, for many regulatory purposes, not-for-profit firms should not be treated any differently from for-profit firms. In particular, they note that the efficiency costs arising from the absence of competition between not-for-profit firms are just as large as the efficiency costs of reduced competition between for-profit firms.

Bowen's Law: tertiary education expenditure is ever-increasing

Howard Bowen (1980) described five "laws" of tertiary education expenditure.

1. The dominant goals of institutions are educational excellence, prestige, and influence.
2. In quest of these goals, there is virtually no limit to the amount of money an institution could spend for seemingly fruitful educational needs.
3. Each institution raises all the money it can.
4. Each institution spends all it raises.
5. The cumulative effect of the preceding four laws is toward ever-increasing expenditure.

New Zealand TEIs and commentators provide support for Bowen's Law.

Universities will always tend to spend all the funds they raise because one of the key reasons they exist is to share, advance, promote and apply knowledge. So, just as a strong commercial entity will do well at generating a financial return to its shareholders, an effective university will excel in investing all that is available to it in producing knowledge-related returns. (University of Otago, sub. 37, p. 14)

...costs in publicly funded TEIs are endogenous, in that they expand to consume the revenue provided. (Evans & Quigley, 2006, p. 234)

These observations are also consistent with characterising TEIs as mission maximisers.

Some submitters interpreted "raising all the money" in Bowen's law 3 as fundraising from donors.

Bowen's law has perhaps more application in markets where funding is less constrained than it is in New Zealand and fundraising is more prominent – the US, is a key example. Laws 1 and 4 (and to a lesser extent, Law 2) can be applied easily to New Zealand institutions, but Law 3 ("Each institution raises all the money it can"), while desirable, probably does not apply so much. If it does, it occurs mostly in the university sector. (Independent Tertiary Institutions, sub. 81, p. 16)

However, Bowen's laws, taken as a group, appear applicable to all sources of revenue.

6.3 What mission are providers maximising?

Universities

A primary mission of New Zealand universities is to advance knowledge via teaching and research. The Education Act 1989 characterises universities as being "primarily concerned with more advanced learning, the principal aim being to develop intellectual independence" (s 162). Views differ on the extent to which universities should advance knowledge for its own sake or in order to benefit external users.

The Act also notes that universities should be a repository of knowledge and expertise. Certainly part of the historical value of universities was that they allowed individuals to overcome the problem of scarcity of knowledge. However, this is arguably becoming less important. As Ed.Collective commented in its submission:

Places of learning like universities used to hold the monopoly on knowledge. If you wanted to learn something, they were the place to go. That is not the case anymore. There are, arguably, higher-quality, more relevant, more affordable and more flexible ways of acquiring the same knowledge. (sub. 89, p. 41)

The research mission of universities is discussed in section 6.5.

The Act also states that universities should "accept a role as critic and conscience of society", which is discussed further in Chapter 9.

Institutes of technology and polytechnics

ITPs share a mission to support regional economic growth and community wellbeing, by providing work-relevant vocational training to a wide diversity of students, and by doing applied research that solves practical problems for local end-users.

The submission from the 16 ITPs emphasises the industry-led nature of ITP education:

ITPs have a distinctive business model that combines theoretical and practical learning in an applied context. ... [The model] is strongly driven by industry. Learning and teaching are immersed in the industry/workplace environment. Teaching staff are recruited primarily for their industry experience and credibility; learning takes place within either real or simulated workplace environments and especially at the higher levels is project-based, where students learn by solving real-life problems, often with real profits or penalties at risk. (NZITP & Metro Group, sub. 42, p. 2)

ITPs also emphasise their role in providing accessible tertiary education to students from all walks of life, and in particular for students who are not academically minded and/or did not have a good experience of school:

ITPs have a remarkable track record of providing a high support environment for a wide cross section of school leavers, from the intellectually most able, through those who know their preferred career path and want to get started as fast as possible, to those who have enjoyed minimal success in the compulsory school system and who need a combination of support and the autonomy due to their age and maturity. ... ITPs are the most successful sector at providing an open door and a learning pathway to success to students who have not felt at home in the compulsory or the academic environment. (sub. 42, p. 3)

ITPs enrol a much higher proportion of older students than do universities (Chapter 3). Many ITP students are in the workforce or raising families, and need flexible delivery that does not require them to be on campus every day. The Open Polytechnic of New Zealand, as a specialist distance provider, specifically targets this group of students (including via its new iQualify online platform described in Chapter 11); but most other ITPs also provide distance or block-course learning options to accommodate the needs of students in work.

ITPs are often regarded as a second choice

Vocational education in New Zealand (as in many other countries) is traditionally regarded as a “second choice” for those not capable of success in an academic context – as opposed to a legitimate and desirable high-quality first choice for students whose talents and strengths are practical rather than academic.

The ITPs commented in their shared submission that the ITP sector is “held back by its image in a society which has inherited the outmoded dichotomy that differentiates “theoretical” and “practical” knowledge and that ranks the former above the latter” (sub. 42, p. 2). Waikato Institute of Technology (Wintec) submitted that this public perception “creates a barrier to many students who would otherwise gain enormously from participation in ITP education and training services” (sub. 46, p. 1).

The creation in 1990 of a single tertiary funding system was intended by government to diminish the distinction between academic and vocational education. However, the legislative provisions gave universities unique power to set standards for University Entrance, to approve their own qualifications, and to self-regulate the quality of their delivery. These provisions support, rather than undermine, the traditional view that university education is of higher status, quality or desirability than that of other types of tertiary provider.

Wānanga

The following factors, from a 1999 Waitangi Tribunal report, characterise wānanga and shed light on their mission:

- (a) wānanga have been established by iwi as independent institutions to meet the developmental needs of iwi and, through iwi, Māori generally;
- (b) each wānanga enjoys the participation of all sectors of the iwi, from young members as students through to elders as teachers;
- (c) mātauranga Māori, and its maintenance, development, and dissemination, are central to wānanga activities;
- (d) each wānanga operates according to the tikanga of the founding iwi, and is identifiably Māori in its environment and operations;

- (e) the majority of the wānanga student body are described as being 'second chance' learners, whose experience of education prior to arriving at the wānanga was not satisfactory;
 - (f) the development of spiritual strength and depth among the students is an integral part of the wānanga programme; and
 - (g) the wānanga, as a whole, is guided, directed, and controlled by Māori people.
- (Waitangi Tribunal, 1999, p. 17)

In addition to the above shared characteristics are the mission statements of the three wānanga that TEC funds.

- Te Wānanga o Raukawa has been guided since 1975 by the principles of its founding iwi development strategy *Whakatupuranga Rua Mano: Generation 2000*. That strategy identifies the health and wellbeing aspirations of its founding iwi (Te Wānanga o Raukawa, n.d.). The wānanga also has a strong commitment to protecting and enriching te reo Māori and tikanga Māori.
- Te Wānanga o Aotearoa pursues a mission of enabling large numbers of Māori nationwide to participate and succeed in tertiary education. To this end it delivers in local communities all over New Zealand (both via distance learning, and face-to-face at community facilities or on marae), making tertiary education visible and accessible to those who might not otherwise access it. Anecdotally, by attracting older students who are influential within the whānau, Te Wānanga o Aotearoa also attracts younger, hard-to-reach Māori students who were previously disengaged from education (Davies, 2012).
- Te Whare Wānanga o Awanuiārangi's mission is to "Pursue knowledge to the greatest depths and its broadest horizons. To empower the descendants of Awanuiārangi and all Māori to claim and develop their cultural heritage and to broaden and enhance their knowledge base so as to be able to face with confidence and dignity the challenges of the future" (Te Whare Wānanga o Awanuiārangi, n.d.). The wānanga delivers provision from foundation to doctorate level, catering to all levels of ability and ambition. It identifies itself on the international stage as having expertise in indigenous issues, participates in the Performance-Based Research Fund (PBRF), and has lobbied for permission to describe itself as an "indigenous university".²⁸

Private Training Establishments and Community Education Providers

Not-for-profit (ie, mission-maximising) PTEs and CEPs tend to have strong social-good missions. They may deliver, or be allied with organisations that deliver, social services as well as educational services. They may be general providers, or may specialise in students with particular characteristics, or particular locations or fields of study.

Providers involved in ACE tend to share a mission to provide accessible lifelong learning opportunities at the local level for two different groups of adults:

Part of the ACE sector (often taxpayer funded) is focused on helping [adults whose school experience has been negative] regain their confidence, and reach their potential as contributing adults. Most of the ACE Sector (user pays) is focused on enriching courses for successful, curious and high achieving adults (who experienced success in their school education) who wish to continue to grow, contribute and have satisfying lives and have the financial capacity to action this option for themselves. (ACE Aotearoa, sub. 32, p. 1)

Some ACE organisations provide additional services, such as childcare and transport, to enable students to overcome barriers to educational engagement (ACE Strategic Alliance, sub. 34). These additional services do not receive any TEC funding, though some may receive government funds via other sources.

SeniorNet is a nationwide network of CEPs focused on teaching older adults new technology. SeniorNet Wellington stated that its mission is "To foster opportunities for older adults to embrace and keep pace with emerging technologies that will not only enrich their lives but also enable them to effectively and efficiently share their knowledge and wisdom in the community" (sub. 11, cover letter, p. 1). SeniorNet historically

²⁸ At present, only PTEs can seek permission to use the protected term "university" (Chapter 5).

received ACE funding, but is no longer eligible because of policy changes to the purpose of ACE (Chapter 7).

Individual staff

It is clear that many people working in tertiary education have a high level of personal dedication to and passion for their work; that is, dedication to their students or to their field/discipline, and very often to both. The Commission observed wide endorsement of the view that working in tertiary education as an educator or researcher is intrinsically rewarding and worthwhile. For many people in the sector, the work they do is a very important and highly valued feature of their personal identity, and a personal passion.

Many people working in TEIs in particular, but also many in PTEs and CEPs, hold a widespread and intrinsically motivating strong belief in education as a public good, in the moral purpose of their organisations, and in the meaningfulness of their personal service in support of this moral purpose.

Many people working in TEIs also believe in the proper role of the academic as an independent, autonomous, respected and trusted professional.

6.4 Academic culture

Academic culture is a powerful influence in universities and some other TEIs. While it has evolved over time, it has enduring features that influence assumptions about what is normal and affect the acceptability (and therefore costs and benefits) of different courses of action by TEI governors.

Allegiance to discipline trumps allegiance to institution, and independence is highly valued

Academic identity tends to run along disciplinary rather than organisational lines. Usher (2016) gave the following short history of US universities as collective organisations:

It was Robert Hutchins, influential President of the University of Chicago from 1929 to 1945, who once described the university as "a series of separate schools and departments held together by a central heating system". This was an astute observation about the nature of universities and their relationships with the disciplines that inhabited them.

In the 18th and 19th centuries, universities slowly ate the sciences. It was a pretty good trade: by joining the university system, scientists got other people to pay for the development and upkeep of their laboratories, whilst universities benefitted from the prestige of having scientists on payroll. But there was a certain price exacted. Universities stopped being small, unified institutions teaching liberal arts. They had to share space in the minds of their staff with various "invisible colleges", the global networks of scientists that form the backbone of what we call "the disciplines". By the early twentieth-century, the local branches of these invisible colleges were asserting primacy over the organizations to which they legally belonged.

But then, gradually, even the bonds of discipline weakened. WWII and its aftermath created the research university, and that changed academic priorities. By the 1960s, Clark Kerr, President of the University of California, described the university as a "federation of independent academic entrepreneurs held together by a common grievance over parking". That is: not only did universities have a weak centre, but now even the disciplines were not particularly an organizing principle.

Shugart (2013) commented to similar effect that US universities "have always been something of a loose confederation of faculty, staff, and students organized around purposes that are not always aligned" (p. 7). Similarly, the earliest UK universities were (and in some cases still are) federations of independent colleges.

Likewise, university academics in New Zealand tend to identify first and foremost as autonomous and independent professionals loyal to their discipline, rather than as employees loyal to an employer.²⁹ New Zealand's academic workforce is discussed further in section 6.8. Academic freedom is described in Chapter 9 in the context of the role of the university as the "critic and conscience of society".

²⁹ This is not unique to academics – it can arise in any job in which professional imperatives derive not from the employer but from the profession. Examples include in-house lawyers, corporate or public-service doctors or veterinarians, and the clergy.

Prestige and reputation matter a great deal

For academic institutions internationally, prestige – that is, widespread admiration for the quality and standing of the institution – powerfully influences self-image at the organisational level and individual level. Along with reputation, prestige is important for attracting high-quality students (or their parents), staff and external funders. This is despite the fact that, in the United Kingdom at least, university prestige or “brand value” is a poor indicator of students’ employment outcomes (Kleiman, 2015).

Old buildings can denote prestige, as in the terms “redbrick” and “Ivy League”; and so can new buildings, if sufficiently impressive. University publications and advertisements (in New Zealand and overseas) tend to feature their oldest, most Oxbridge-like buildings alongside their most modern facilities.

Research profiles – including, within New Zealand, PBRF scores – are also increasingly important in building institutional reputation and prestige. As Armstrong (2014) commented:

In higher education, success in the realm of research has a strong influence on overall institutional reputation, which then has a considerable impact on the brand value of the undergraduate education. This coupling provides impetus to institutions at all levels to increase their research activities. (p. 6)

Academic culture in ITPs

The Commission heard a suggestion that, for some time in the 1990s, some ITPs “lost their vocational roots” in seeking to become universities (and in some cases ceased to pay sufficient attention to their core vocational business, with PTEs and wānanga moving into their market space). One PTE observed

a migration of ITPs from vocationally oriented provision to more academic, research-informed delivery, along with the promotion of “tutors” to “lecturers” and “senior tutors” and even professorships. (Methodist Mission Southern, sub. 5, p. 4)

This may be changing, as ITPs’ submissions to this inquiry suggest a strong focus on their shared “brand” as industry-led vocational providers.

6.5 The research mission of universities

In order to get ahead, lecturers are encouraged to follow a research pathway. In that context, students can become a hindrance. (Ed. Collective, sub. 89, p. 30)

The PBRF and international rankings create a strong financial incentive for universities to engage in research that will attract external income, and/or result in publications in international peer-reviewed journals.³⁰

These incentives act very powerfully at the level of the individual, as well as at the organisational level, because providers have created internal incentives that reward individual academics for particular activities. The incentives are cultural as well as financial, and mutually reinforcing (eg, boosting research reputation with peers can deliver both reputational and financial returns). The incentives operate in both the TEC-funded and the non-TEC-funded markets, as they influence recruitment of international staff and international students as well as the provider’s reputation with TEC.

The role of the Performance-Based Research Fund

The PBRF allocates funding to participating providers based on three metrics:

- research degree completions (25% of fund): the number of postgraduate research degrees completed at the provider, measured each year;
- external research income (20% of fund): how much research income the provider has attracted from external sources, measured each year; and
- quality evaluation (55% of fund): a qualitative and quantitative assessment of the research performance of eligible staff, as judged by panels of expert peer reviewers in the relevant discipline.

³⁰ Universities are not the only providers that participate in the PBRF, but collectively they receive more than 97% of its funding (TEC, 2015a).

Quality Evaluations were held in 2003, 2006, and 2012, with another due in 2018. The Commission heard that providers have been “innovative” in altering their staffing arrangements to improve their PBRF Quality Evaluation scores. This was variously represented as a sensible and respectful response to policy settings in line with the policy intent, and as cynical gaming to exploit policy settings contrary to the policy intent (Box 6.2).

Box 6.2 Ways that universities alter their staffing arrangements to maximise PBRF revenue: a selection of submitters’ views

Universities are very responsive to funding incentives. For example, since PBRF was introduced in 2002, universities have shifted to recruiting academic staff on their potential to be ranked PBRF A or B (the two top PBRF rankings). (UNZ, sub. 17, p. 35)

The system of performance management encourages ‘gaming’ of the system, with staff for example, responding to the pressure from their institution to produce a certain amount of research outputs undertaking research in limited areas or repeatedly ‘mining’ the same information for multiple outputs. (TEU, sub. 83, p. 22)

The PBRF probably had a useful impact in its first two rounds, of challenging traditional practices; as it has become ‘bureaucratized’ its effects are increasingly damaging. ... [Techniques to “game” PBRF scores] have included offering ‘voluntary’ severance packages to academics whose publishing records might lower the overall university score, and through offering special incentives to academics from around the world who can boost a university’s score. (Norman, sub. 21, p. 1)

All the universities are seeking to game the PBRF system, hiring specialist staff to help researchers write more impressive PBRF portfolios, ‘hiding’ non-performers, and so on. (McNeill, sub. 13, p. 3)

Particularly in the years leading up to the PBRF census, academics are actively discouraged from engaging in formal [professional development] programmes. (Marshall, sub. 73, p. 6)

I have not mentioned the deleterious effects of the PBRF exercise on academics’ morale and the palpable increase in cynicism and ‘game playing’ – sanctioned and encouraged at the highest levels – that I have observed. (Hansen, sub. 55, p. 3)

Evans and Quigley (2006) examined the PBRF in the context of competition between universities. They argued that “competition between universities is necessary because of the general difficulty in assessing quality in service industries and the specific problems associated with the stakeholder governance structures and academic freedom of universities”, and that the PBRF has been effective in generating competition “because of its very substantial impact on both the reputation and the income of the universities” (p. 245).

Evans and Quigley considered that this research-based competition was likely to be benign only so long as universities were also competing for students (EFTS at TEs were uncapped until 2006). However, “if competition for students is muted by a new funding regime, universities would rationally invest less in teaching and learning and focus their attention on maximising PBRF revenues” (p. 245). Multiple submitters suggested that this is now happening:

We do have concerns that the Performance Based Research Fund (PBRF) has created tension between the relative priority given to teaching and research at universities (and other participating TEOs), in which the clear financial benefits attached to PBRF performance often make research the winner. (Ako Aotearoa, sub. 58, p. 15)

In the light of the specific relationship of teaching and research characteristic of the university environment, the single most effective strategy would see the elevation of the value of teaching within the sector. The current funding model favours research as it drives significant funding through PBRF and other mechanisms. (Sampson et al., sub. 14, p. 5)

The PBRF was established to support degree and postgraduate teaching with higher quality research. However, its unintended consequence has been to significantly uncouple teaching and research, with more researching academics sequestered in activities or departments that have no contact with students or the university’s educative function. (Auckland University of Technology, sub. 64, p. 9)

F6.1

Universities have significant incentives to invest in research to maximise their PBRF revenue, and they are responding to these. Universities have no similarly strong external incentives to invest in teaching.

International rankings

The three main international ranking systems reward (among other things) research that is cited in international journals (MoE, 2016f).

These ranking systems are widely accepted to be flawed. But they are also widely assumed to influence a student's decision about where to study (though, as discussed in Chapter 3, the reality is nuanced). Rankings also affect a university's ability to attract high-quality academic staff. Universities are mindful of their ranking performance, as reflected in Universities New Zealand (UNZ)'s submission to the inquiry:

Most leading universities [around the world] now have staff dedicated to optimising rankings results. Significant effort and investment goes into gaining an international profile, citations and influencing the staff:student ratios that drive rankings scores ...

If universities cannot remain highly ranked, they will lose domestic and international students. As previously noted, a majority of students consider an institution's reputation and rankings when they choose where to study. (sub. 17, pp. 23, 26)

Crown Research Institutes as partners in tertiary research

Universities and New Zealand's seven Crown Research Institutes (CRIs) partner to undertake research, and to ensure that the supply of tertiary graduates meets the workforce needs of the CRIs, particularly in science and engineering. Universities benefit from including CRI staff in their PBRF reporting.

Science New Zealand, the peak body for the CRIs, provided the following information in its submission:

1. CRIs make a considerable contribution to the education of Masters and PhD learners (NZQF levels 9 and 10). In 2015, CRIs were involved in the supervision of 645 tertiary learners: 411 PhD candidates and 204 Masters learners. In 2011, the total was 514, and it has been growing steadily;
2. CRIs partner in graduate schools in conjunction with universities and in specialist courses or programmes;
3. CRI staff hold academic positions, primarily at Professorial or Associate Professorial level. This may be as part-time employees paid directly by the university; or via their CRI employer. The minimum number of hours is 0.2 as this enables the staff member's entire publication record to be counted for PBRF purposes. (Science New Zealand, sub. 79, p. 6)

The teaching and research nexus

The Education Act 1989 requires of universities that "their research and teaching are closely interdependent and most of their teaching is done by people who are active in advancing knowledge" (s 162(4)(a)(ii)), and that degrees at non-university providers "must be taught mainly by people engaged in research" (s 253B(a)).

This is deeply embedded in the culture of New Zealand universities, as it is in research universities in other countries. As Armstrong (2014) commented with respect to US universities:

While faculty may be uncomfortable with, or opposed to, many types of sustaining change, increasing emphasis on research is generally viewed quite favourably.³¹ This is understandable on at least two grounds. First, most faculty come from a pre-selected group of individuals who like research and discovery, and thus chose to pursue a Ph.D. It is natural that most faculty would want to continue to those early interests in their work. Second, research provides external visibility for individuals that teaching does not, and external visibility has many potential benefits. (p. 6)

Individual university academics and the university as a whole face choices about how to prioritise research and teaching. The two activities often complement each other (and the current regulatory arrangements

³¹ [Footnote in Armstrong (2014):] "For example, a study that looked at attitudes of California State University faculty found that 55 percent wanted to do less teaching, and 85 percent wanted to do more research. (Social and Behavioural Research Institute, California State University San Marcos, February 2002, p. 23)"

require that they be undertaken together), but inevitable trade-offs also exist. Ed.Collective commented that:

The difficulty with research and teaching is not so much that they are 'bundled' at universities, it is the relative internal priority and prestige attached to each area. A good researcher is held in higher regard than a good teacher. Teaching and research are two very different skill sets. ... [T]he system does not reward good teaching in the same way that it rewards good research. (sub. 89, p. 30)

The University of Waikato emphasises research performance more than teaching performance for higher-salaried positions, in part because it is easier to assess research performance:

The University of Waikato sets minimum standards for teaching performance as part of its promotion processes; but the higher the salary applied for, the more strongly research performance will weight in the assessment. This reflects the fact that there are well-established international criteria for assessing research performance, as well as the value that their university and their society obtain through higher levels of research performance. (sub. 93, p. 3)

As well as payoffs from the PBRF and international rankings, academics get important personal, cultural and reputational payoffs from doing research that is well-regarded by peers, or of interest to them personally.

The evidence about how combining teaching and research affects students' learning is mixed. A review by Jenkins (2004) found that, while the evidence clearly shows that students – especially those with a more academic orientation – value studying in a research-based environment, there is "very limited evidence of the impact of different forms of research-based learning on student epistemological and intellectual development" (p. 32).

Barrett and Milbourne (2012) did a multivariate analysis of comprehensive Australian higher education data on institutional research and teaching performance. They found that, holding other factors constant (including provider type and size, its mix of delivery, and its students' school-leaving results), research performance correlated positively with a student's employment and retention outcomes, but correlated negatively with a student's assessments of teaching quality:

The interesting result from this regression is that research performance exhibits a significant negative effect upon satisfaction with good teaching, taking into account all other factors. In terms of the perceptions of students of teaching quality, the competing nature of teaching and research outweighs the complementary nature: Undergraduate students possibly perceive inadequate time or interest devoted to them in research-intensive faculty environments. (p. 76)

However, the analysis found no relationship between research performance and overall student satisfaction, suggesting that "while students may be unhappy with teaching in research-intensive environments, it [may be] more than compensated for by the entire learning environment" (ibid).

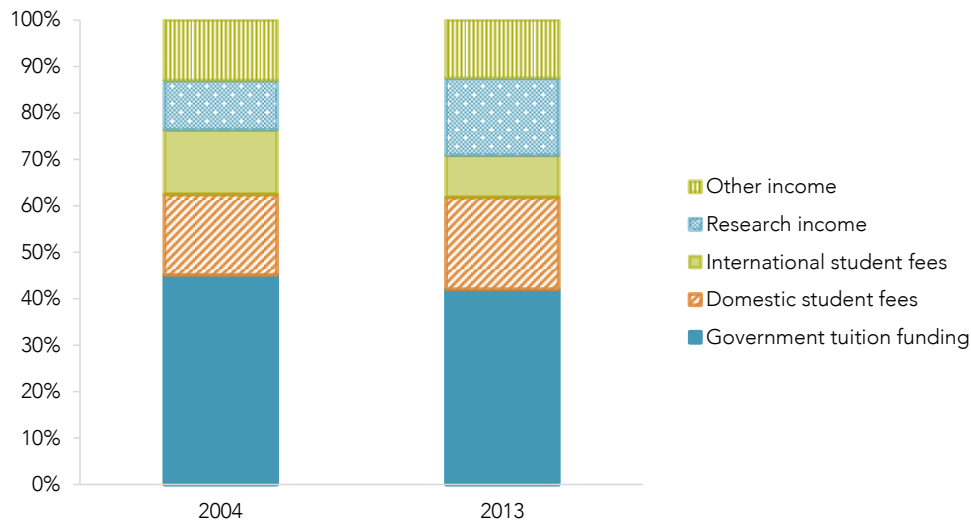
The requirements to bundle research and teaching are less strict in other countries. This allows providers to differentiate. Australia, the United Kingdom and the United States offer examples of well-regarded universities and colleges that would not meet the statutory characterisation of a university as set out in New Zealand's Education Act. Two examples are noted below.

- The University of Notre Dame is Australia's top university for "skills development" and second for "overall quality of educational experience", with higher graduate employment rates and salary levels than larger universities, according to the Australian Government's quality indicators for learning and teaching. Yet it is only research active in 5 of the 22 fields of study offered (Australian Research Council, 2015).
- Williams College in the United States ranked second in Forbes' 2016 list of the top US colleges, behind Stanford University; but it and other liberal arts colleges such as Amherst and Swarthmore are teaching-only institutions.

6.6 Revenue sources

Government is the single largest revenue source for TEIs.³² Over the decade to 2013, the proportions of TEI revenue that came from government tuition funding, domestic student fees, and other income were fairly stable, while the proportions of international student fee revenue and research revenue inverted (Figure 6.2).

Figure 6.2 Sources of TEI income, 2004 and 2013



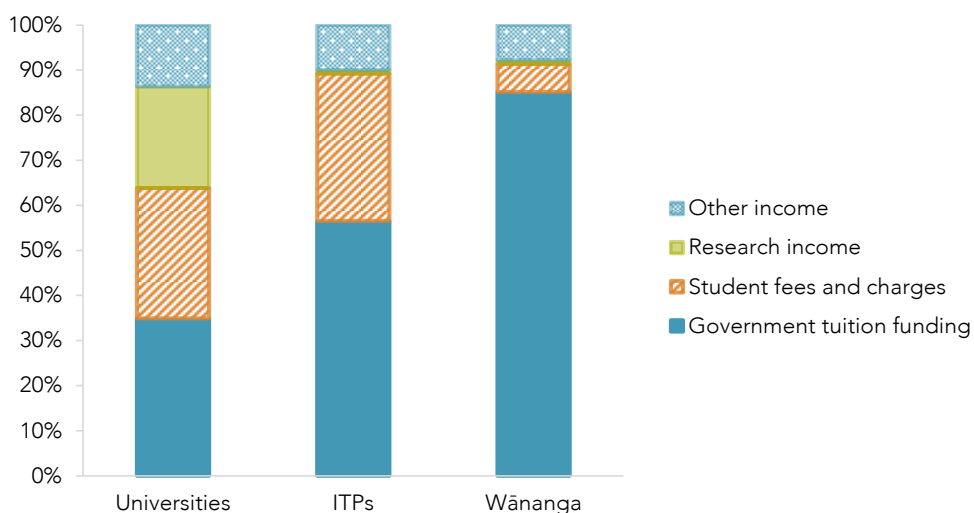
Source: TEC, 2015f.

Notes:

1. "Other Income" includes off-Plan TEC funding, non-TEC government funding, subcontracting income, interest, dividends, trust income, and income from consultancy and sale of intellectual property, as well as miscellaneous other income.

Revenue sources differ across types of TEI (Figure 6.3). Government tuition funding comprises only 35% of revenue for universities, but 85% for wānanga. Student fee income (domestic and international) is much more important to universities and ITPs than to wānanga.

Figure 6.3 Sources of TEI revenue, by TEI type, 2013



Source: TEC, 2015f.

Notes:

1. "Other Income" includes off-Plan TEC funding, non-TEC government funding, subcontracting income, interest, dividends, trust income, and income from consultancy and sale of intellectual property, as well as miscellaneous other income.

³² This inquiry focuses on government funding administered by TEC rather than that from other government agencies. Providers may also receive government funding from the Ministry of Business, Innovation and Employment; Callaghan Innovation; the Royal Society of New Zealand; the Ministry of Social Development; and others.

Except in rare circumstances (eg, the Canterbury earthquakes and the special case of wānanga described in Box 6.3), TEIs receive no separate capital funding from government. Instead, they are expected to invest in and maintain capital assets on their balance sheets, and the government sets its tuition subsidy rates with this in mind.³³

Universities New Zealand noted that, for universities at least, student-based funding (government subsidies and student fees) is more important than other revenue sources:

Student volumes are the target because New Zealand universities have so little control over most other key elements that generate revenue. (UNZ, sub. 17, p. 27)

No public information is available about the non-government revenue of private providers.

Box 6.3 **WAI 718 and capital funding for wānanga**

In the mid-1990s the three wānanga lodged a claim, WAI 718, with the Waitangi Tribunal for capital funding to put them on an even playing field with other TEIs. The wānanga argued that, while universities and ITPs had benefited from decades of government investment, wānanga received little funding at their establishment as TEIs, and that this disadvantaged them and their students compared to other TEIs.

The Waitangi Tribunal upheld this claim in its 1999 *Wānanga Capital Establishment Report*. The Tribunal noted:

We have found that the Crown's tertiary education policies have served to disadvantage wananga and place their operations at risk. Wananga now lack a stable capital base from which to deliver their educational services. The evidence clearly shows that this has served to compromise both their financial viability and their integrity as a significant Maori educational initiative. We therefore recommend that a one-off payment of a capital sum be made to each of the wananga... (p. 12)

Over the following decade, the government agreed payments with each wānanga: \$60 million to Te Wānanga o Aotearoa, \$51 million to Te Wānanga o Raukawa, and \$14 million to Te Whare Wānanga o Awanuiārangī.

Source: Waitangi Tribunal, 1999; 2005.

6.7 Capital investment by tertiary education providers

Buildings, plant and equipment (including IT) and new programmes of delivery all involve a large one-off investment up front, with the aim of generating net positive savings or revenue before the asset becomes unusable or technologically obsolete. Different providers make different business decisions about these capital investments. For example, the Open Polytechnic has recently invested a significant amount in building its own e-learning delivery platform and is now licensing it to other providers (Chapter 11); while the University of Auckland has chosen to lease a learning management system from Canvas for a yearly licence fee of about \$1 million (sub. 85). Some providers capitalise their programmes of delivery, and others treat them as operating expenses.

In general, TEIs, especially universities, are very capital intensive:

As at 31 December 2014, TEIs collectively owned or managed assets with a net book value of around \$9.4 billion. This made TEIs' assets collectively the fourth-largest social-asset portfolio across government. The majority of assets were held by universities (\$7.27 billion), followed by ITPs

³³ During the mid-2000s, the EFTS tuition subsidy rate for PTEs was 9.5% lower than that of TEIs, on the grounds that government should not contribute to the capital cost of private providers. However, the rate for PTEs was raised in 2013 to halve the funding differential, and raised again in 2015 to close the gap completely, to increase "competitive innovation" between private and public providers (New Zealand Government, 2012).

(\$1.84 billion) and wānanga (\$0.27 billion). The largest asset category across the sector is land and buildings. (TEC, 2015g)

One submitter quoted an (unnamed) university head as saying that “inside every Vice-Chancellor is a property developer just screaming to get out” (Ed.Collective, sub. 89, p. 29). As noted in section 6.4, prestige is associated with owning very old, or else very modern, buildings, which may be one factor. One submitter argued that capital intensity is part and parcel of being a university:

A university is expected to be a multi-generational, century-spanning entity. ... An organisation that intends and expects to exist in perpetuity has a different approach to capital structure to one that might expect to last no more than decade or two. (Dodgson, sub. 28, p. 3)

Another reason for universities to invest in buildings may be the desire to compete successfully for high-calibre domestic students and for international students. As Christensen et al. (2011) explained with respect to US universities:

The facilities for learner dining, athletic activity, and classroom learning that existed 30 years ago at Harvard University were Spartan compared to the opulent facilities that today’s learners enjoy. Harvard has no option but to keep ratcheting up its attractiveness and, therefore, its cost structure in order to compete successfully against the likes of Stanford and Yale. (p. 24)

Universities and other TEIs may also have a general incentive to invest in capital assets to avoid showing a large financial surplus, in case this leads to a reduction in government funding – and land and buildings may be a particularly attractive option (Chapter 8). TEIs do not pay rates on land and buildings used for educational purposes.

The Crown tightly manages how TEIs can dispose of property (Box 6.4).

ITPs and wānanga tend to combine ownership and leasing arrangements. Some ITPs invested significantly in capital assets over the last decade, meaning they are now asset-rich and cash-poor; others have held off making capital investments, putting them in the reverse position. Their historical choices in this regard significantly affect their ability to invest now in new technologies. Unitec is an outlier among ITPs in that it is seeking to divest itself of a significant amount of land so that it can concentrate technology-enabled delivery on a much smaller campus (Unitec, 2016).

The ITPs’ submission suggested that, as a sector, ITPs have tended to under-invest in the facilities needed for a “modern learning environment”:

[P]robably compared to the university sector ITPs have much lower capital values and the balance of investment is arguably right; indeed many would argue there needs to be greater investment in capital to improve the facilities and premises for students. ... [T]he increased capital deepening assumed (in most studies of national productivity) to be needed in New Zealand’s business sector needs similarly to occur in the ITP sector. (NZITP & Metro Group, sub. 42, p. 17)

PTEs tend to invest less in fixed assets and usually lease their premises. These providers face rental costs that rise and fall with the commercial property rental market, which may include rates charges passed on by landlords to their tenants.

Box 6.4 Capital asset management for TEIs

Several New Zealand universities have long-term (pre-1990) use of land and buildings in Crown title. Until recently, there was no clear policy on how the proceeds of any sale of such assets would be split between the Crown and the university, or who was responsible for maintaining the asset. As a result, universities tended to retain (but not always maintain) assets that they did not need.

Cabinet agreed in 2009 to set clear rules about transferring assets from Crown title to university title, and splitting the proceeds in the event of a sale. This policy, implemented by TEC from 2011, gives universities strong – and efficacious – incentives to have assets transferred into their own title, and to dispose of them when they are surplus to requirements.

All TEIs must seek permission from the Secretary of Education to demolish or dispose of land or buildings (of any value). They must also participate in the Asset Management element of the Treasury's "Investor Confidence Rating" programme (previously the Capital Asset Management programme).

Source: TEC, 2015h.

6.8 The workforce of tertiary education providers

Staff salary costs comprise the largest proportion of the operating budget of most tertiary providers. This is partly driven by nature of the business activity, dominated by human-delivered services. For academic providers, it is also driven by the nature of the academic workforce, with its cultural expectations that academics will:

- design and teach their own material, rather than using "off-the-shelf" material prepared by others;
- teach for 30 to 35 weeks a year, with the other 20 or so weeks spent on research and preparation – with the most senior academics sometimes expecting to teach less and research more; and
- receive yearly pay increases above the rate of inflation, supported by strong union bargaining (which may also extend to general staff).

Teaching staff across all subsectors are also increasingly expected not just to teach and do research, but also to provide pastoral care and learning support for students with diverse needs.

For some providers, helping those unskilled at learning is a longstanding feature of their business model. One ITP operating a school–tertiary partnership programme for senior secondary school students commented to the Commission that "teaching 15 year olds is not a big deal for our [tutors], because that is what ITPs were originally set up to do [ie, when they were community colleges]".

However, other providers have found it challenging to adjust from teaching a relatively homogenous and well-prepared student body, to one that is diverse in terms of its cultural background and preparedness for study. One university told the Commission that even students with University Entrance were arriving without the independent learning skills needed to succeed in a university environment. The university is in the process of adjusting its first-year delivery to develop in students the "academic literacy" they need to embark on second-year study as independent learners. The university indicated that designing this learning process for under-prepared students presents a very different challenge to traditional tertiary teaching.

Some Australian providers have responded to both challenges – high-cost academics, and the need of a different skillset for teaching diverse students – via two strategies:

- increasing the proportion of undergraduate teaching done by fixed-term adjunct faculty, freeing up permanent academic staff to focus on postgraduate teaching and research; and
- outsourcing learning design and/or pastoral care of students – that is, either purchasing it from outside the organisation, or having it delivered by expert non-teaching staff within the organisation.

Similar things are occurring in New Zealand:

- Wensvoort (2013) noted the former effect in universities between 2001 and 2011, and a 2013 Tertiary Education Union (TEU) survey had similar findings (TEU, 2013).
- Te Wānanga o Aotearoa avoids the high costs of the standard academic resourcing model by operating a centralised curriculum arrangement, whereby its tutors receive consistent training in delivery of consistent curricula nationwide, supported by standardised resources. Open Polytechnic's iQualify platform (Chapter 11) and the new TANZ eCampus (TANZ, 2016) enable multiple providers to take a similar approach.

- Many providers, including the University of Auckland and Otago Polytechnic, employ learning designers to work alongside academics, unbundling the design of academic content from its delivery. Open Polytechnic and AUT both outsource some elements of pastoral care.

Little, Smith and Brookes (2016) raised concerns about what the unbundling of academic content from teaching delivery means for academics' ownership of intellectual property, and whether automation of the teaching process will harm students' learning.

Concerns about commodification and excessive management

Since the advent of mass tertiary education and especially the introduction of tuition fees, some tertiary providers and their staff have expressed concern about education being viewed as a commodity for sale by a business, or a commercial service delivered to a consumer for private gain (eg, see Srigley, 2015; Greatrix, 2011; Katopes, 2009). They have argued that, in contrast, education should be viewed (and funded) as a public service provided for the collective good of society. These concerns are reflected in some submissions:

Government policy and regulatory decisions since the mid-1980s have led ... to a focus on tertiary education as a commodity, an economic output rather than the position that tertiary education is the foundation of a good society. Changes in tertiary education policy since the 1990s have seen the sector narrowed to an increasingly user-pays model emphasising heightened competition between institutions which risks losing sight of the value of tertiary education as a public good. (New Zealand Council of Trade Unions, sub. 69, p. 11)

For the purposes of this document, "innovation" ... seems to mean way of delivering the commodity called tertiary education to larger numbers of people at less cost; in other words a narrow profit-driven agenda. (Post Primary Teachers' Association, sub. 61, p. 3)

The rise of New Public Management ideologies based on market models ... are a poor fit to wider social objectives for education. (Marshall, sub. 73, p. 22)

We consider that the liberal, humanist model is severely threatened and already extensively damaged by pervasive neoliberal, market-driven developments. (Quality Public Education Coalition, sub. 48, p. 2)

As well as concerns about viewing tertiary education as a business, some have raised concerns about tertiary education providers behaving like businesses. Bridgman (2007), Zepke (2012) and the TEU (sub. 83) described a growing managerial culture (driven either from within the organisation or as a result of high levels of external compliance) that is perceived to represent a lack of trust in academics and teachers as professionals, and a lack of understanding of the nature and value of their work.

A TEU (2016) survey of tertiary sector staff found that half of respondents considered that they had less autonomy over their work than a decade ago, and that a majority of staff considered they had less influence over decisions in their workplace compared to a decade ago. Some 70% of respondents disagreed that "there is good communication between management and staff".

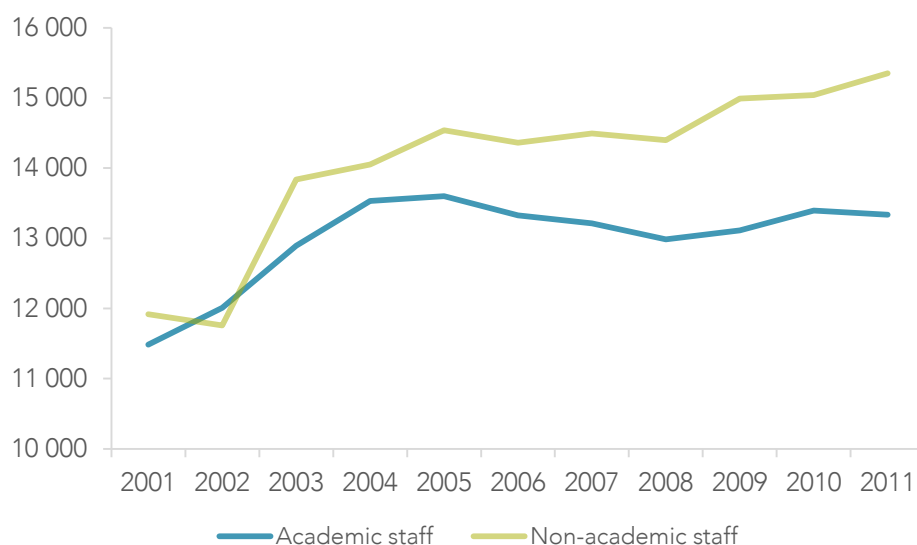
The Commission heard concerns from submitters that "too much red tape" is taking the joy out of teaching, with negative impacts both for teachers and for students. To quote from the Independent Tertiary Institutions submission:

In the eight years I have worked for ITI there has been a definite trend in members employing more staff (and more senior staff) solely to deal with paperwork. "I miss teaching," one senior manager lamented at the last ITI Board meeting. (sub. 81, p. 2)

A senior academic at one university commented: "I don't see joy and love and passion in a lot of young scholars. There's a sense of burden – being assessed, evaluated. An emphasis on compliance." Another senior academic's submission expressed "concern about the wider systemic problems of university management and administration generated by a combination of external government-driven initiatives for accountability and contestability and universities' responses to these demands" (McNeill, sub. 13, p. 1). These themes were repeated by multiple submitters and people with whom the Commission met in the course of this inquiry.

Hazledine (2008) noted that between 1987 and 1997 the ratio of academics to managers in the Department of Economics at the University of Auckland declined from 1:27 to 1:4. The number of full-time non-academic staff at public TEIs grew faster than academic staff between 2001 and 2011 (Figure 6.4).

Figure 6.4 Full-time equivalent staff at public tertiary education institutions, 2001–2011



Source: Wensvoort, 2013.

Notes:

1. The data are derived from Table 13 of the downloadable Excel files associated with Wensvoort's report. Definitions are the same as those used in the body of the report; that is, "academic staff" comprises academic and research-only staff, and non-academic staff comprises all other staff.
2. The Y axis starts at 10 000.

A submitter from the Otago Business School at the University of Otago argued:

Universities waste too many resources on administration and bureaucrats.

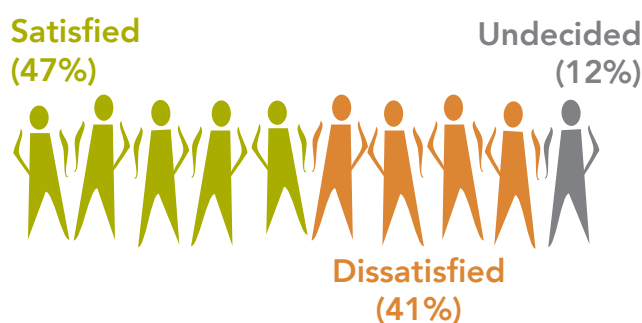
Like most universities, the University of Otago has three main layers of management: (1) the University overall, (2) Divisions (and Schools), and (3) Departments. According to the School of Business website, there are 19 people attached to the Dean's Office of the School of Business (...and bear in mind, there are another three Divisions), of whom at least seven have 'Dean' in their title... Above that, at the University level, there is another, even larger management structure. ...

When I first enrolled as a student at the University of Otago in 1984, the size of the administration ... was a tiny fraction of [the present size]. Of course, the world has changed since then, and Otago has three times the number of students that it had in the 1980s. Nonetheless, it seems unlikely that the current size is anywhere near the optimal size. Large amounts of resources are being swallowed up by this administrative burden... (Hansen, sub. 55, p. 5)

Both of these concerns – education as a commodity for sale, and increased managerialism in institutions – come together in a quotation included in the TEU's submission:

The ascendancy of entrepreneurial university managements who emphasise a market-based rationality in which education becomes a consumer good, and who have a correspondingly anxious eye on consumer satisfaction and public relations as well as governments concerned with fiscal constraints, corporate ties and short term priorities, are paving the way for dangerous widespread institutional change. (Stewart (2011, p. 49), quoted in TEU, sub. 83, p. 23)

While this quotation focuses on universities, the Commission heard similar concerns from representatives of every subsector during the course of this inquiry. The TEU (2016) found significant levels of dissatisfaction among its members (Figure 6.5).

Figure 6.5 Satisfaction of Tertiary Education Union members with their jobs as a whole, 2016

Source: TEU, 2016.

By comparison, a 2013 survey of Public Service Association (PSA) members found that 63% were satisfied with their jobs, 14% were dissatisfied and 23% were undecided (Plimmer et al., 2013).

F6.2

Tertiary education sector staff hold a widespread, though not universal, view that “red tape” and excessive management increase costs and reduce their ability to do good and enjoyable work, without any compensating gains in the quality of that work.

Is the tertiary workforce becoming less ethnically diverse?

Chapters 2 and 3 explain that students who feel culturally confident and comfortable in a tertiary education environment do better overall. Some evidence shows that Māori and Pasifika academic staff act as important role models for Māori and Pasifika students and help to motivate their success (eg, Chu et al., 2013; Lattimore et al., 2003).

The ethnic composition of the tertiary workforce was fairly stable from 2012 to 2014 (Table 6.1).

Table 6.1 Ethnic composition of tertiary workforce, 2012–2014

	2012	2013	2014
European	55.0%	53.0%	55.0%
Māori	9.8%	11.0%	11.0%
Pasifika	3.4%	3.7%	3.8%
Asian	8.2%	8.8%	9.0%
Other	7.0%	9.0%	6.6%
Unknown	17.0%	15%	15.0%

Source: MoE, 2016a.

Notes:

1. Longer time-series data are currently unavailable but will, if possible, be included in the final version of this report.
2. Data relate to the number of staff employed during the last week in July or the first week in August.
3. Private training establishments included in this data are those that receive Student Achievement Component funding or whose students receive a student allowance or loan or a Ministry of Education grant.
4. As individuals may be counted in more than one ethnic group, the percentages do not add to 100 percent.
5. Proportions have been calculated including the unknown category. The proportions do not add to 100 percent as some staff are included in more than one ethnic group.
6. Data have been rounded to protect the privacy of individuals, so counts may not add to the total.

Some TEIs have goals to increase their number of Māori and Pasifika academic staff, but often they set no specific targets (eg, AUT, 2011; University of Otago, 2012). Ed.Collective submitted:

[T]he academy remains largely, white, middle-class and male – certainly at the most senior levels. One of the challenges for the tertiary education system will be to invest in becoming more diverse – more reflective of the communities it serves. (sub. 89, p. 39)

A submission from Te Mata o te Tau, the Academy for Māori Research and scholarship at Massey University, noted that:

- numbers of Māori academic staff at Massey have reduced significantly in the past five years, especially at senior level; and
- Māori staff are disproportionately likely to be on casual or fixed-term contracts (sub. 99, p. 3).

Te Mata o te Tau also expressed concern that some Māori-specific positions or business units (at Massey University and elsewhere) have been or merged into mainstream units. The TEU has dubbed this process “whitestreaming”. Potter and Cooper (2016) surveyed and interviewed TEU Māori members about whitestreaming, and reported that it:

- occurs in all universities, most polytechnics and at least one wānanga;
- has multiple drivers; and
- has negative effects on Māori staff and students.

These claims about impacts on students need to be treated with caution as they are based on the impressions of staff, rather than by surveying students directly or analysing their educational participation or achievement data. Also, it appears that Potter and Cooper’s definition of “whitestreaming” was extremely broad.³⁴ Nearly 40% of survey respondents stated that whitestreaming had no impact on Māori students.

Teaching qualifications in the tertiary workforce

Tertiary providers train and certify primary and secondary teachers, but they often require little specific training for their own tertiary teachers. A 2009 survey of literature relating to tertiary teacher development and qualifications in New Zealand noted that tertiary teachers are usually appointed on the basis of the knowledge, qualifications and experience in their subject area, and (in contrast to teachers in schools) lack pre-service teacher education:

A number of studies have suggested that many tertiary teachers do not receive a substantial education for their teaching role, and that their teaching-related continuing professional development is also not extensive. Some factors identified as contributing to that situation include the perceived low status of teaching in some institutions, compared with people’s expertise in their research, discipline or profession. Other factors include varying levels of commitment to teacher education and development found in some institutional cultures. Those factors can be seen both overseas and in New Zealand. (Viskovic, 2009, pp. 8–9)

However, differences do exist among the various provider types. One survey of providers (Ako Aotearoa, 2010) found that:

- 10 out of 12 surveyed ITPs and around half of 131 surveyed PTEs required a teaching qualification to be gained within 2 or 3 years of full-time appointment, but no university had such a requirement.
- 40% of PTEs required a teaching qualification for appointment to a full-time teaching role, but no ITP or university had such a requirement.

Ako Aotearoa (2010) also found that providers offered lots of different tertiary teaching qualifications (many with low completion rates), and that qualification descriptions did not provide clarity about the different outcomes that could be expected from different levels of study. A later report (Ako Aotearoa, 2014) noted

³⁴ For example, it reported interview participants as saying that “one key way in which [kaupapa Māori pedagogies had been whitestreamed] was via the transfer of a kanohi-ki-te-kanohi approach to an on-line approach, both in teaching and in student learning support” (p. 21). If a shift from face-to-face to online delivery to Māori students is automatically considered whitestreaming, then it will likely have occurred at every tertiary provider over the last decade; but more evidence would be needed to determine whether or not the shift had been helpful or harmful to students. Two of the three wānanga currently deliver education and support services to students online, and (presumably) consider this to be consistent with kaupapa Māori pedagogies.

that where universities do offer tertiary training to staff, inevitably “they look to offer those staff who are interested opportunities to undertake qualifications at Level 7 and above” (p. 13). The TEU (2016) found that, when its members were asked to rate “The ease with which you can get access to professional development” now compared to a decade ago, one-fifth reported improved access; two-fifths reported no change; and two-fifths reported worse access.³⁵

One submitter commented that upskilling of tertiary teachers presents an opportunity for them to experience first-hand the modern learning approaches that they need to learn to deliver for their students:

Teaching staff need to be encouraged to update their skills as teachers, particularly in those parts of the sector where teaching qualifications are not common. This is an opportunity for teachers to start to experience e-learning directly themselves, to start to demonstrate their own skills and knowledge in ways that are not framed just by qualifications but rather placed in a richer context that respects their individuality as well. Wider use of approaches like portfolios and formal accreditation as part of university academic promotion processes would be a good start. (Marshall, sub. 73, p. 6)

³⁵ “Professional development” was not further defined in the survey, so would include non-teaching-focused development.

7 Tertiary education markets

Key points

- An Equivalent Full-Time Student (EFTS) is the main unit purchased by the Tertiary Education Commission (TEC) and delivered by tertiary providers via Investment Plans. It is defined by inputs, and commodifies the complex, co-produced good of tertiary education into a simple product that is purchased and supplied in a “market for EFTS”.
- EFTS funding is the single biggest source of revenue for most providers. Many other sources of provider revenue – domestic student fees, equity funding, performance-based funding and the postgraduate completion component of the PBRF – are proportional to the relevant quantity of EFTS.
- The market for EFTS is very constrained. Government controls the number and form of providers, the product type, the price (tuition subsidy rates plus tuition fees, minus any Performance-Linked Funding penalty applied at year-end), the volume and various aspects of quality.
- EFTS prices are not sensitive to important drivers of costs.
- Quotas are fixed both for each provider and overall. Quotas do not directly respond to demand from either students or the economy for particular skill needs.
- Providers can increase their surplus by increasing their quota of EFTS, increasing the price they can charge (tuition subsidy and/or fees), or by lowering costs. The first two options involve lobbying government – and TEIs, especially universities, are powerful lobbyists. The third option can have negative effects on students, staff, and the system as a whole.
- Providers may also supply other markets, including the market for international students, domestic user-pays provision, student accommodation, consultancy and research. These markets can interact. For example, constraints in one market can lead to increased activity in another market.
- Government is both financially and politically liable for the wellbeing of TEIs, and faces costs of different kinds in making changes to funding or regulation.
- The system retains an equilibrium via informal and non-transparent “back channels” that are optimised for short-term political economy.

7.1 Introduction

Chapter 7 describes how all TEIs, and many private providers, are trying to maximise their mission by generating a surplus to support activities that further their mission.³⁶ In doing so, providers of tertiary education often operate in more than one market – such as the markets for domestic and international students, and the market for research funding. This chapter explores the characteristics of these markets, and in particular, focuses on the market for TEC-funded domestic provision: the “market for EFTS”.

³⁶ Some private providers seek to generate a surplus to return to owners to reward them for equity capital supplied.

7.2 Investment Plans and EFTS

The Investment Plan system theoretically enables TEC to fund tertiary providers for producing outcomes via specified activities

The Investment Plan system introduced in 2007 theoretically enables TEC to fund tertiary providers for producing outcomes (that is, end results) through specified activities. Section 159P of the Education Act 1989 states that a proposed plan must:

- (a) describe how an organisation will give effect to the Government's current and medium-term priorities as described in the tertiary education strategy; and ...
- (d) set out a description of all—
 - (i) tertiary education programmes run by the organisation for which the organisation is seeking funding [in the Plan] and specify the amount of funding sought in relation to those programmes; and
 - (ii) activities (including, without limitation, programmes and initiatives that will be undertaken by the organisation in order to build its capability) for which the organisation is seeking funding [in the Plan] and specify the amount of funding sought in relation to those activities; and
- (e) describe an organisation's proposed outcomes ... and the performance indicators that the organisation will use to measure whether those outcomes have been achieved...

Section 159YA enables TEC to set criteria for assessing Plans for funding approval, including criteria for assessing how the provider will contribute to government priorities, and the appropriateness of its proposed activities, associated outcomes, and performance indicators. Section 159YC enables TEC to place any conditions on funding that it considers "necessary to ensure that the specified outcomes in a plan that relate to tertiary education programmes and activities in relation to which funding is being given are being achieved or will be achieved".

These sections collectively frame the Plan as a contractual mechanism in which providers specify various activities and outcomes (with associated performance criteria), and TEC provides funding in return for (ie, conditional on) the delivery of these activities and outcomes.

In practice, though, Plans require providers to deliver EFTS, not outcomes

However, the contractual mechanism does not work like this in practice. This is because the "specified activities" that providers commit to in their Plans are predominantly the delivery of Equivalent Full-Time Students. These students are defined by their inputs (Box 7.1) – that is, by what goes into them, not what comes out of them.

Box 7.1 What is an EFTS?

An Equivalent Full-Time Student (EFTS) is the funding unit specified in Ministerial funding determinations for the bulk of funding for tertiary educational delivery, including the Student Achievement Component (SAC), Youth Guarantee, and ACE. An EFTS is defined with reference to its inputs: 1 200 learning hours or 120 credits delivered over 34 teaching weeks.

Many other sources of provider revenue – domestic student fees, equity funding, performance-based funding and the postgraduate completion component of the PBRF – are proportional to the relevant quantity of EFTS.³⁷ Student loan borrowing is also tied to EFTS, insofar as students can only borrow from the Student Loan Scheme if they are enrolled in an course that receives TEC EFTS funding.

Providers indicated to the Commission that their Plan negotiations with TEC are dominated by discussions about EFTS, and they commonly describe themselves as having to compete with other providers for EFTS allocations.

³⁷ A small amount of funded provision (eg, ACE in Schools) is not paid on the basis of EFTS, but uses other enrolment-based funding arrangements that are broadly similar.

As there is no necessary or strict connection between EFTS inputs and student outcomes, providers cannot reasonably be held accountable for delivery of both in exchange for the same portion of EFTS funding.³⁸ Recent TEC investigations and funding recoveries have demonstrated that, when inputs and outcomes misalign, providers are accountable for the inputs regardless of the latter. For example, in late 2015, TEC announced that it would recover \$6.2 million in funding from Agribusiness Training for under-delivering on the EFTS inputs specified in its Plan, even though its students had achieved the learning outcomes associated with their qualifications:

[TEC Chief Executive] Mr Fowler said Agribusiness knew the rules, and could expect to have to refund tuition subsidies for breaching them. "The TEC has found in some cases Agribusiness has not provided the teaching it was funded to deliver. This effectively means that between 2009–2014 Agribusiness received \$6.24 million (GST-exclusive) more than it was entitled to for the education services it provides."

It should be noted that NZQA is confident that Agribusiness has conducted student assessments correctly and that student qualifications are valid. (TEC, 2015i)

In other words, Plans purchase the inputs, not the outcomes, of the learning process. This example also clarifies that an EFTS is a genuine deliverable being supplied in a contractual arrangement, not just the basis of a funding formula to purchase the outcomes outlined in a Plan, or a convenient means of allocating subsidies across providers.

It is notable that in 2014, despite TEC having by that time administered three rounds of Plan-based funding, the government's *Tertiary Education Strategy 2014–2019* identified a focus on outcomes as something new:

This strategy signals a shift in focus for the Government. While we will continue to have high expectations of TEOs' performance in terms of outputs, efficiency and student achievement, a stronger focus on the outcomes of tertiary education is needed. (MoE & MBIE, 2014, p. 7)

TEC's "Investment Approach" project has a similar goal, and is explicit about the need for a change to the basis of funding:

The Investment Approach is about moving away from a reliance on funding based on inputs and outputs, to outcomes that focus more on broader social and economic outcomes for New Zealand. (TEC, 2016h)

At the moment, though, as required by Ministerial funding determinations, TEC-funded tertiary provision is overwhelmingly still driven by EFTS.

The EFTS unit commodifies the complex, co-produced good of tertiary education into a simple and fairly homogenous product. This product is purchased and supplied in a market – albeit a highly constrained one, as described in section 7.3. That is, TEC, in allocating EFTS, chooses between multiple competing suppliers according to its understanding of demand, and its view about which providers will do the best job of meeting that demand, based on the quality of providers' Plans. Students, in choosing where to study, then determine whether providers can fulfil their EFTS commitments to TEC.

F7.1

An EFTS is the main unit purchased by TEC and delivered by tertiary providers via Investment Plans. It is defined by inputs, and commodifies the complex, co-produced good of tertiary education into a simple product that is purchased and supplied in a (highly constrained) "market for EFTS".

³⁸ This would be different if EFTS funding were sufficient to cover the costs not only of all the required input activities, but also of any additional unspecified activities that may be required to achieve the learner outcomes. However, EFTS funding is not designed in this way; rather, as described in section 7.3, it is a rough "cost-plus" pricing model.

7.3 Government controls on product, quantity and price

This section discusses the Government's settings and controls in the market for EFTS.

Government buys a limited range of products

Government stipulates a limited range of products it will purchase via EFTS funding (Chapter 5).

Full qualifications

For most TEC funding, a qualification must comprise at least 40 credits (and the larger the qualification, the larger the amount of funding it attracts).

Students must enrol in full qualifications with an intention of completing them; providers are not allowed to knowingly enrol students who intend to drop out after completing only one or two courses.³⁹

As discussed in Chapters 3 and 4, the proportion of students studying full time for full qualifications has increased in recent years. This reflects the funding and regulatory environment, but may not reflect demand from students or the demand for skills from the labour market.

Bundles

TEC funding conditions (driven in turn by Ministerial funding determinations) require the inputs that make up an EFTS (1 200 learning hours or 120 credits delivered over 34 teaching weeks) to encompass a bundle of activities, including teaching, assessment and credentialing, and in some cases (eg, Youth Guarantee EFTS funding) pastoral care too. For degree-level teaching, this bundle must be provided by someone who is active in research – effectively requiring providers to bundle research with teaching.

Courses delivered within a calendar year

Providers are not required to deliver courses within a calendar year, but they have funding incentives to do so. The “course completion” Educational Performance Indicator (EPI) (which contributes to Performance-Linked Funding) calculates the proportion of students who have completed a course in the calendar year in which they first enrolled (with exceptions for special cases such as research degrees).

Government sets quotas

TEC sets a funding limit (“quota”) for each provider, based on a nominal number of EFTS to be delivered at each funding rate.⁴⁰ This process is largely invisible to students; and quotas are strongly determined by historical patterns of delivery (Chapter 5).

The overall EFTS quota is fixed by annual Budget allocations. In some funds, TEC must allocate a stated minimum amount to specified subsectors. At the individual provider level EFTS quotas are fixed, with a 1% tolerance for under-delivery (that is, providers will receive 100% of their funding provided they deliver at least 99% of their funded value), and from 2016 a small allowance for over-delivery (Box 7.2).

Box 7.2 Changes at the margins of EFTS funding quotas from 2016

Until 2016, providers received no funding for delivery over 100% of their quota, and have faced penalties for delivering more than 105% of it (because of the flow-on costs to student support).

For the first time in 2016, eligible providers will attract funding for delivery of up to 102% of their funded quota (as calculated by dollar value, not by EFTS volume).

³⁹ For example, providers are not allowed to knowingly enrol someone in a whole qualification who intends to complete only those courses required for workplace health and safety certification.

⁴⁰ The EFTS quota is actually a funding quota that purchases an indicative, but not fixed, number of EFTS – at least at larger providers where the mix of EFTS delivered may differ from that funded. However, the EFTS remains the unit of both funding and delivery. For this reason, this chapter uses the term “EFTS quota”.

This may allow a small amount of additional student demand to be expressed at the margins, or it may result in providers delivering a higher-priced mix of a constant volume of EFTS to increase their per-student revenue.

Whether in subsequent years TEC will increase the quotas for providers who over-deliver remains unclear.

Source: New Zealand Government, 2015.

The exception to this quota system is contestable SAC provision at levels 1 and 2 and, in selected areas from 2016, 3 and 4 (Chapter 5). For this provision, providers bid into a contestable pool for a specified volume of EFTS at their chosen price, and TEC allocates volume on the basis of an assessment of “value for money” (cost and quality) adjusted as necessary to reflect regional demand. Competitively allocated SAC provision amounted to \$54 million in 2015, which represented the majority (57.9%) of SAC funding at levels 1 and 2, but a very small minority (2.7%) of all SAC funding (TEC, 2015a).

Government controls price

The “price” a provider receives for a funded EFTS comprises the subsidy that TEC pays, and any fees that the student pays. Government controls both elements of price.

- Domestic fee increases are regulated by the Annual Maximum Fee Movement (AMFM, Chapter 5). The AMFM is set at 3% for all delivery across all providers in 2016, and 2% for delivery in 2017 (MoE, 2016d). This limit applies to all domestic students; providers cannot enrol full-fee-paying domestic students (eg, in addition to their funded quota), as they can international students.
- Tuition subsidy rates for each EFTS are set yearly (by the Minister for Tertiary Education, Skills and Employment) in a matrix that varies only by the level of qualification and the field of study.⁴¹ These rates reflect the government’s assessment of costs relative to providing a Bachelor of Commerce, using data from the New Zealand Benchmarking Tool (New Zealand Government, 2013).⁴²

Providers can consume more tuition funding from the same number of students by directing students to courses that attract a higher tuition subsidy per EFTS (eg, engineering rather than commerce). However, as long as average margins are fairly similar across EFTS cost categories (that is, as long as relative prices reflect relative costs across different fields and levels of study), a market analysis that treats EFTS as a single product at a single price will be reasonably accurate. This chapter makes that assumption so as to simplify its exposition.

Performance-Linked Funding puts 5% of SAC tuition subsidy at risk based on providers’ performance against four EPIs (Chapter 5).

Government controls on price are insensitive to many cost drivers

Tuition subsidy rates for EFTS vary by level of study, and by field of study, in a rough approximation of a cost-plus model. This model ignores all other drivers of variation in costs, such as economies of scale, student characteristics, location, and delivery mode (discussed in turn below). Further, the AMFM applies consistently across all provision, as if historical fee levels and relativities were, and are, enduringly “right”, rather than the result of market forces – either changes in the costs of provision or in demand.

The result is various mismatches between costs and revenue, enabling (or in some cases requiring) providers to cross-subsidise. This is not always problematic (or indeed avoidable), but can have implications for system efficiency (Chapter 8).

⁴¹ TEC also provides a small amount of “equity funding”, as discussed later in the section. The analysis in this chapter ignores equity funding.

⁴² Subsidy rates have increased in recent years for science, engineering, agriculture, and selected health sciences as “analysis by the Ministry of Education shows that these areas were underfunded historically relative to less-expensive provision such as the humanities and commerce” (New Zealand Government, 2014).

Economies of scale

Government controls on price are not sensitive to economies of scale. The government pays the same amount for the first student and the hundredth student on any given course; and it pays the same for large first-year undergraduate courses as it does for small graduate certificate courses in the same field of study. The same AMFM also applies across all delivery by every institution.

Yet a substantial body of research supports the existence of economies of scale in undergraduate teaching (see, eg, Daraio, Bonaccorsi & Simar, 2015; Bowen, 1980). This means that the cost of teaching an additional (marginal) student is significantly less than the average cost of teaching a student. Similarly, significant economies of scale are possible in staff and student administration, arising, for example, from the use of IT (NZPC, 2014b).

Provider scale can support a more diverse range of course offerings:

Size and economies of scale is a huge driver in considering the range of course offerings. Larger providers have more scope for diversification. (ACG Tertiary and Careers Group, sub. 84, p. 21)

However, submitters pointed out that economies of scale in teaching can be difficult to achieve in specific circumstances, including serving dispersed populations, postgraduate education and newly introduced courses (eg, NZITP & Metro Group, sub. 42), or high-touch vocational learning:

[The TEC funding model] works best when able to maximise economies of scale. ... For us, our educational model of predominantly face-to-face, small class size, group work, and industry-infused project work, means we rarely receive the revenue benefits of scale. High quality vocational education requires a different pedagogical model from that from large class lecture-style delivery. (WelTec & Whitireia, sub. 59, p. 20)

None disputed the existence of economies of scale in teaching, but some submitters identified negative consequences for students of large class sizes.

On the teaching front, economies of scale work efficiently from a provider perspective, but without sufficient resourcing growing class sizes will result in larger, more seemingly cost-effective courses. Yet these are logistically more difficult to transform into active learning environments, critical for both domestic and international students. Instead, these classes will likely default to a lack-lustre environment of 'stand-and-deliver' lectures, where the cost is overwhelmingly borne by the student. (Sampson et al., sub. 14, p. 11)

In economic terms, the existence of economies of scale means that providers face a falling "long-run average cost" (LRAC) curve⁴³. This means that the first student they enrol in a course costs them a lot (because of the overheads involved in delivering the course), but each successive student has a lower marginal cost. The provider reaches a break-even point when the size of class is such that total revenue covers total costs. Any students added after this break-even point, while the cost curve is still falling, contribute to the provider's surplus.

In some cases, the size of the class will be determined not just by student demand and costs, but by the provider's need to stay within its overall TEC quota.

Providers who under-deliver their TEC quota, despite apparent unmet need (eg, NEET youth) in their catchments, may have calculated that the marginal cost of attracting or teaching an additional student outweighs the marginal revenue – that is, that the additional students would represent a net cost to them. This may especially be the case if the provider expects the additional students to have a negative impact on the provider's Performance-Linked Funding performance.

Section 7.4 outlines three possible interactions between costs and revenue in the market for EFTS.

Differences between students

With the exception of "equity funding", the government pays the same amount for every EFTS regardless of the characteristics of the student enrolled. Equity funding provides a small increment to the EFTS price in the SAC fund for Māori and Pasifika students (levels 3+) and students with disabilities (all levels). Equity

⁴³ "Long-run", as used in this chapter, means the long-term consequences of current regulatory settings and funding arrangements.

funding is very small. For example, universities collectively received \$9.2 million in equity funding in 2015 – less than 1% of their total SAC 3+ funding of \$1.2 billion (TEC, 2015a). According to the University of Otago, equity funding falls short of the additional costs of educating Māori and Pasifika students (University of Otago, sub. 37).

Differences in location and mode of delivery

The government pays the same for highly personalised delivery, with a lot of contact time, as it does for delivery of a standardised product with minimal contact time. It also pays the same for distance delivery as for face-to-face delivery. These various delivery modes, when done well, may be of equivalent quality and effectiveness (at least for some types of learning); but they involve different ratios of upfront investment to ongoing costs.

The government also pays the same for face-to-face delivery everywhere in the country, despite the plausibly different costs involved in delivering in, say, central Auckland compared to central Invercargill.

F7.2

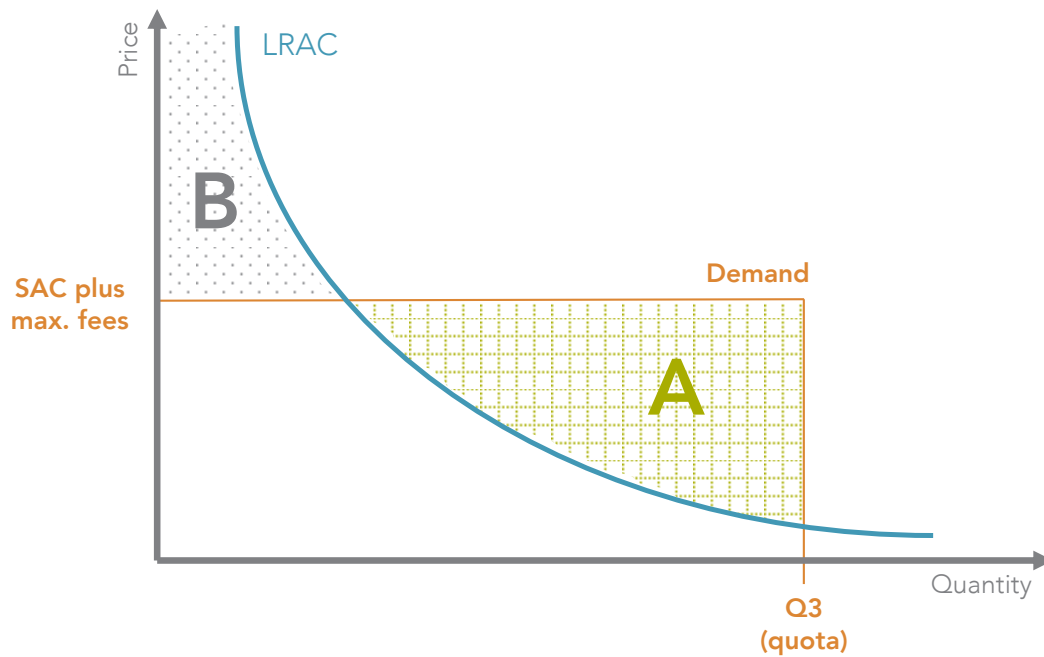
Government constrains the market for EFTS. Government purchases a limited range of products, sets quotas for each provider, and controls price. EFTS prices are not sensitive to important drivers of costs such as economies of scale, differences in student characteristics, and differences in location and mode of delivery.

7.4 Three possible interactions between costs and revenue in the market for EFTS

From the perspective of providers, the economics of the market for EFTS fall into three broad cases. All three cases could occur within a single provider, but to keep this discussion simple, the analysis assumes a provider fits only one case. The Commission cannot know the exact cost structure of each provider (and has been told that many providers would struggle to generate this information themselves), but the Commission believes that its assumptions about costs are true enough for the analysis to be meaningful.

Case 1: Provider able to fill their quota with students paying the maximum fee

The demand faced by a provider is depicted as a horizontal line at the level of the SAC price plus student fees, cutting out at the provider's quota (Figure 7.1). The provider can maximise their surplus (revenue in area A less costs in area B) by charging all students the maximum permitted fees and supplying the quota (Q_3).

Figure 7.1 A provider able to fill their quota with students paying the maximum fee

Provision is financially viable if the provider can make a surplus – that is, if A is larger than B.

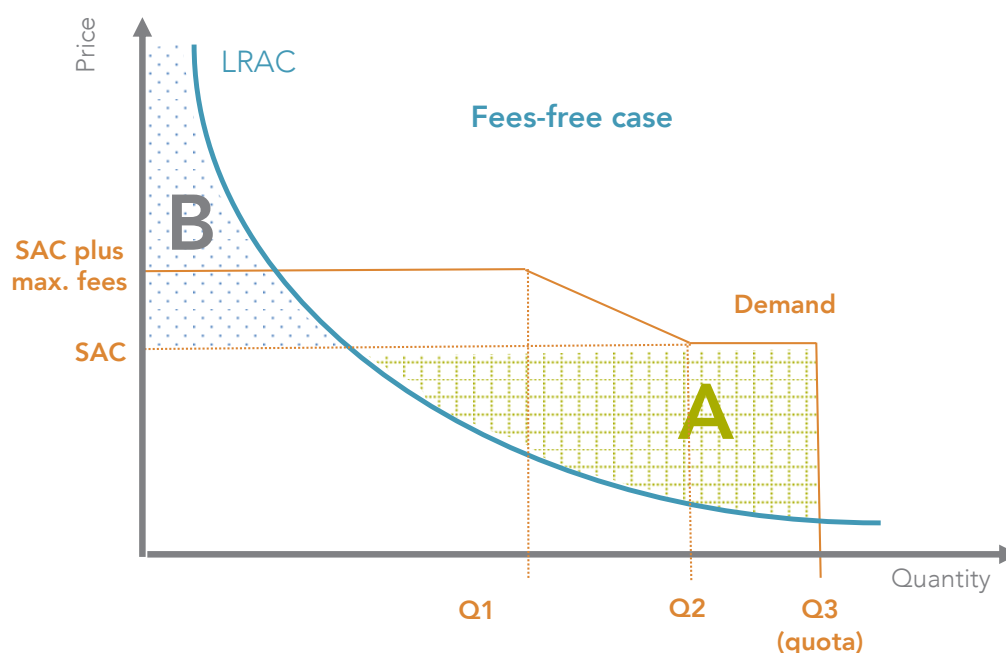
Most New Zealand universities and many other TEIs fit this case. They fill their yearly quotas and are financially viable. A provider in these circumstances cannot significantly increase their revenue through attracting extra domestic students, unless TEC increases their quota. However, they may compete to attract more able students (section 7.5).

Case 2: Provider unable to fill their quota with students paying the maximum fee

Figure 7.2 depicts the situation of a provider that is unable to fill its quota with students paying the maximum fee.

The provider seeks to maximise its surplus (revenue in area A less costs in area B). This involves making a choice between:

- charging full fees (and supplying Q_1);
- charging partial fees (and supplying the corresponding quantity between Q_2 and Q_1); or
- charging no fees (and supplying the quota Q_3).

Figure 7.2 A provider unable to fill their quota with students paying the maximum fee

Southern Institute of Technology appears to have chosen the third option (Southern Institute of Technology, 2016). Some institutions offer scholarships that lower the effective fees paid by students.

Such providers compete for revenue through competition for student enrolments. Independent Tertiary Institutions, a peak body for PTEs, submitted:

Competition for student enrolments (and the associated funding) is probably the largest influencer of provider behaviour. Look at the multi-million university advertising campaigns (including two at the Wellington premiere of *Star Wars: The Force Awakens*), Zero Fees, education fairs, school visits, scholarships, pastoral care, and travel assistance.

When discussing this issue, ITI members have a saying – “always follow the money.” The money follows the student. In the last two years ITI members have noted an increase in what we would consider “inducements” to students, particularly from ITPs who are facing declining numbers. (sub. 81, p. 6)

Case 3: Students are expensive to attract or teach

Some providers face a different situation. The cost of attracting and teaching the marginal student offsets the economies of scale in teaching. This could occur, for example, with a programme such as Youth Guarantee that provides foundation education for young people who are not in employment, education or training. Wellington Institute of Technology (WelTec) and Whitireia Community Polytechnic (Whitireia) submitted:

There is a significant amount of learner support required for learners for whom compulsory education has not worked. The levels of disengagement, disillusionment, literacy and numeracy needs, lack of confidence and life skills all require particular management and specialist support. (sub. 59, p. 18)

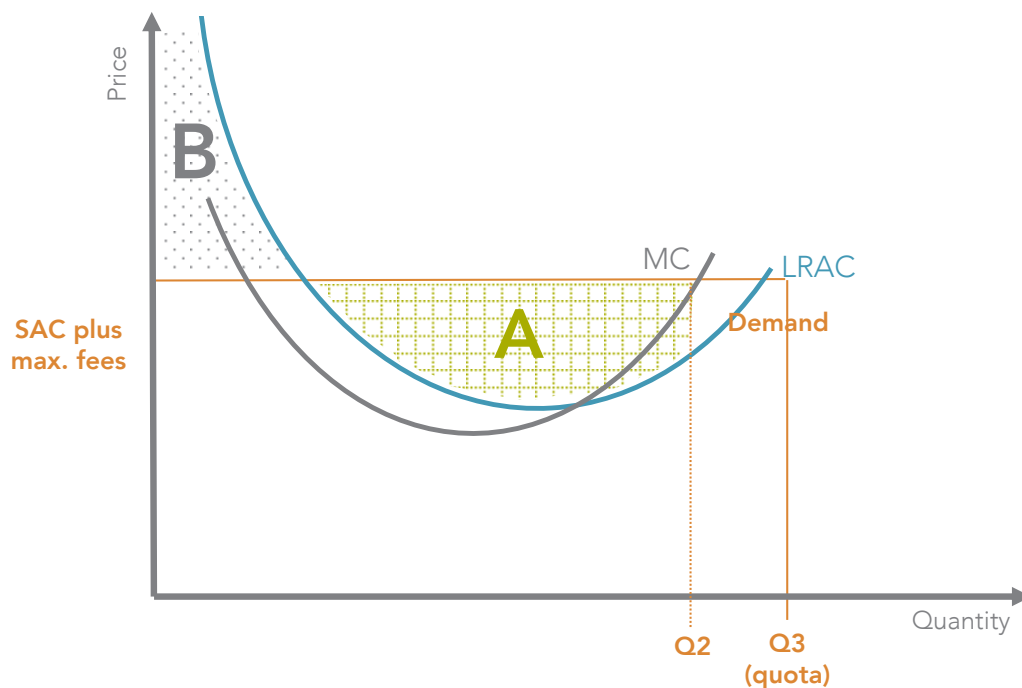
It may also be the case where a provider calculates that they are likely to face Performance-Linked Funding penalties for enrolling additional students who are relatively unlikely to pass the course or complete a qualification. These penalties apply to the whole fund, not student by student; so a provider can face a big net cost in enrolling a student who will tip the organisation from “just at” to “just below” the performance benchmark.

Such providers would appear to face a U-shaped cost-curve (Figure 7.3). If the costs of the marginal student (MC line) rise above the demand line (Youth Guarantee payments), then a surplus-maximising provider will limit their supply to Q₂, even though their quota would allow them to enrol Q₃ students.⁴⁴ If Q₂ is less than

⁴⁴ Youth Guarantee students pay no course fees.

99% of Q_3 , then the provider will under-deliver on its TEC quota, and may receive a smaller quota in the next funding round.

Figure 7.3 A Youth Guarantee provider with a U-shaped cost curve



These cost structures could lead providers to being very careful about which programmes they offer and which students they accept.

Provider strategies for surplus maximisation

EFTS quotas offer something close to a revenue guarantee to providers who meet their quotas. Payment is made in 12 equal monthly instalments. A provider has three ways they can increase their surplus (whether to reinvest in its mission, or to return to owners). Figure 7.4 illustrates these ways for a Case 1 provider.⁴⁵

⁴⁵ Providers in Model 2 and Model 3 would unambiguously gain from raising the government contribution to the EFTS price, but not necessarily the student fee cap. They would not necessarily gain from an increase in their quota.

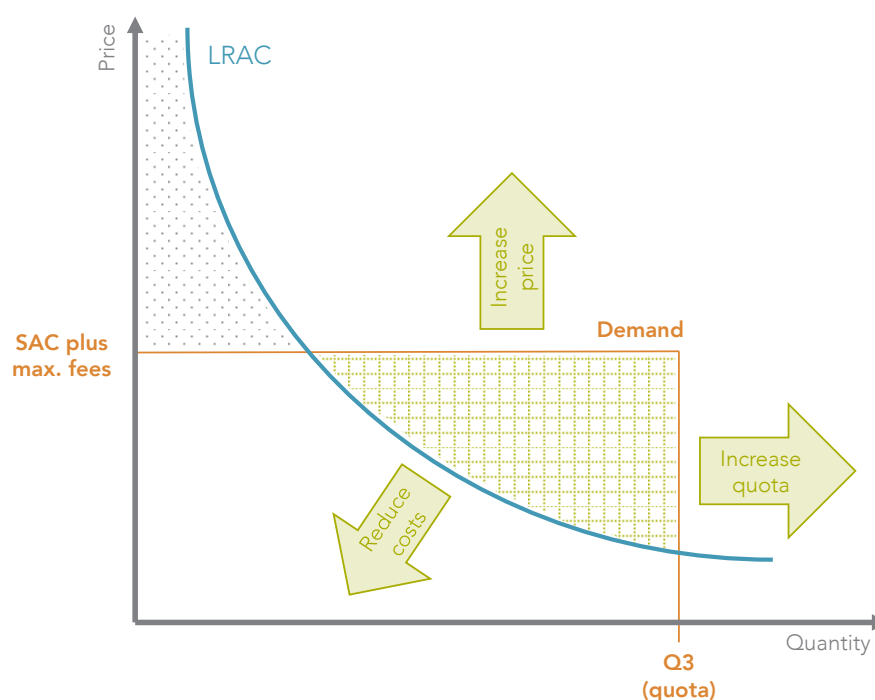
Figure 7.4 Three ways for providers to increase their surplus

Figure 7.4 shows that providers can attempt to increase their surplus from the EFTS market by:

- increasing the price of an EFTS, through lobbying government for tuition subsidy increases or changes to fee regulation;
- increasing their quota through lobbying government; or
- reducing their costs of production.

Lobbying features prominently in these strategies. This suggests that political considerations are an important factor, as is discussed further in section 7.7.

The second strategy, increasing the quota, may be attractive as it can be seen as a signal of success. Ed.Collective submitted:

In the absence of profits and losses (at least in the public system), the size of an institution has become a proxy for its success. A larger institution is, by definition, more successful than a smaller one. The same is true of the various departments within the institutions. (sub. 89, p. 28)

And, Walsh (2011) commented:

It is only as [New Zealand universities] shift from volume-driven funding to [Plan-based capped EFTS funding] that it has become apparent the degree to which academic practices have been driven by the expectation of plenty, and the manner in which volume driven funding profoundly affected institutional culture. (p. 4)

The third strategy, reducing the cost of production, can take many forms, and providers will select the form most consistent with their mission. Forms of cost-reduction include:

- changing the mix of products, for example by maximising delivery in higher-margin areas, or removing any non-essential elements of delivery (eg, non-essential engagement with employers);
- being more selective in student intake, avoiding students with higher learning needs, and retaining able students for as long as possible;
- avoiding Performance-Linked Funding penalties by allowing “borderline” students to pass rather than fail;

- exploiting economies of scale (within or across providers), such as by running larger classes or merging back-office functions;
- introducing cost-reducing innovations, such as buying “off-the-shelf” courses instead of designing them in-house, or changing the mix of full-time tenured academics and fixed-term, part-time adjunct faculty; or
- lobbying for special treatment.

Some of these strategies can have a negative effect on students, staff and the system as a whole (Chapter 8).

7.5 Competition for domestic students

Monopolistic competition

The market structure for tertiary education can be characterised as consisting of firms in monopolistic competition with one another. When prices are regulated, providers can only differentiate themselves and compete for students on attributes such as quality or location or brand. The products might be relatively homogenous, but they are not perfect substitutes.

This differentiation gives each provider a degree of market power. For example, in a town with a single provider (differentiation by location), the provider could offer a lower-quality service to resident students. The ability of some students to move limits that power. Similarly, if the provider wishes to attract students from elsewhere, it may have to lower its prices to match that of providers in other locations. Competition for domestic students is limited by EFTS quotas, and is strongest where providers struggle to fill their quota.

Universities compete with one another for TEC quotas

Universities New Zealand (2014) provided the Commission with a business model that they suggest operates in New Zealand universities (Figure 7.5). In this model, an improving university reputation, as reflected in international rankings, drives an increase in international student numbers on which it makes a significant profit margin. Increased income allows a university to attract and retain high-quality academic staff, who drive teaching and research performance; and larger numbers of domestic students. Improved performance – particularly research performance – lifts a university’s reputation and international rankings.

The UNZ model suggests that domestic student numbers are driven by a university’s reputation for providing quality, relevance, and a good student experience. In other words, that universities compete with one another for domestic students. UNZ’s submission to the inquiry stated that “the majority of students appear to make choices about what they study and where they study based on what they think will demonstrate they are smarter, more hard working and employable to future employers” (UNZ, sub. 17, p. 24).

This is likely true at the margins, and for providers unable to fill their quota. However, the number of school leavers enrolling at any given university are heavily influenced by geography (Chapter 3); and quotas are set centrally by TEC based on historical patterns rather than latent student demand (Chapter 5). As far as domestic student revenue is concerned, therefore, geography and a university’s reputation with TEC are more important determinants than student choice. UNZ noted in its submission that a university wanting to grow must sell its value proposition not only to prospective students but also to TEC:

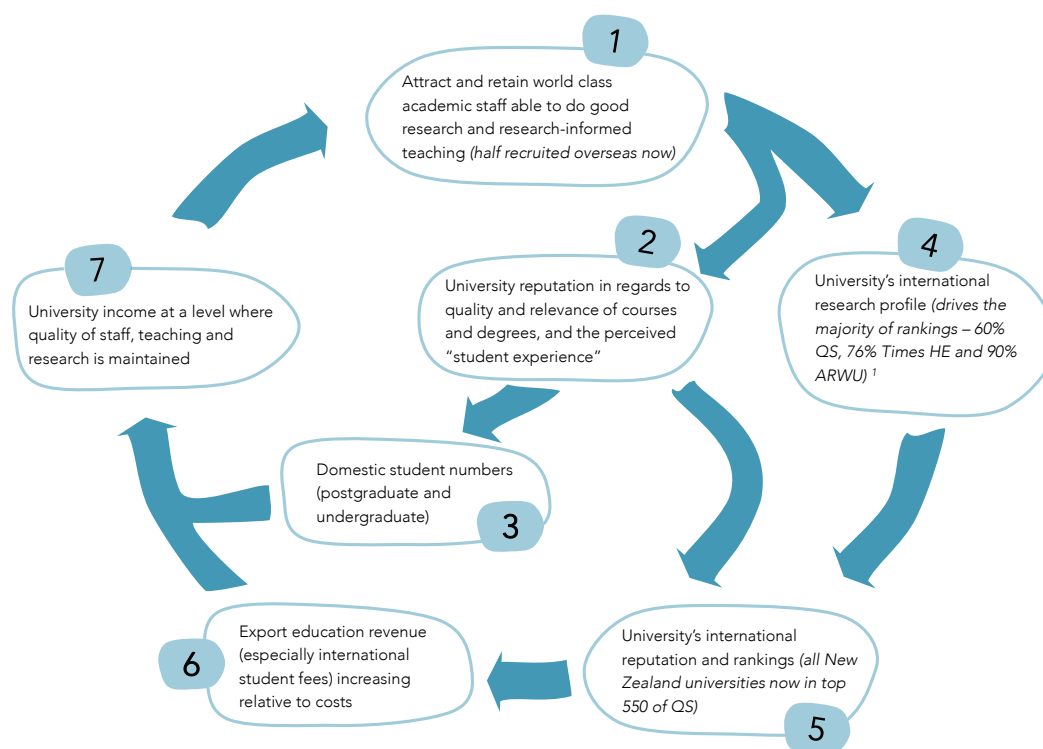
The TEC has the ultimate say on whether it will fund the programmes established by a university. In addition to demonstrating the value of a particular programme to a student, the university must also demonstrate it to the satisfaction of the TEC. (UNZ, sub. 17, p. 29)

Having said that, universities may be competing not just on student quantity at the margins, but also on student quality. This includes competition for the “best and brightest” students who are likely to be cheaper and easier to teach, and more likely to boost the reputation of the university after graduation (Steindl, 1990). It may also include competition for Māori and Pasifika students, for whom universities must set participation targets in their Investment Plans agreed with TEC.

Universities compete with offshore institutions

Universities in New Zealand compete with overseas universities for top students. For example, Australian National University in Canberra told the Commission that it routinely makes conditional scholarship offers to New Zealand school-leavers before NCEA results are released, while New Zealand universities tend to wait until results are available. This means that domestic universities miss out on some of the top students. The Commission heard that, of the top 20 school-leavers from a prestigious Auckland school in 2015, only three are studying at New Zealand universities; the other 17 are studying at universities overseas.

Figure 7.5 Business model of New Zealand universities



Source: Universities New Zealand, 2014.

Notes:

1. QS, Times HE and ARWU are yearly publications of university rankings by (respectively) Quacquarelli Symonds, *Times Higher Education* magazine and the Shanghai Ranking Consultancy (which publishes the Academic Ranking of World Universities (ARWU)).
2. Continuous growth in domestic [3] and international [6] student numbers are required to fund [7] ongoing increases in the costs of recruiting and retaining high-quality academic staff [1], maintaining and improving each university's reputation and positioning in international rankings [4, 5], and in delivering a quality student experience on and off campus [2].

Box 7.3 Who or what are universities for, in the UNZ model?

The UNZ business model is “deliberately circular and self-reinforcing and is based on maintaining brand, reputation and scale” (UNZ, sub. 17, p. 26). This is presumably because brand, reputation and scale matter to a university’s mission of advancing human knowledge; but neither this value proposition nor its customer are visible in the model itself. The visible customers (domestic and international students) are framed as a means to a university-centric end.

Ed.Collective submitted critically on this:

The business model published by Universities New Zealand is a good characterization of how things are, including the conspicuous absence of any real emphasis on learners, their experience or achievement of the life goals their education is intended to support. Far more emphasis is placed on securing the good opinion of the rest of the academy, rather than their own learners. (sub. 89, p. 28)

Another submission asks:

We wonder whether the individual universities would agree with the Universities New Zealand business model. There is nothing here about achieving the purpose of universities as described in the Education Act; rather, the emphasis is on rankings and supplementing income by 'export education', which some may consider essentially peripheral activities to core business. (Davies, Mabin & Hodder, sub. 100, p. 3)

ITPs compete with one another for TEC quotas (though not between regions)

TEC prohibits ITPs from delivering provision outside their home region unless it is "niche" provision (ie, something not offered by other ITPs). Even in that case, TEC expects an ITP to get the consent of any other ITP in whose region it wants to deliver (including ITPs delivering close to one another in Auckland).

However, ITPs experiencing excess demand do compete with one another for their share of dedicated ITP funding from TEC. As with universities, this competition is managed by TEC, rather than by students.

ITPs compete with PTEs for foundation-level SAC and Youth Guarantee

TEC allocates a portion of SAC levels 1–2 funding on the basis of competitive tenders from providers (who bid variable prices according to their cost structures). PTEs have tended to under-bid ITPs in low-cost, low-overhead areas of provision. ITPs have retained most higher-cost foundation delivery, some of which is paid at the standard SAC tuition subsidy rate. Yet they are no longer able to cross-subsidise from the lower-cost delivery, which the Commission heard presents a financial challenge for some ITPs. This challenge may increase now that all SAC-funded agriculture and horticulture provision at levels 3 and 4 is to be allocated via competitive tender (Chapter 5).

ITPs compete with PTEs and ITOs for vocational education and training at certificate and diploma level

The Commission did not hear very much about competition between PTEs and ITPs for vocational provision, but would anticipate that it varies depending on location and scale. ITPs report that they are obliged (morally, or by policy or funding requirements) to deliver in fields or locations where it is not profitable at the available price. In these cases, ITPs will face no competition from PTEs unless the PTE has a different cost structure. Intense competition may occur in fields or locations with more students.

ITP competition with ITOs is discussed in Chapter 4.

Sometimes, rather than competing for EFTS, providers enter into a subcontracting arrangement (Box 7.4).

Box 7.4 Subcontracting, mergers and acquisitions

Subcontracting arrangements between providers (eg, an ITP subcontracting a PTE to deliver a particular course in a regional location) can have benefits for multiple parties. For example, they allow the subcontracting party to:

- consume EFTS within its cap that it might not be otherwise able to use, while retaining (or "clipping the ticket" for) some (reportedly up to a third) of the TEC subsidy;
- offer provision in fields or locations that it might not be economic for it to service directly; and
- create pathways into its core provision for a larger geographic catchment of students.

The subcontracted party gets access to funding that it has not been able to access directly (though at a reduced rate than if it were a direct allocation from TEC). This access to funding allows the subcontracted party to effectively gain market entry or increase its market share and consequently its brand and reputation. And students can get better access and better tertiary pathways at the local level.

Subcontracting arrangements must be registered with, and approved by, TEC. They carry risks as well as benefits for providers. In future funding rounds, TEC could decide to purchase the provision directly from the subcontracted party, cutting out the “middle man” and creating a winner and loser in terms of market share. Alternatively, TEC could decide to disallow the subcontracting arrangement, so that the owner of the EFTS would have to either:

- deliver the provision directly, which could be uneconomic, or a poor fit for the organisational expertise or culture; or
- withdraw from the delivery. This could reduce student access and choice, and require staff redundancies, both of which can be costly in terms of a provider’s reputation with its staff, students, local community and TEC.

Another means for a provider to gain a foothold in the market, to increase its EFTS cap, or to lower costs through greater scale is to purchase or merge with another provider with an existing TEC quota. Most commonly this is a PTE purchasing or merging with another PTE; but the last few years have also seen merger activity in the ITP sector. In the case of PTEs, TEC does not guarantee that a PTE will retain its quota when it changes ownership; so this strategy carries risk.

ITPs compete with universities for professional education at diploma and degree level

ITPs and universities are keen to emphasise the distinctive nature of the degree-level education they each provide. However, over time, universities have shifted into both the subject areas (eg, nursing) and delivery approaches (eg, project-based learning and in-study work placements) that were previously the province of ITPs.

Beddie (2014) noted that in Australia:

[as a result of academic drift since the 1960s, Australian technical] colleges came to look more like universities, while TAFE institutions were pressed — until the last decade — to relinquish their paraprofessional education. (p. 22)

For some vocational degree qualifications, students must study at a university (eg, a Doctor of Medicine), but in other cases students can choose between a university or an ITP (eg, a Bachelor of Nursing, or a Bachelor of Business). Because ITPs have traditionally been regarded as a second choice (Chapter 6), universities tend to out-compete them in attracting the most able students.

ITPs and PTEs compete with schools

Senior secondary school students aged 16 and over can choose to attain their NCEA level 2 or 3 qualification either wholly at school or wholly at a tertiary provider, or via a secondary-tertiary programme that contains elements of both. ITPs and PTEs compete with schools for these students.

The competition was sharpened in 2011 when the Ministry of Education started to calculate the roll-based funding of schools quarterly rather than at the start of the year. This meant that schools lost funding if a student unenrolled part-way through the year. This created new incentives for schools to retain students – and to discourage them from leaving school to enter tertiary study.

PTEs and ITPs both report that this has created tension in their conversations with schools about improved school–tertiary pathways. WelTec and Whitireia comment in their submission:

While we all appreciate a learner cannot be funded twice for the same hours of contact – both through compulsory education funding and tertiary funding – it does make it hard for schools making choices to release students to the tertiary provider and potentially lose funding as a result. (sub. 59, p. 14)

Competition within providers

The Commission heard that some TELs operate an “internal economy” within their institutions, requiring departments to compete with one another for shares of the provider’s overall EFTS quota. One submitter described the following situation within the university he works at, where competition for EFTS occurs between departments within a college, and between colleges within the overall university:

With the introduction of Colleges and PVCs [Pro-Vice Chancellors] at one University in NZ over a decade ago, the VC [Vice-Chancellor] is perceived to be monitoring the “performance” of each College on the basis of the number of EFTS that it “brings in”. ...

The “EFTS captured” by each Department is perceived to be associated with its clout within the College. At this intra College level of the EFTS accounting model, each Department is trying to capture as many EFTS as possible and thus implicitly discourages the flow of EFTS to other Departments. ...

The “EFTS captured” by each College is once again perceived to be associated with its clout within the University. (Quoted in Sainudiin, sub. 74, p. 15)

The submitter argued that this competitive approach disincentivises cross-university collaborations, results in wasteful duplication, and undercuts the university’s goal of producing students with cross-disciplinary skills:

The [university’s] list of admirable graduate attributes ... can only be truly achieved in the absence of the perceived hierarchies of various “EFTS silos” across academics, Departments and Colleges within a University. (ibid)

Providers compete to gain government funding – or the other way around?

Methodist Mission Southern noted that competition for students exists not only between providers, but also between funders, with implications for PTEs:

[I]t is not just providers that compete. Funders do too. In the case of Work & Income’s Training for Work and Skills for Industry courses, not all of which have been provided by trainers who are NZQA registered and accredited, W&I are effectively competing with ITOs and TEC funded providers.

... [Work & Income] (and their sub-contracted off-shoot, Youth Services) have considerable power as a referral mechanism in the supply chain of foundation education students, [so] any decision by [W&I] or Youth Services to prefer their own product, or to prioritise part-time and marginal income work rather than training, has a significant impact on the market.

Where there has been contracting of non-NZQA providers, funders have effectively undercut the price point of providers who have had to bear the cost of NZQA registration, accreditation, and [External Evaluation and Review]. (sub. 5, pp. 2–3)

7.6 Other markets

Section 7.6 briefly describes the market for teaching and learning that TEC does not fund. This market includes international students and domestic user-pays provision. It also describes other markets that tertiary providers may operate in, including student accommodation, research and consultancy, and philanthropic donations. Providers also supply skills to the labour market (Chapter 4) and some compete in a “market” for academic staff and reputation (especially research reputation) (Chapter 6).

The domestic and international market that TEC does not fund comprises some PTEs (eg, those specialising in English-language provision or professional development) and user-pays ACE, including some delivery at TELs. Some parts of this market are regulated by government as tertiary education. For example, a provider must be registered with NZQA if they wish to award New Zealand qualifications or enrol international students travelling on student visas. Other parts operate under the same regulatory framework as any other business.

International students

International students below doctorate level attract no tuition subsidy funding, and there is no regulatory limit on the fees that a provider can charge these students. Where providers offer places on courses already offered to domestic students, the provider faces only the marginal cost of an extra student place. This means

that providing international education is potentially very profitable for providers, and such providers have incentives to enrol as many international students as are compatible with their brand and mission.

This creates consequent incentives to:

- pursue international rankings (Chapter 6);
- maintain NZQA Category One status to access the most favourable visa entitlements (Chapter 5); and
- deliver products and services that this market wants to buy. For example, NZQA and the Committee on University Academic Programmes (CUAP) began to approve 180-credit Master's degrees (instead of the usual 240 credits) from 2013 specifically to grow international students enrolments at this level (Gerritsen, 2012).

New Zealand providers face competition from overseas providers, including those in the student's home country. Providers compete for international students in a market where the interaction of supply and demand sets price and quantity for different quality products.

A provider might choose to limit its international enrolments below the level of demand in some circumstances.

- If a provider markets itself onshore or offshore on the basis that it is exclusive and accepts only the best students, then it will need to manage its international enrolments in a way that is visibly consistent with this claim.
- The larger a provider's international student body (especially if dominated by students from a single country), the more potential for international students to interact primarily with one another rather than with domestic students. Providers who want to assure international students that they will have an immersive English-speaking experience on campus may limit their international student numbers accordingly.
- A large international student body also changes the nature of the domestic student experience, and the look and feel of the provider. While some providers embrace this, others limit international enrolments to maintain a "Kiwi culture" on campus.

A provider may also choose to limit enrolments in cases where the provision is not profitable. This is where the provider runs a relatively costly programme for international students without being able to (or choosing not to) charge high fees. WelTec and Whitireia comment that, in the case of their institutions,

[t]he costs associated with attracting, supporting and retaining international students are such that for WelTec and Whitireia they are not a 'profit' generating side to our 'business.' In fact, international student fee revenue provides similar amounts of funding as that which comes from SAC revenue and domestic student fees. (sub. 59, p. 12)

In general, New Zealand universities pursue international enrolments less energetically than do their Australian counterparts. It is not clear whether any of the above considerations fully explain this. A possible additional explanation is that Australian universities have experienced highly variable levels of government funding, and so see international student delivery as a means of securing their financial future.

Domestic user-pays provision

A proportion of domestic delivery is user-pays rather than TEC-funded. This includes some ACE provision (eg, "personal interest" courses principally aimed at educated adults) as well as professional or personal development. It also includes provider-based Recognition of Prior Learning (Chapter 4).

Providers have incentives to do as much of this business as they profitably can, and to be responsive to the customer's needs and preferences in terms of content design and delivery. The customer may be a student or sometimes (eg, for professional development) an employer. For ACE provision, the direct customer may be local government or a community group (eg, Rotary or Lions) that has moved in to fill the gap left by withdrawn TEC funding, subsidising the provision as a community good.

Student accommodation

Student accommodation is highly capital-intensive. TEIs have business advantages over potential competitors in this market as they can offer a bundled product (education plus accommodation), and have access to finance at low rates (Chapter 8).

Student accommodation is an expanding business line for universities in particular. For example, in late 2015, the University of Auckland announced that it was increasing its student accommodation by about 25% (about 600 beds) over the next two years:

This investment in mostly apartment-style accommodation reflects a trend for more university students to seek rooms in a University residence rather than find a flat in a suburb beyond their first year. (University of Auckland, 2015)

In June 2016, Victoria University of Wellington announced that it was building a new 300-bed hall of residence, bringing the number of its student accommodation beds to around 3 300 across 12 halls, reflecting “steadily increasing demand from students” (VUW, 2016).

Contestable funding for research

Providers can compete (with one another, with Crown Research Institutes, and sometimes with private research organisations) for contestable research funding from government. This is offered by multiple agencies, including TEC; the Ministry of Business, Innovation and Employment; Callaghan Innovation; the Royal Society of New Zealand; and the Health Research Council. As Universities New Zealand noted:

According to the biennial research and development (R&D) survey conducted by Statistics New Zealand, universities account for 30% of research activity in New Zealand, which in turn generates around 25% of total university income. (sub. 17, p. 69)

Most contestable research funding is granted for a specific purpose, or to develop capability in a specific area. This is in contrast to the PBRF which is awarded competitively on the basis of research quality, but which the provider can use for any purpose (including activities unrelated to research).

Research commercialisation and consulting

Despite a few standout exceptions (eg, the Massachusetts Institute of Technology (MIT) in the United States), commercialisation of research is a minor activity for most tertiary institutions worldwide. This also appears to be the case in New Zealand where, according to TEI accounts, commercialisation of research provides a tiny proportion of overall revenue. However, it may boost reputation.

The market for donations

Philanthropic funding is not a large revenue source for most New Zealand providers. An examination of university annual reports for 2015 shows that donations and trust income comprised between 0.02% and 3% of total revenue, averaging around 1%.

However, some have received significant donations attached to particular facilities, such as Victoria University of Wellington’s International Institute of Modern Letters (supported by United States philanthropist Glenn Schaeffer), and its Adam Art Gallery and Adam Concert Room (supported by local philanthropists Denis and Verna Adam), or the University of Auckland’s Owen G. Glenn building (funded by a \$7.5 million donation from expatriate businessman Owen Glenn).

Interactions between markets

Providers can choose to supply in one market if constrained in another. For example, because providers are unable to differentiate themselves on price, to attract students they might differentiate themselves on the quality or diversity of their student accommodation.

And where EFTS funding is tight, providers can look to increase numbers of fee-paying international students to increase their revenue. The relationship between these markets was discussed in the submissions from Ako Aotearoa and the TEU:

We firmly believe that increasing internationalisation is a positive element of New Zealand's education system, but we do accept the associated risks outlined on p69 and the ethical dimension noted on p68 relating to the purpose of the education system (although this dimension is more relevant to public institutions than the PTE sector). In our view, these dangers become significant only if large parts of the system – particularly TEIs – become reliant on international income to remain viable. We are, however, aware of concerns in the tertiary sector that we may be approaching or are already at this point. (Ako Aotearoa, sub. 58, p. 20)

Another effect of underfunding is the political decision to force institutions to supplement public funding with revenue from international student enrolments... [This] has left the sector exposed to the vagaries of global influences, while not actually fundamentally addressing the issue of declining public funding for the sector. (TEU, sub. 83, p. 30)

However, as noted earlier in this chapter, New Zealand providers have not chased the international student market as vigorously as Australian providers.

Some educational delivery moves between markets as government funding policy changes, and providers respond in accordance with their mission and cost/revenue structures. For example, the variety of ACE provision eligible for TEC funding reduced in 2008 and again in 2011. Some ACE providers chose to maintain provision no longer funded by TEC, through cross-subsidising with funded provision, charging fees, running smaller courses, relying on volunteer labour, or finding other sources of revenue including philanthropic or community funding. Other ACE providers reduced their provision to deliver mainly, or only, what TEC still funded.

7.7 Government's incentives and constraints

The government faces financial and political constraints

As discussed in section 7.4, providers have three main means of increasing their surplus: a higher price; a larger quota; or lower costs. The first two involve lobbying the government. Both are expensive for government.

- Increasing EFTS tuition subsidy rates is a direct cost to government.
- Allowing increases in the fees cap is an indirect cost. Students will presumably borrow to cover the increased fees, and government provides a substantial subsidy to Student Loan Scheme (SLS) participants.
- Increasing overall quotas is both a direct and indirect cost to government, through subsidies and student loans respectively. Re-prioritising quotas between providers may be fiscally neutral but generates political and transaction costs. TEI quotas have been remarkably steady for the last decade (Chapter 5).

Faced with these financial consequences, government might prefer TEIs to reduce costs. However, pushing them to do so is not a soft option for government. If TEIs can successfully portray this in the public arena as reducing education quality, then government might suffer politically.

Government is also sensitive to the politics of higher student fees and of rationing student places via quotas. It is therefore constrained fiscally and politically in all directions.

The funding pattern over the last decade (very small changes in TEI quotas; small or tightly targeted increases in EFTS tuition subsidies; and small increases in permissible fees) suggests that the political consequences of small increases in costs and prices are more acceptable than other types of change, especially those affecting TEIs.

Tertiary education institutions, especially universities, are powerful lobbyists

Universities, in particular, are a powerful lobby group. They have managed to secure significant advantages and some of these have been enshrined in legislation.

TEIs, especially the universities and their academics, have status in society and can be powerful voices in public debates. The majority of politicians and public servants are tertiary educated and many have ties back to the intuitions they attended.

While this has many positive consequences, this power could be misused should TEIs apply it to creating and entrenching privileges for their institutions to the detriment of students, employers and the economy, or wider New Zealand society.

Independent Tertiary Institutions submitted that

[t]he fundamental challenge [presented by demographic forecasts] is declining student numbers which means, on the current model, declining funding. On the predictions, PTEs hold up relatively well but the main challenge for us is probably going to be political. Public institutions and teacher unions, faced with declining rolls, will pressure the Government of the Day to divert money from “for-profit private companies” to “struggling under-funded public providers.”

ITI believes the Government must resist this almost inevitable pressure and stick to policies based on merit and evidence. (sub. 81, p. 14)

Declining domestic demand could push providers from Case 1 to Case 2 described in section 7.4.

Informal “back channels” allow adjustments in non-transparent ways

TEIs have incentives to minimise their financial surplus to boost their case for price rises (Chapter 8). Similarly, some providers over-deliver to demonstrate excess demand to TEC. These are examples of strategic moves to influence settings at the margins of a largely locked-down system.

Any system needs to respond to changes in the “outside” world, or at least the subset of those changes that threaten its operation. Many changes in locked-down systems are initiated and enacted informally. Non-transparent feedbacks, political intervention and private deals massage the system into an equilibrium. The equilibrium at any time will be one that is feasible within the formal and informal rules, and will be optimised for the short-term political economy.

Resource allocation that is based on non-transparent processes, operating by informal rules, tend to reward the politically powerful and those with resources to devote to lobbying. Such allocations are rarely ideal for those with diffuse interests such as students and taxpayers (Olson, 1965).

Government’s market regulation of TEIs has the opposite effect to that usually intended

“Market regulation” describes the regulation that government uses to control market power and limit monopoly profits. In New Zealand, the Commerce Commission is most commonly responsible for market regulation. Airports, electricity distribution and gas pipelines are examples. Education, health and some other sectors have bespoke arrangements.

Market regulation is typical when industry cost structures lead to a small number of suppliers and make further market entry unlikely. Its desired effects are to lower prices, improve quality, and encourage innovation. In essence, it seeks to make incumbent suppliers act as if they were subject to current and possible future competition.

In contrast, the government’s market regulation of TEIs serves to maintain incumbent suppliers and prevent new market entrants. It appears to have evolved in such a way that the market power of institutions (and collective behaviour on the part of universities) is an established part of the system.⁴⁶

⁴⁶ This includes CUAP, which would likely be an illegal collaboration arrangement under the Commerce Act 1986 were it not authorised in the Education Act 1989. These issues are discussed further in Chapter 12.

The government's market regulation of TEIs therefore appears to contribute to, rather than reduce, the market power of providers, with a consequent disempowerment of consumers (ie, students and prospective students).

Government is not as constrained in how it treats PTEs and CEPs

Most PTEs and CEPs lack the political power of TEIs and are arguably more vulnerable to adverse TEC-funding decisions. Independent Tertiary Institutions submitted:

A PTE can fail utterly and the Government will let it. ... The game is a lot more real for PTEs without a Government safety net. (sub. 81, p. 4)

Another PTE told the Commission of the stress of living with the knowledge that "a stroke of a pen in Wellington" could cause their business to vanish overnight. ACE Aotearoa noted that ACE funding expands and contracts with government policy and funding, and that "when [government] resources are scarce, there is a very high likelihood that priority will be given to learners who are ready to enter formal institutions" rather than to ACE clients (sub. 32, p. 3).

The effect of government policy and regulation

BusinessNZ sums up the situation like this:

Funding and accountability policy currently provide limited incentives for improved performance, efficiency and responsiveness to priorities. Incentives, regulations, and accountability mechanisms are often misaligned. Regulations are not very flexible or durable; often lack transparency and predictability; and the capability of the regulators is mixed. All of this is compounded by the fragmented way the system and subsectors are administered (sub. 77, p. 2).

Chapter 8 explores the implications for providers, staff, students, employers, system efficiency, research, and innovation.

8 Implications of tertiary system settings

Key points

- The market for equivalent full-time students (EFTS) has implications for providers, domestic students, employers, system efficiency, and innovation.
- For providers:
 - The incentives on providers from Tertiary Education Commission (TEC) funding do not reflect the government's stated goals.
 - TEC requires public providers to produce financial surpluses; but providers have incentives to keep these small, so as not to weaken their case for funding increases.
 - Because of economies of scale, larger providers generally make larger surpluses (and accrue more financial and real assets) than smaller ones. Over time, the rich tertiary education institutions (TEIs) get richer.
- For domestic students:
 - The system ensures minimum standards are met, but does not reward quality or responsiveness to students. Supply does not adjust to demand, which means less efficient matching of students to tertiary education.
 - Students choose between relatively homogenous offerings.
 - The system disincentivises providers from enrolling those who need the most help.
 - The system requires everyone to learn at the same pace.
 - Providers with market power can impose switching costs on students.
 - The system is moving away from supporting lifelong learning.
 - Most of these implications do not apply to non-TEC-funded students (including international students, and domestic user-pays provision).
- Providers have weak incentives to respond to employers' needs, except in cases where:
 - the employer is paying, and has the option of taking their business elsewhere; or
 - the relationship with the employer carries other benefits (for example, the promise of consultancy work or research funding); or
 - the provider's reputation with government or students is impaired by their lack of connection with employers.
- For system efficiency:
 - Productivity growth is hampered by the low levels of reallocation of resources between providers.
 - The system maintains high cost structures, because of providers' market power and because the government needs every TEI to make a surplus.
 - Providers cross-subsidise extensively. Some level of cross-subsidisation within providers is desirable, and government-set tuition subsidy rates assume (and indeed require) that it occurs.

However, it can undermine the intent of funders and weaken allocative efficiency. It also bestows a competitive advantage on those private providers who can limit themselves to high-margin delivery.

- For innovation:
 - Overall, current quality control settings discourage innovation, as does the exclusion of new entrants.
 - Where innovation does occur at scale across the system, it tends to be top-down (driven by government) rather than bottom-up (initiated by providers).
- The system as configured has high political and financial risks for government. Government seeks to control these risks through top-down control of providers, with more prescription, less trust and less autonomy. This in turn means less diversity, flexibility and innovation.
- There is “considerable inertia” in the New Zealand tertiary education system. This inertia is an emergent property of the system, rather than a characteristic of providers.

8.1 Introduction

Chapter 8 explains that supply and demand of TEC-funded domestic tertiary provision takes place in a “market for EFTS” in which tertiary education is commodified into a homogenous product.

This chapter examines the implication of that market for providers, students, system efficiency, employers, and innovation.

8.2 Implications for providers

Incentives on providers from TEC funding do not reflect government’s stated goals

Providers want to advance their missions; and for that they want to maximise their available resources, which means maintaining their reputation with the government as chief funder and regulator. They have to strike a careful balance between doing what the government asks for, and what it actually pays for – and these are not always the same. Government funding arrangements incentivise providers to:

- enrol as many well-prepared, easy-to-teach students as possible, ideally in large classes with standardised enrolment deadlines and low-touch delivery formats; and
- invest time and energy in tightly managing the inputs and processes monitored by government – and in lobbying government for more favourable arrangements.

Yet the Government’s goal as presented in the *Tertiary Education Strategy 2014–2019* (and the ambition of many providers) is a system that is:

- accessible and responsive to a wide diversity of students;
- efficient at moving students up and through the system into higher levels of study and the labour market; and
- focused outwardly on outcomes for students and employers, rather than inwardly on itself or government (MoE & MBIE, 2014).

Providers commented on this apparent disconnect between the system’s stated aims and the incentives it embodies.

The underlying themes of the tertiary funding system – that it favours the largest number of fulltime students enrolled for the longest period and by individual institutions; and that it is long on penalties for failure and short on incentives for collaboration or for thoughtful risk-taking – are both potentially inimical to what the ITP sector sees as appropriate responses to the changing global economy. (NZITP & Metro Group, sub. 42, p. 4)

Instead of an operating environment where the learner is at the centre of decision-making, where they are provided high-quality information, exposure and experience, and a system that enables them the ease of movement between various players in the tertiary education system; we have the opposite. Currently the incentives provided by the funding and monitoring regimes run counter to this approach... (WelTec & Whitireia, sub. 59, p. 22)

A number of political decisions made by successive governments over a long period of time have resulted in perverse effects on the education system. They encourage behaviours that are either uneconomic, unsustainable or both. At worst, these decisions have indirectly allowed a small number of providers to engage in unethical behaviours that threaten the whole system. (Independent Tertiary Institutions, sub. 81, p. 10)

There have been issues with achieving the government's directive of all Maori and Pasifika students achieving at the same rate as the general population by 2018. This is an admirable goal but the policy settings to achieve it are crude and unmanageable. (ibid, p. 19)

The system is currently designed to focus on institutions and qualifications, not students as individuals. (Marshall, sub. 73, p. 17)

We acknowledge that moving to an outcome linked funding framework is part of the language of the Tertiary Education Commission and the tertiary Policy Unit at the Ministry, however, there is no tangible evidence that meaningful steps in this direction have been taken. (Manukau Institute of Technology, sub. 67, p. 2)

The following comment sums up the situation from one PTE's perspective:

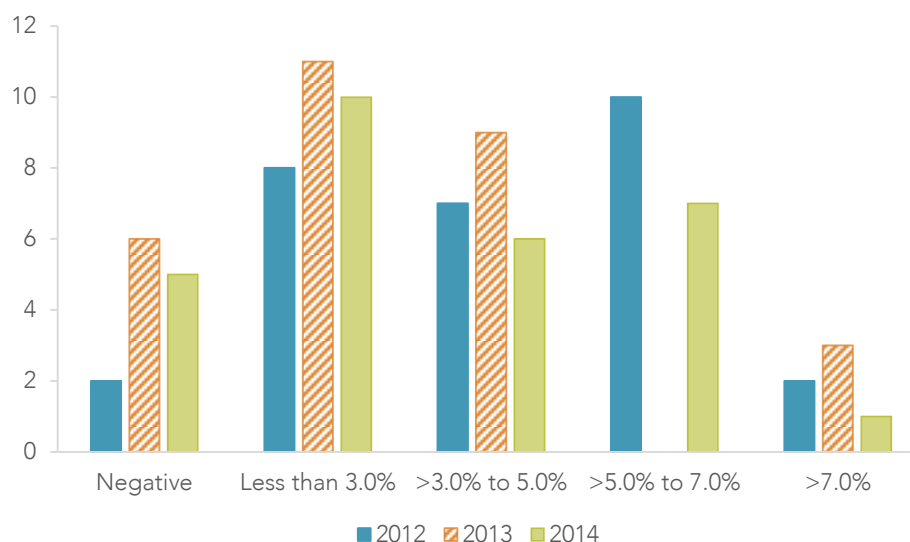
We, and other PTEs, I'm sure, long to be able to make quality decisions in terms of how we deliver programmes and assess and judge learner learning and ultimate quality. Yet the all-consuming driver of what we do is how to preserve our funding (SAC and YG in our case). To ensure funding for next year, for example, we have to (1) promise something we can't control (eg, how many learners we expect in next year's programmes), (2) accept as many learners as we can to reach our 'cap', and (3) 'pass' as many learners as we can to ensure our 'completions' meet TEC targets. This is a terrible model for ensuring high quality education. (1) is close to crystal ball-gazing. (2) forces us to accept learners who don't really meet entry criteria. Interviewing staff have uneasy feelings about a learner, but feel they have to accept him/her because the cap demands it, and then that learner becomes a real threat to our completions, notwithstanding superhuman staff efforts to get him/her through. (3) forces tutors to pass learners who don't really deserve to pass – contributing to the low academic quality of graduates – and even enormously tempts institutions to 'cheat' on allowing learners to complete. Institutions who try to maintain their integrity in graduating learners, and who 'fail' some learners, are penalised by their relatively low completion rate. Everything seems to mitigate against honest, quality, meaningful academic outputs and outcomes. (Francis, sub. 94, pp. 9–10)

TEIs must produce a financial surplus – but they have incentives to keep it small

TEC expects TEIs to deliver a minimum financial surplus of 3%–5% to demonstrate viability and sustainability, and as evidence of operational efficiency and governance ability. TEIs have incentives to deliver this surplus so as to demonstrate to TEC that they are "low risk" and can be trusted to manage their affairs responsibly.

However, the government also uses information about the financial health of TEIs to inform its (in part, political) funding decisions for tertiary education. The success of TEIs in creating large observable surpluses may therefore undermine their lobbying efforts to maintain or increase prices or quotas, or even make it politically possible for government to reduce funding levels or claw back assets from TEIs.

These factors strongly incentivise TEIs to limit their observable surplus to the smallest they consider politically safe for them. In 2014, only eight of 29 TEIs had a surplus of more than 5%, and 15 had a surplus of less than 3% (Figure 8.1).

Figure 8.1 Distribution of TEIs by financial surplus, 2012–2014

Source: Data supplied by TEC.

Notes:

1. Measure is of TEIs' "net surplus ratio" as monitored by TEC.

The incentive to minimise an observable surplus is likely to operate more powerfully at the subsector level than at the level of individual TEIs. Because of the one-price-for-all funding model, an individual TEI can deliver a healthy surplus fairly safely, as long as its peers could not survive a government funding decrease.

F8.1

TEIs perform a delicate balancing act between crying poor and at the same time demonstrating efficiency and innovative activity. This arises because observable success in reducing costs could undermine their lobbying attempts to maintain or increase price and quantity.

TEIs can minimise their observable surplus in three main ways:

- spending on mission-maximising activities;
- accumulating assets that create future accounting costs; and
- taking on debt.

These things can help to boost the reputation of an institution, which helps with attracting quality staff and the best students. These in turn both reinforce reputation and help to lower the costs associated with supporting students to achieve, creating a positive feedback loop.

Spending on mission-maximising activities

TEIs have multi-purpose missions, so they can divert surpluses from profitable activities to expand unprofitable activities, including research and marketing. This minimises their observable surplus immediately. The institution need declare only the residual *financial surplus* in its financial accounts.

Accumulating assets that create future accounting costs

TEIs can purchase assets. This creates a stream of future accounting costs (that is, depreciation), and operation and maintenance costs.

TEIs have incentives to accumulate assets in a form that are not amenable to claw-back by government. Special-purpose and heritage buildings, the land on which they sit, and specialist research tools are ideal. These have reduced (or little) value in alternative uses, and can enhance a provider's reputation. Such assets are termed "sunk", as their sale will not recover their purchase price.

Taking on debt

TEIs can borrow at low interest rates as their creditors have an explicit government guarantee (Chapter 5). Debt has the advantage for TEIs of locking in future costs, which helps to reduce observable surplus in future accounting periods. In part for these reasons, government directly regulates the amount of debt that TEIs can take on (s 192 of the Education Act 1989).

F8.2

The incentives facing TEIs encourage them to over-invest in reputation and other sunk assets, and to take on more debt than might otherwise be prudent. In (partial) response, government directly regulates the amount of debt that TEIs can take on.

The big get bigger, and the rich get richer

Because EFTS funding is insensitive to economies of scale at course or provider level, in general larger providers can make larger surpluses. TEIs cannot distribute these surpluses, so they accumulate over time, meaning that larger institutions will tend to accrue financial and real assets faster than smaller ones. This improves their ability to compete for additional students.

The result of this positive feedback loop is that, over time, big TEIs will get bigger, and rich TEIs will get richer.

In addition, fee regulation involves a multiplier on existing fees (the Annual Maximum Fee Movement). This means that providers who had higher fees when the policy was introduced have been able to increase their fees more rapidly than those had lower fees at that time. This creates bigger fee differentials between providers over time.

F8.3

The EFTS pricing system, in combination with economies of scale and financial regulation (including fee regulation), means that larger TEIs will accumulate assets faster than smaller ones, and TEIs with higher fees can increase them by more than TEIs with lower fees. Over time, the big get bigger, and the rich get richer.

It is usually in the collective interest to defend the status quo

Depending on the issue, the collective interest of providers is stronger or weaker. For example, all providers have an interest in raising Student Achievement Component (SAC) prices, and in excluding new entrants who might lead to a quota reduction for incumbents. However, quota increases to one provider are less valuable if all the other providers get increases too.

The various peak bodies for providers will struggle to get consensus on issues that affect their members differentially. Any proposal with a negative outcome for one member faces the likelihood of veto. The “safe” middle ground is, in many cases, to maintain the status quo.

Such collective organisations are unlikely to champion innovation unless it is very likely to benefit them all individually.

Marketing remains important, despite the fixed quota

Multiple submitters commented that TEIs, and in particular universities, seem to undertake extensive (and expensive) marketing campaigns apparently aimed at recruiting domestic students.

Competition for student enrolments has led to what seems to be a disproportionately large spending on advertising which seems an inappropriate use of university funds. (Victoria University of Wellington Students' Association, sub. 80, p. 3)

Tertiary institutions have established corporate and marketing departments and spend considerable sums each year in branding, advertising and other marketing expenses. Unless this investment can be justified in terms of substantial improvements in the productivity of the sector this expenditure, a significant amount of which is public money, must be viewed as wasteful. (Cocker, sub. 62, p. 1)

Big marketing spends aimed at prospective domestic students may appear to conflict with the Commission's finding that TEC funding and regulation, rather than student demand, is the most important driver of domestic student revenue for providers in this market. However, providers do have clear incentives to advertise within the current system (and not just to minimise an observable surplus as discussed above). Some of these incentives are noted below.

- Providers who are not at 99% of their quota have strong incentives to get more students in, to avoid loss of revenue.
- Providers who are at their quota might want to illustrate excess demand to TEC ("More students want to come here, but we're having to turn them away") so as to get a larger quota in the next funding round.
- Providers might be competing on the quality, rather than quantity, of domestic students they attract. This might include efforts to recruit particularly high-achieving students, as well as efforts to attract enough Māori and Pasifika students to meet TEC participation targets for these groups.
- Some funds are not managed by fixed quotas, eg, SAC levels 1–2; providers may market to grow enrolments in these areas of delivery.
- It may be that no-one wants to be the only provider in its subsector *not* to have billboards, just in case that reflects badly on them.
- The marketing might be aimed at improving the provider's reputation with taxpayers, to increase its political power in its negotiations with government; or (in Wellington) it might even be aimed at government funders.

8.3 Implications for domestic students

Everyone has an interest in having a tertiary education system that is successful at attracting and educating students. Their participation is voluntary and, as discussed in Chapter 2, carries important public benefits as well as private ones.

Both providers and government claim to be acting in the interests of students. But students have their own interests, and these are not completely aligned with those of providers nor those of government. Tertiary staff – academics in particular – compete in a high-stakes market for reputation. While many care deeply about teaching quality and student outcomes, coincidence of the collective interests of staff and students would be remarkable. And, unfortunately, the funding and quality assurance systems are not well-designed to incentivise government or tertiary providers to respond to students' interests.

A common theme of the following discussion is that a one-size-fits-all funding and quality assurance system is a poor fit for a co-produced good like tertiary education, where one of the inputs (that is, students) is diverse.

The system ensures minimum standards are met, but does not reward quality or responsiveness to students

As discussed in Chapter 5, the quality of teaching and learning in the tertiary system is formally regulated in two main ways:

- TEC administers the Educational Performance Indicators (EPIs), with funding at risk for poor results via Performance-Linked Funding; and
- the New Zealand Qualifications Authority (NZQA), the Committee on University Academic Programmes (CUAP) and the Academic Quality Agency for New Zealand Universities (AQA) administer various quality assurance processes, most of which are heavily focused on input and process controls.

Providers supplying the TEC-funded domestic market have strong incentives to manage – at least to a minimum acceptable standard – those aspects of quality that are measured by government or important to their reputation. (And regulators, for political reasons, have complementary incentives to set a performance

standard that almost all providers will meet.) Students can be fairly confident that government-funded providers will meet government-regulated minimum standards of quality.

Once these conditions are satisfied, though, providers have weak financial or regulatory incentives to spend resources in further improving teaching or learning for domestic students.

Quality assurance requirements are extensive but, as far as the Commission is aware, no element of domestic quality regulation specifically assesses teaching quality – and institutions seem to be doing relatively little research on this topic (Box 8.1).

F8.4

The government devotes significant resources to quality control. Yet it directs few of those at ensuring that students receive quality teaching.

F8.5

The funding and regulatory system does not meaningfully distinguish between a provider who is just “satisfactory” and a provider who is “exceptional” at developing students’ knowledge, skills and capabilities in a way that prepares them for success in their ongoing lives. No robust information is currently available to help prospective students make this distinction either.

Box 8.1 Who is doing research in New Zealand on tertiary education?

TEC funds Ako Aotearoa to furnish tertiary providers with advice and information (including from original research) on quality teaching and learning. This may reflect, and/or contribute to, weak incentives for providers to undertake this work themselves. Aside from Ako Aotearoa, the Commission found a relative lack of New Zealand research on tertiary education, with education departments focused heavily on early childhood and schooling education. One submitter commented on this:

I am confident that if Government wished to review any other major national service, such as the medical service or the legal service, it would consult academic specialists in relevant departments in our universities who have research-led, internationally-relevant, expertise in the matter at hand. ... Although such expertise exists in New Zealand, it is remarkably thin on the ground. While we have substantial Departments of Medicine, and of Law, our equivalent academic ‘departments of education’ in our universities are dominated almost exclusively by school-based educational research and development. The questions that the Issues Paper asks relate, in New Zealand, to a data-poor and research-impooverished field of enquiry. (Shephard, sub. 16, p. 1)

Most large tertiary providers in New Zealand have units dedicated to staff professional development, including teaching. However, the Commission understands that these units seldom undertake the kind of research and scholarship typical of an education department.

It is possible that tertiary providers consider they have effectively outsourced their tertiary education research activity to Ako Aotearoa, which is co-funded by TEC and by providers to do research and deliver advice on excellent tertiary teaching. However, it could equally be the case that Ako Aotearoa needs to exist and be co-funded by government (alongside direct government grants such as the Teaching and Learning Research Initiative) precisely because providers would not otherwise do or publish this research. One submitter commented that funding from Ako Aotearoa and the Teaching and Learning Research Initiative is “crucial for the dissemination of many teaching and learning innovations throughout the New Zealand tertiary sector” (Higher Education Research and Development Society of Australasia (HERDSA), New Zealand branch, sub. 72, p. 1).

Another submitter laments the fact that relevant research on education goes unused:

I continue to be amazed at how much high-quality research on pedagogy is out there and yet remains untapped by tertiary teachers. Just recently I attended a seminar by Professor Peggy A. Ertmer (visiting here from Purdue University) on “Increasing Teachers’ Capacity for Innovative

Learning Pedagogies”, and I wished there were more tertiary teachers in attendance... (Kennedy, sub. 23, p. 8)

Independent Tertiary Institutions submitted, with respect to private training establishments (PTEs), that

[a]s a generalisation, the private sector tends to put more emphasis on practical ways of improving teaching. It is fair to say the PTE sector has the least engagement of any sector with Ako Aotearoa because their research and workshops are seen as largely too academic. Their work is generally produced by researchers rather than practitioners. While the quality of the Ako work is high, it can fail to answer the question “how is this going to help me teach better tomorrow?” (sub. 81, p. 7)

EFTS quotas allow providers to raise prices (within regulated limits) or reduce quality without the risk of losing students to a competitor. As explained in Chapter 5, except in the PTE subsector, TEC very rarely actively reallocates volume based on quality considerations.⁴⁷

The system gives the impression of student choice, but that choice is only available within tight supply-side constraints. The government, with input from providers through the Investment Plan process, decides how many places are available, what courses will be offered and who will offer them. In effect, the government is a proxy agent for the demand side; but not necessarily a well-informed agent.

If actual demand is different from supply as allocated, the providers have limited ability to shift supply to match. Larger providers can make changes within their TEC-approved “mix of provision”, provided the changes are not material and the provider stays within its overall funding cap. However, this ability is limited for providers whose delivery is concentrated in a small number of funding rates, or those funded via competitive tender.

Prior to the competitive processes we had the ability to move funding around our wider mix of provision to accommodate changes in industry, learner demand and impacts in the market/economy. This flexibility enabled us to be somewhat more responsive and agile. First, the government policy setting split the level one and two SAC from the level 3 and above SAC, this began the process of reducing flexibility. But the competitive bid process ended all flexibility and has created a rigid, fragmented and siloed set of programmes that struggle to meet need in a modern economy. (WelTec & Whitireia, sub. 59, p. 24)

Over-subscribed providers with the capacity to increase supply are unable to respond quickly (beyond the 2% over-delivery allowance introduced from 2016). The process of applying to TEC for additional funding can take months, and its outcome is uncertain.

These arrangements lead to the over-subscription of some courses and providers, while others are under-subscribed, with supply unable to readjust. Some students are inevitably left with their second (or lower order) preferences, and this means less efficient matching of students to tertiary education.

In order to contain [its fiscal costs], the Government constrained the number of EFTS in the whole system, thereby restricting the number of loans that would be taken out. In doing so, they turned a free market into a controlled one with perverse economic results.

For example: assume that in a particular discipline, prospective students have a choice between two providers, one that is very high quality and the other that is mediocre. The high quality provider is over-subscribed and so must turn away a number of applicants. Those declined applicants then find a place in the mediocre institution, which then meets its EFTS target. Two negative effects occur – a number of students receive a lower quality education than they might have had, and the mediocre institution stays in business.

Were there no cap on EFTS, the higher quality institution might have accepted all those who applied (giving them the education they wanted and deserved), and the mediocre institution would either improve or fail and exit the system. The policy lever designed to contain student loans is responsible for some students receiving a lesser education than they deserve and for keeping poor quality institutions

⁴⁷ Within the PTE subsector, reallocations are based largely on performance against EPIs. These indicators measure overall achievement outcomes for the (non-existent) average student, rather than for individuals, and are not value-added measures. This means a PTE may lose funding due to “poor performance” even though it is getting better results for high-needs learners than are its competitors.

in business. While the system does have mechanisms for removing the poorest quality institutions (with sluggish results), there are a number of mediocre institutions that may not be the worst in the system, but they survive when perhaps they should not. (Independent Tertiary Institutions, sub. 81, p. 5)

Student choices may still lead to reallocation of revenue within a provider (eg, between faculties).

F8.6

Student choices have little if any impact on provider revenue, as long as providers can fill their allocated EFTS quotas. Student choices may lead to a reallocation of revenue within providers.

F8.7

The EFTS quota system leads to the over-subscription of some courses and providers while others are under-subscribed, with supply unable to readjust to demand. Instead, demand has to adjust to supply – and some students are inevitably left with their second (or lower order) preferences. This means less efficient matching of students to tertiary education.

Students choose between relatively homogenous offerings

The incentives in the funding system push all providers towards a comprehensive suite of those programmes with sufficient popularity (and therefore scale) to generate a surplus. Specialisation is a luxury available to richer institutions; or those supported by subject-specific quotas (eg, medicine or dentistry) or programme-specific funding (eg, ICT Graduate Schools).⁴⁸

Provider homogeneity offers some advantages for students. If all institutes of technology and polytechnics (ITPs), for example, offer the same courses at the same quality, then a student need not spend time and effort on provider selection – the closest provider is as good as any. In addition, those students unable to travel, for whatever reason, are not disadvantaged. This may be especially important for ITP provision, because of the prevalence of older students who are more likely to have family and work commitments tying them to a particular location.

However, homogeneity can embed mediocrity. Experimentation is all but impossible if all providers have to move in lockstep, and systems without experimentation generate insufficient information for improvement. Providers will not seek to improve quality if rewards are absent or unclear. Neither will they seek to better match their product to student demand.

The University of Otago submitted that fee regulation discourages differentiation because providers cannot charge higher fees for higher-quality delivery:

The inability to differentiate upwards in fees for quality is, in conjunction with the absence of any element within the SAC system that rewards quality, a barrier to incentivising excellence and differentiation in the teaching side of tertiary delivery. (sub. 37, p. 11)

A homogeneous system will underperform in particular for students seeking an excellent education in specialised fields. Richer students and those able to gain scholarships can choose to study overseas. Others just miss out. In this way, a homogenous system can be discriminatory.

F8.8

The New Zealand system offers students a choice between relatively homogenous providers. Such a system risks mediocrity and discriminates against some students.

The system disincentivises providers from enrolling those who most need help

Well-prepared, able and resilient students with good family resources are likely to be easier and cheaper to support to achieve in tertiary education. Performance-Linked Funding sharpens the incentives to attract

⁴⁸ The Commission heard that the programme offerings at some institutions are partially determined by the nature of their academic staff. That is, it is sometimes too costly – either fiscally or in terms of staff goodwill – to make an academic staff member redundant, so the academic is allowed to continue to teach in his or her specialty area, even if student demand for the programme is very low.

students who will readily succeed (and to pass as many of them as possible without devaluing the award), as it does not use a value-added measure to assess provider performance.

In addition, for universities in particular, it is good for their reputation to have high-achieving students and successful alumni (Steindl, 1990), and this may generate financial incentives insofar as reputation attracts revenue (eg, international students or philanthropic donors).

Providers who can meet their quota by attracting well-prepared students have disincentives to help less well-prepared students to access tertiary study. One of these, in particular, is the disincentive to attract “hard-to-reach, hard-to-teach” students who have not had previous positive experiences of education, as these students are, on average, likely to cost more to attract into study and to support to succeed. However, these are precisely the students for whom a “second chance” at education is most important, for both moral and instrumental reasons (in giving them the tools to earn a livelihood).

Māori and Pasifika students are disproportionately represented in this group, and it has been a stated government priority to improve their outcomes since at least the late 1980s (Hawke, 1988). TEC requires all providers to set participation targets for Māori and Pasifika students as “Plan commitments” for this reason. However, as noted in section 7.3, current rates of equity funding are insufficient to cover real costs; and Wellington Institute of Technology (WelTec) and Whitireia Community Polytechnic (Whitireia) comment that “it costs us more per learner on the [Māori and Pasifika Trades Training] programme than the funding we receive from government” (sub. 59, p. 19).

The rate of actual improvement in tertiary education outcomes for Māori and Pasifika has been slow (Chapter 9) and, in the absence of changes to funding and quality assurance settings, this seems likely to continue.

F8.9

The funding and quality assurance systems do not reflect stated government commitments to improving educational outcomes for disadvantaged student groups, including Māori and Pasifika.

The system requires everyone to learn at the same pace

Providers get funded per course, and are required to deliver a certain number of “learning hours” in each course, designed to meet the needs of the average student. Providers therefore have disincentives to enable capable students to complete a qualification with fewer courses, or to sit assessments early on without consuming the associated learning hours. This risks a breach of their funding conditions, and TEC recently recovered funding from providers on these grounds (TEC, 2016i). This means that more capable students, who can master material more quickly, must slow down their learning to keep pace with the rest of the class.

Similarly, providers are not funded for delivering extra support to students who need it, and cannot (without funding penalties) delay assessment for a student who is not yet ready for it; so less capable students must speed their learning up.

Also, as described in section 7.3, providers also have incentives to confine courses to a calendar year. One submitter provided the following case study of how this, in combination with EFTS quotas, can have adverse effects on students:

PTE-A is a private training establishment (PTE) providing vocational training to approximately 1500 students engaged in full- and part-time study. ... PTE-A's students are predominantly mature and are based throughout New Zealand, usually in either part-time or full-time employment in a single very tightly defined and regulated industry. ...

A unique feature of the pedagogical model used by PTE-A was the flexibility they offered students around commencement of the programme and the way that the PTE supported the development of a community of learners. Courses are structured in modules of several weeks. Students could commence the programme at any time during the year and immediately join the first module. A consequence of this was that any one time the cohort of students taking a particular module would be distributed evenly, some new to the module, others in the middle, and some close to completion.

Students close to completion were encouraged to act as mentors to students starting the module, sharing their experience and insight and helping the new students join the online forums. This model, while pedagogically excellent, also had the advantage of aligning well to the workplaces the students were intending to enter, as a similar work pattern is normal in that industry.

This excellent model, however, has failed through an unintended consequence of the New Zealand quality system managing funding. In order to ensure that student numbers are managed by institutions to maximise the completion and retention rates, the TEC has imposed student number limitations on providers through the operation of an annual funding plan with severe penalties for those providers who exceed the allocations.

The perception this created amongst students was that access would be limited to those who enrol early. Consequently, a large number of students applied to start immediately in the academic year such that the continuous flow of previous years was replaced by a single cohort all in lock step. The opportunity to sustain a pedagogically valuable model well aligned to the needs of employers was lost as a result of the funding model. (Marshall, sub. 73, p. 13)

Providers with market power can impose switching costs on students

Students can find themselves in a course not well matched to their abilities or preferences, either because their higher preferences were unavailable or because they have learnt more about the subject area or about themselves during study. Similarly, they learn more about the actual quality of their teacher and provider over time. They may also need to move location because of a change in their personal circumstances.

For these reasons, students may want to “vote with their feet” and leave or transfer away from their current course or provider.

For a provider, no enrolment means no revenue. They therefore have incentives to impose switching costs on students to discourage them from ending their enrolment. These costs – and the absence of articulation and staircasing agreements (Chapter 3) – increase the likelihood that students will stay in a poorly matched programme of study, rather than seek out one that is a better fit for their needs or aspirations.

If, for example, a student applies to university to do an engineering degree, and is not accepted into the degree, then the university has incentives (unless it is at its quota and can enrol a better-prepared student instead) to encourage them to do a science degree at the same university. It has no incentive to encourage the student to enrol in an engineering technician qualification at an ITP, which might be a better match with the student’s aspirations – especially if the student can later credit their ITP study toward a university degree.

In addition, if a student leaves part-way through a course or qualification for a neutral or positive reason (eg, because they have found a job, or because they are transferring to a higher-level qualification at another provider, or moving to another location), the provider is punished in its EPI statistics, and potentially via Performance-Linked Funding, for the non-completion. Joint delivery of programmes between providers is effectively disincentivised, as only one provider can be awarded the completion.

The fractious issue of credit transfer and the recognition of prior learning between various parts of the tertiary system is an example. Instead of an operating environment where the learner is at the centre of decision-making, where they are provided high-quality information, exposure and experience, and a system that enables them the ease of movement between various players in the tertiary education system; we have the opposite. Currently the incentives provided by the funding and monitoring regimes run counter to this approach – hold on to the learner, not for their benefit but to maximise the funding you as an institution receive and the tick you get in the completion box; put undue barriers up for recognising prior learning or in credit transfer processes to insist learners do more of your courses and transfer less from learning done elsewhere thus maximising fee/SAC revenue. (WelTec & Whitireia, sub. 59, pp. 23–24)

As well as funding considerations, providers also have reputational incentives to enrol new students for whole qualifications, rather than accept students who wish to complete the last part of a qualification. The destination provider, by awarding a qualification, is attesting publicly to the students’ skills and knowledge. The destination provider may be unwilling to do this if they have overseen a minority of the student’s study and assessment, especially if they lack control over, or confidence in, the quality controls of the source provider.

Government has attempted over time to deal with this problem at non-university providers through prescribing the content and nature of courses, so far with limited success.⁴⁹ In the university subsector, CUAP in theory offers each university very good control over the quality of other universities. But universities are often unwilling to recognise the very courses they previously approved via CUAP:

If, in effect, our universities sign off on the quality of each other's programmes and courses, there is no quality-based reason why they should not give equal recognition to the achievements of each other's learners. (Ed.Collective, sub. 89, p. 15)

The Commission also heard concerns about the ability of students to transfer credits when they partially complete a New Zealand Certificate at an ITP, wānanga or PTE and then transition either:

- into employment, and want to continue their training at an industry training organisation (ITO); or
- into further training at another provider.

Both concerns arise from the different assessment units used by different providers and ITOs. ITOs mostly use unit standards (standardised nationwide) for assessment, while providers may use a variety of assessment standards (including standards that they design). This can be problematic for

students who study at a tertiary provider ... and part-complete a qualification prior to entering into a training agreement with an ITO... [Such students] will need to have that learning mapped against unit standards (in all likelihood through an RPL [recognition of prior learning] process) so that the ITO can cross credit this prior learning against the New Zealand Certificate. I am aware that over many years some "local" Polytechnic qualifications at Level 3 and 4 have been delivered by the ITP sector, which were not assessed against unit standards, and upon employment the ITO's have started the trainee from Level 2 as they had no evidence of how their learning translated to unit standards. The trainee could have undertaken an RPL process however they did not have the money to pay for this, and no funding was available to cover the cost. (Kelly, 2016)

In the case of providers who use a variety of standards,

[t]he question is how will the student provide evidence of part-completion if the qualification has been assessed through provider-developed assessment standards? It could be possible for them to fund an RPL process to map their learning against another provider's qualification, however in most cases students or their families do not have the money to do this, and the student loan does not cover the cost of this. (Ibid)

F8.10

Providers have the requisite market power – and clear financial and reputational incentives – to set high switching costs for students.

The system is moving away from supporting lifelong learning

Chapter 3 presents evidence that the domestic tertiary education system is increasingly oriented towards full-time study, towards younger students (under 25 years) and away from extra-mural study. These trends are consistent with a provider preference for students more likely to complete qualifications. This, in turn, may reflect provider responses to government financial incentives for qualification completion.⁵⁰

These trends run counter to the theme of lifelong learning prominent in government policy since the 1980s, (Crawford, 2016). Lifelong learning was, and continues to be, a favoured response to perceptions of a fast-changing labour market with fast and unpredictable skills depreciation. The New Zealand Council of Trade Unions (NZCTU), for example, submitted that work has become less secure in the recent past:

The growth in insecure work has implications for tertiary education and training and skills development. The [NZ]CTU study into precarious work ... estimated that over 630,000 workers were in precarious work – at least 30 percent of New Zealand's workers but that it may well cover 50 percent of the workforce.

⁴⁹ The New Zealand Qualifications Framework was (reportedly) designed to allow students to package up learning from different providers; but nobody told the Commission that credit transfer was working well. Existing NZQA guidance in this area is weak. It has a work programme to improve the guidance.

⁵⁰ The trend towards an increasing proportion of young students pre-dated a 2010 government policy change intended to achieve such an increase within a capped funding environment (MoE, 2010a). Earlier policy documents contained a similarly worded priority ("more [young New Zealanders] achieving qualifications at level four and above by age 25") within a growing funding environment (MoE, 2007, p. 30).

95,000 New Zealand workers have no usual work time, 61,000 workers have no written employment agreement, 573,000 workers earn less than the Living Wage and almost a quarter of a million Kiwi workers say they have experienced discrimination, harassment or bullying at work. [Some groups of workers are] more affected than others: women, young people, Māori and Pacific workers, migrant workers, sole parents, people with disabilities and people with mental health conditions. (sub. 69, pp. 17–18)

Inquiry participants commented that skills obsolescence will accelerate in the near future:

At the employment end of the education pipeline, technological change and increasing automation will mean workers need different skills. Technology also allows development of new models of education delivery so that education will be integrated much more seamlessly into everyday life. People in or out of the workforce will need the capacity for lifelong learning and the means to access the tertiary education system to up-skill or re-skill. (TEC, sub. 2, p. 1)

The tertiary education system appears poorly configured for such a “learn, unlearn, relearn” world.

F8.11

The tertiary education system is poorly suited for lifelong learning.

The interests of providers and students do sometimes align

The incentives acting on providers do sometimes align with students’ interests. In particular, providers and faculties who are not experiencing excess demand (and so cannot readily replace an enrolled student to fill their quota) have incentives to keep students satisfied, because a happy student is more likely to re-enrol and to speak well of the provider to other potential students.

At the level of individual staff, happy students provide positive feedback that contributes to good “student evaluations” and sometimes, where relevant, to academic promotion (Box 8.2).

Box 8.2 Student evaluations

Student evaluations or feedback forms – completed by students during or at the end of a course – are a common tool used to assess student satisfaction with the quality of course content and delivery.

However, (as discussed in Chapter 2) students co-produce, rather than passively consume, their tertiary education. This means that tertiary teachers and tertiary managers need to use student evaluations with care.

To use a personal trainer analogy: If someone purchases the services of a personal trainer, and then holds the trainer accountable for how enjoyable the training session is, rather than for the results it delivers over time, then the trainer will be strongly incentivised to ensure their client has a nice time and is not unduly challenged in the gym. In contrast, if the trainer is held accountable for how fit the client becomes, then the trainer has very good incentives to ensure the client works hard – especially if the measurement of fitness is done externally.

In tertiary education, if student evaluations act to hold teachers to account for how enjoyable the learning experience is, and this is not balanced by external objective assessment of their learning, there is a risk that the teacher will prioritise experiential enjoyment (and pass marks) over education.

A separate problem is that students, having just invested time and money in an educational experience, want to feel that they were wise and justified in making that investment, and that their or their parents’ money was well spent. They will therefore have a bias toward viewing their educational experience favourably to prevent cognitive dissonance.

This does not mean that student evaluations are valueless – in particular, if students report that a teacher is failing to teach them anything, they are probably right – but that such evaluations should be used with care, and not in isolation.

Submitters commented along these lines:

The student-as-consumer model means that anything too new or challenging, or something that does not work out as expected, could lead to negative student evaluations that might endanger a teacher's reputation or career. There is little incentive to change. (Kennedy, sub. 23, p. 1)

Staff are reluctant to try new teaching ideas as these may receive poor student evaluations, instead favouring approaches to research and teaching which are safe. (TEU, sub. 83, p. 25)

By and large, higher education institutions in New Zealand claim to greatly value the quality of teaching, and by and large they evaluate this quality primarily based on student feedback (or 'evaluations' as it is often incorrectly referred to). ... By and large, higher education teachers who wish to be promoted within these systems not only have to teach well, they have to teach in ways that students approve of. And there are consequences to this. In particular teachers who are innovative, in my experience, tend to struggle... When it comes to student ratings, innovation is the first thing to go; it is simply too risky. Next to go are challenging elements within a curriculum. ... Innovative teachers who incorporate quantitative elements in their courses (such as mathematics and statistics) are particularly challenged in our higher education system. It is far easier to survive within New Zealand's higher education system if you keep the challenge out of the teaching. (Shephard, sub. 16, p. 6)

Students whom the Tertiary Education Commission does not fund

The discussion above is about domestic students in the TEC-funded market for EFTS. Providers supplying the non-TEC-funded market have strong incentives to respond to the needs and preferences of any student who might be persuaded to pay for their services, or any third party buying on the student's behalf (eg, an employer, or the parents of international students). They also face fewer constraints in the nature of the products they provide, how much they provide, and the fees they charge.

International providers have incentives to attend to aspects of quality that matter to their international reputation, including NZQA Category status (for ITPs and PTEs) and international rankings (for universities).

8.4 Implications for employers

Employer engagement carries costs, and its benefits in terms of TEC funding allocations are uncertain (Chapter 4). Universities New Zealand (UNZ) stated:

Work experience [for students] is likely to yield a payback to New Zealand in terms of employment rates, more graduates working in degree-relevant jobs, higher lifetime earnings, greater productivity, higher employee satisfaction and better job retention rates. Few of these benefits accrue directly to universities. The payback to universities comes from their ability to secure SAC funding, to promote the employability of their graduates and to influence recruitment. (sub. 17, p. 33)

Providers supplying both the TEC-funded and non-TEC-funded markets have weak incentives to respond to employers' needs, except in cases where:

- the employer is paying, and has the option of taking their business elsewhere; or
- the relationship with the employer carries other benefits (eg, the promise of consultancy work or research funding); or
- the provider's reputation with government or students is impaired by their lack of connection with employers.

This third force is weak because currently little data is available (either publically or to TEC funders) on the labour-market relevance of providers' delivery. This may change in 2016/17 with the publication of provider-level graduate outcome data and the implementation of Rate My Qualification (Chapter 4).

8.5 Implications for system efficiency

The one-size-fits-all approach to funding and quality assurance discussed above has implications for system efficiency, as it means some students will be getting more or less education than they need. Switching costs also impair good matching of students to education.

Less reallocation means less productivity growth

Research has identified reallocation of market share (and associated business inputs) as the single largest contributor to productivity growth (Box 8.3).

Box 8.3 Productivity growth occurs through reallocation

Three mechanisms reallocate market share (and associated business inputs) between existing firms and between existing and new firms:

- firms that increase their productivity expanding at the expense of firms that do not;
- lower-productivity firms exiting the market; and
- new firms entering the market and growing their employment and productivity.

These reallocation mechanisms contribute as much as 70%–80% of productivity growth in the United States (Acemoglu et al., 2013). One study estimated that entry and exit were responsible for about one third of this productivity growth. Reallocation between existing firms was responsible for the other two thirds (Lentz & Mortensen, 2010).

The 20%–30% of productivity growth not due to reallocation came from increases in productivity within firms (Acemoglu et al., 2013). Yet the threat of reallocation – losing market share – drives the innovation and greater efficiency behind this growth too.

Source: NZPC, 2014b.

The entry barriers, exit disincentives and quota mechanisms in the tertiary education system mean minimal reallocation, greatly reducing opportunities for improve system-level productivity.

Productivity growth is a source of excess resources available for quality improvement, so a system lacking productivity growth is also constrained in its ability to improve quality.

F8.12

The entry barriers, exit disincentives and quota mechanisms in the tertiary education system mean minimal reallocation of student places. This greatly reduces opportunities for improved system-level productivity and quality.

Providers have weak incentives to control costs

Because cost is not a reliable guide to value added in the market for EFTS,⁵¹ there is no reason to think that higher production costs will necessarily directly benefit students. In fact, organisations with market power can divert resource into activities that make life easier for their managers, rather than benefiting customers (Leibenstein, 1966). Such activities have many labels, including “gold-plating”, “management slack”, “rent-

⁵¹ Cost is only a reliable guide to value produced in competitive markets. The market for EFTS does not meet many of the relevant conditions for such a market. For example, consumers lack information on quality, providers cannot enter or exit freely, and price and quantity do not respond directly to changes in demand.

seeking” and “x-inefficiency”. Such organisations under-invest in finding cost-saving innovations, and may inefficiently delay their adoption.

These activities plausibly occur in tertiary education, making it more expensive than it could otherwise be. Chapter 10 shows big increases in tertiary input and output costs over the last decade, significantly in excess of inflation. Ultimately, students (actual and prospective) and taxpayers will bear any extra costs.

F8.13

The market power of providers gives them weak incentives to control costs. Spending more money does not, of itself, necessarily result in better outcomes for students.

In addition, financial failure of a TEI presents a high financial and political risk to government (Chapter 7). To manage that risk, government needs to ensure that every TEI makes a surplus – which means setting the price at a level that will sustain high-cost providers. In effect, the highest-cost public provider (that does not have other substantial sources of revenue) will effectively set EFTS prices.

F8.14

Government needs every public provider to make a surplus, and it sets EFTS prices at a level that enables this. This means that the highest-cost public provider (that does not have other substantial sources of revenue) will effectively set EFTS prices.

Cross-subsidisation has risks and benefits

Providers cross-subsidise extensively between:

- large undergraduate classes (especially at first year) and small upper-undergraduate or postgraduate classes;
- cheap-to-teach students and expensive-to-teach students;
- low-cost and high-cost modes of delivery; and
- high-margin fields of study (ie, those where the provider’s revenue – tuition subsidy plus fees – is significantly higher than its cost per student) and low-margin fields of study.

Providers also cross-subsidise between teaching and research, and sometimes other activities such as research commercialisation or student accommodation.

Some degree of cross-subsidisation is normal, and probably optimal, for any multi-product organisation. In the case of Plan-based tertiary education funding, it allows providers to accommodate inaccuracies in the cost-plus pricing model, which is necessary to the smooth operation of the system. Where it is transparent and well-understood, it is a useful tool.

However, cross-subsidisation in tertiary education can be problematic, especially where providers and government lack good information about its nature and extent, and so cannot make considered decisions about when and where to use it. The Commission understands that this is often the case in New Zealand. Examples of problems arising from cross-subsidisation include:

- Substantial cross-subsidisation by providers can undermine the intent of funders and weaken allocative efficiency. For example, government might allocate \$2 billion to teaching and \$1 billion to research, on the basis that taxpayers relatively value these two activities in that ratio. However, providers might value the two activities equally, and if they can freely cross-subsidise, then they will spend \$1.5 billion on each, failing to reflect the intention of the funding allocation.⁵²

⁵² Even so, it may be justified if it results in greater overall efficiency, for example because taxpayers’ preferences about allocations did not consider relevant complements-in-production that are known to providers.

- Cross-subsidisation can result in unfair competition, when some providers in a market can limit themselves to engaging in high-margin activities, while others are obliged (for example, by statutory characterisation) to undertake some activities that are low-margin or loss-making.
- Government-set tuition subsidy rates assume some level of cross-subsidisation within providers (Chapter 7). Where these assumptions fail to hold, then government may be paying either more or less than it needs to, given providers' costs and the nature of the market.

The last two problems interact. An example may be SAC levels 1–2 competitive funding, where the Commission has heard that PTEs have out-competed ITPs for high-margin areas of foundational delivery, leaving the low-margin or loss-making delivery with ITPs (Chapter 6). One way of looking at this is that, historically, government had been paying more than it needed to for the high-margin delivery, but less than it needed to for low-margin or loss-making delivery. ITPs resolved this gap via internal cross-subsidisation. Government's shift to a partially tendered procurement process has addressed the first problem, but – because ITPs cannot successfully bid for higher prices for higher-cost provision – it has exacerbated the second problem.

Another example on the horizon due to technological change (Chapter 11) would be if Bachelor-level students sought to complete their 100-level papers online at low cost, then wanted to enrol at a campus-based provider for higher levels of study. Universities say that they could not afford to deliver 200- and 300-level specialist classes at the current funding rate and scale, were it not for cross-subsidisation from large 100-level classes. If they were to lose these lower-level classes, what would happen to the higher-level classes?

This predicament is one competing explanation for the decision of the University of Auckland and the University of Otago to require aspiring medical students to do their first year of health science at one of those two institutions, rather than at another university. The University of Waikato raised this issue in its submission as a potential constraint on productivity and innovation (sub. 93). It is possible that the University of Auckland and the University of Otago need to run large and profitable first-year health sciences classes to fund delivery in specialist areas at higher levels. In other words, the “price” (tuition subsidies plus fees) for medical delivery at higher levels may include a built-in assumption of cross-subsidisation from first-year health science. However, the Deans of Medicine at the two universities gave an explanation that did not mention income. Rather, their explanation focused on the wish of both medical schools to protect educational quality and ensure fairness to students by making sure that every first-year student was held to the same standard:

The overwhelming reason for requiring Year 1 students to complete key papers within the Universities of Auckland and Otago, is to allow a fair ranking of their academic capabilities, since this is a critical part of determining who is admitted to the medical and other courses. (sub. 97, p. 1)

F8.15

Some degree of cross-subsidisation in tertiary education is normal and necessary. Where it is transparent and well-understood, it can be a valuable tool. But it can be problematic where it undermines funders' intentions, puts competitors on an uneven playing field, or is absent where the government's funding approach assumes it is present.

8.6 Implications for innovation

Chapter 11 provides a full discussion of where innovation does and does not happen in the tertiary education system. It is obvious to state that it happens only where there is a meaningful prospect of reward through improved revenue or reputation or fulfilment of mission, and enough certainty to justify the costs of change. But it is notable how seldom this is the case, especially at scale (as opposed to within a single course of faculty, where individual academics might be very innovative in ways that do not spread).

In particular, a provider's confidence that it will attract additional EFTS, or a higher price, via an innovative approach to delivery tends to be very low. Because of frequent change and short lead-in times, uncertainty about future settings is often high, making any investment in a new approach feel like a gamble.

Universities are under considerable financial pressure, driving them to focus investment in areas that are generally lower risk and with more certain returns. ...The development of policy and strategy is typically conducted under the cloak of advice to ministers or as Budget-secret and tends to emerge fully formed and signed off – to the surprise of the TEOs that have to respond to them. When we identify issues or challenges with policy or strategy, we often hear that they reflect a ministerial decision that cannot be changed or challenged. (UNZ, sub. 17, pp. 11, 34)

Public TELs have an added incentive not to pursue innovations that could significantly and visibly lower costs, in case doing so leads to a perception that TELs are over-funded.

Providers are very responsive to signals from government. However, signals in the financial and regulatory environment are about maintaining the status quo (with shifts in emphasis between different groups or fields of delivery), with some "sustaining innovation" – that is, continuous improvement activities that incrementally enhance the existing business model. In the words of Independent Tertiary Institutions,

[t]he current tertiary system works best when it is "steady as she goes – same as last year with a few changes at the margin." It can cope well with that scenario. (sub. 81, p. 21)

The responses of providers to incentives from government does not result in innovations that significantly change the existing business models of providers, because government does not incentivise this and – in terms of regulatory settings – does not provide much room for it to occur.

Quality control mechanisms discourage innovation

Ensuring quality is a necessary part of the government's role in tertiary education. However, current mechanisms for ensuring quality are very cumbersome, limiting or delaying innovations in course offerings (Chapter 5). No mechanism is available for experimentation and "fail fast" in trying new courses.

[W]e need a quality assurance process that enables us to prototype and test programmes in the market before final accreditation (College of Creative Arts, Massey University, sub. 33, p. 7)

In addition, an EFTS bundles together the awarding of credentials, assessment, pastoral care and teaching. This inhibits the adoption of business models that efficiently unbundle them.

The design of CUAP and NZQA processes provides competitors with early information about planned innovations. This potentially shortens the time in which the innovator could gain a competitive advantage from being first to market, reducing the expected returns from such innovations (noting that, in a fixed quota system, such return might be in reputational goods, or international enrolments, rather than additional domestic enrolments). A reduction in potential returns discourages innovation, other things being equal.

Changing technology and relative prices create opportunities to do things differently and better for customers. The internet, for example, led to the rise of Trade Me and Amazon, and the corresponding demise of classified advertising and the bookstore. No single way of organising production remains best over time. But new and better ways can only appear when experimentation is possible.

No entry by innovative new entrants

Limits on the entry of new organisations can limit "disruptive innovation", as discussed further in Chapter 11. Christensen et al. (2011) argue that disruptive innovation is more likely to come from new firms, while existing firms will innovate only in ways that sustain their existing business model.

Innovation, where it occurs at scale across providers, is top-down rather than bottom-up

Many individual teachers in tertiary education innovate every day in their professional practice. However, these bottom-up innovations rarely spread and scale up, even within providers. When it comes to new models at the system level, government appears to design "innovative" programmes and then procure

them directly from providers, often with complex new top-down contractual arrangements. Examples include Māori and Pasifika Trades Training, Engineering E2E, and the ICT Graduate Schools.

This approach limits the source of ideas for innovation. It also applies a strong filter: acceptable innovations need to be both politically saleable and contractually procurable.

Contestable procurement offers a limited form of competition. But this is competition to implement, not competition between competing innovations. The procurement process inevitably locks in aspects of the design, limiting learning through implementation (NZPC, 2015a). The flow of information from implementation back to the next round of programme design is slow and unreliable. Further, there is a strong tendency to lock in both good and bad experiments – poor programmes are perpetuated while good ones fail to spread.

F8.16

Features of the system combine to limit innovation and reduce responsiveness to student demand. Competition – where it exists in the system – is not on the dimensions of cost-reducing or education-enhancing innovation. Nor is it on responsiveness to student demand.

8.7 How did the system get to be like this?

Students, employers and providers are autonomous and make decisions in the pursuit of their own interests and missions. Government seeks to manage its own risks and costs, and to modify the private decisions of these autonomous actors to match its view of the wider public interest (Chapter 5). Inevitably, it sometimes makes inaccurate predictions about the consequences of its decisions (Box 8.4).

Box 8.4 Government is not a perfect predictor of provider or student behaviour

The government uncapped the funding system in the late 1990s at a time when government quality assurance of tertiary providers was relatively weak. It was apparently caught by surprise at the entrepreneurial activity of some PTEs, ITPs and wānanga, who swiftly expanded low-value subdegree provision in response to commercial incentives and a desire to grow.

Government may have anticipated that academic cultural norms would act to moderate these incentives, but this was not uniformly the case. Government may also not have been aware of the latent demand for tertiary education from large numbers of New Zealanders not previously participating in the system (an example of “silent harm” – see Chapter 11).

The costs to government of the uncapped system rose sharply in the early 2000s. The system was recapped for PTEs in 2003 and for all providers in 2006.

The recapped system, with fixed EFTS quotas at national and provider level, removes the risk of runaway growth. However, it requires government to make very granular predictions about geographic student demand and labour market need; in other words, about the complex interactive decisions of large numbers of autonomous entities. This may amount to trying to predict the inherently unpredictable; this is explored further in Chapter 12.

Source: Crawford, 2016.

Autonomous entities – in particular TEIs and students – are central to the tertiary education system. The term *complex adaptive system* describes non-trivial systems with autonomous entities. Ecological or evolutionary concepts can sometimes provide better explanations of system changes over time than mechanistic ones. System behaviour is very difficult to predict, as each entity pursues its own goals and comes to its own views as to the likely responses of other entities, possibly modifying its own actions based on those assessments.

Decisions taken – with good intentions or for political expediency – can become locked in by the responses of other entities.

The system, as configured, has high political and financial risks for government. Arguably, the success of TEIs and students in transferring at least some of their costs and risks onto government has increased the risk aversion of government. Translated into policy, this means top-down control – increasing prescription (including prescription by Cabinet of matters of operational detail, as discussed in Chapter 5), reduced trust, and less autonomy. These features in turn have reduced diversity, flexibility and innovation.

The regulatory environment is confused

Government’s regulation of tertiary education has evolved over time in response to external changes and, often, to address unexpected effects of earlier regulation. The resultant arrangements are complex, interdependent, confusing and confused. For example, quality assurance responsibilities are spread across the Ministry of Education, TEC and NZQA; and at least five agencies are responsible for providing information to students about provider performance and the outcomes of tertiary study (Table 12.1).

Inertia is an emergent property of the system, not a characteristic of providers

It is reasonable to conclude that there is “considerable inertia” in the New Zealand tertiary education system. However, this inertia is an *emergent property* of the system, rather than a characteristic of providers. An emergent property is a characteristic of a system that arises organically from the complex interaction of autonomous participants, rather than from planning or the design of any single participant.

F8.17

There is “considerable inertia” in the New Zealand tertiary education system. This inertia is an emergent property of the system, rather than a characteristic of providers.

Whether or not “considerable inertia” is a problem for New Zealand depends on how well the system is performing, and on its ability to deal with likely trends and shocks. These questions are integral to this inquiry’s terms of reference, and are examined in Parts II and III.

Part II: Outcomes and trends

9 Outcomes of the system

Key points

- Government publishes a variety of information about the outcomes of New Zealand's tertiary education system. However, this information is often not informative about the system's performance in achieving desired outcomes.
- The outcome measures most often used by government – course and qualification completion rates, and graduate salaries and employment rates – are not reliably good indicators of provider or system performance, because they do not measure value-add.
- The tertiary education system serves some students well. However, overall it underperforms for Māori and Pasifika students, who experience persistently worse tertiary education outcomes than other students. The differences are smaller in workplace-based industry training than in provider-based delivery.
- In provider-based education, women complete courses and qualifications at higher rates than men at most levels of study. The reverse is true among apprentices. Gender attainment is roughly equal for non-apprentice industry training.

9.1 Introduction

The overarching conclusion of Part I of this report is that the tertiary education system is tightly controlled and inflexible, with high cost structures, and few incentives for providers to respond to the needs of students or employers. Is the system nevertheless delivering good results for students? This chapter examines that question, looking at outcomes for students overall, for Māori and Pasifika, and by gender, as well as broad outcomes for society and New Zealand as a whole. Other aspects of system performance are discussed elsewhere in the report: in Chapter 3 (participation); Chapter 4 (outcomes for employers); and Chapter 11 (outcomes from technology enabled modes of delivery).

This chapter's main finding is that it is hard to make meaningful judgements about system performance in delivering good outcomes for students or New Zealand, because of the nature of the information collected and reported. In particular, the use of raw rather than value-added achievement measures, in combination with the co-produced nature of tertiary education described in Chapter 2, makes it difficult to tell what difference tertiary education actually makes for different groups of students – and to what or whom any difference should be attributed. Without knowing this, it is not possible to draw reliable or nuanced conclusions about performance.

That said, evidence clearly shows that the tertiary education system, while it serves some students well, underperforms overall for Māori and Pasifika students. They experience persistently worse tertiary education outcomes than other students.

Taking this in combination with the findings of earlier chapters,⁵³ there is a *prima facie* case for change. New Zealand can and should be ambitious for its tertiary education system, and need not settle for a tertiary education system in which a substantial proportion of participants experience inequitable outcomes. This is important for instrumental as well as moral reasons: Māori and Pasifika young people make up an increasing proportion of New Zealand's youth population and labour market, and their educational success is critical to the country's future prosperity.

⁵³ Including F8.9, "funding and quality assurance systems do not reflect stated government commitments to improving educational outcomes for disadvantaged student groups, including Māori and Pasifika".

The remainder of Part II explores further aspects of the case for change:

- Chapter 10 explains that the external environment of the tertiary system is in a state of change. The system's input and output costs are rising, and the system's inflexibility generates real risks in the context of this and other key trends.
- Chapter 11 discusses changes in technology and modes of educational management and delivery that present exciting opportunities for improving outcomes from the system.

Part III makes recommendations that would make the system more innovative and open to new models of tertiary education.

Submitters' views on performance

People's views differ about the relative value of the different purposes of tertiary education. They therefore also differ about what makes for a high-performing tertiary education system, and how well the current system is performing. Box 9.1 presents a selection of submitters' views.

Box 9.1 Submitters' views on performance

Submitters expressed a variety of views on how to measure tertiary education system performance:

The most appropriate measure of the effectiveness of the tertiary education system is "the proportion of adult citizens who are able to sustain satisfying, productive and prosperous livelihoods, who achieve their potential, and who extend their connecting links with the family and wider world". (ACE Aotearoa, sub. 32, p. 6)

[R]ather than weigh in on tertiary education's purpose from a system perspective, we have instead found it helpful to think of things in the context of a learner's intention. We could endlessly debate the societal and economic purposes of tertiary education and which functions are more important. What learners want out of tertiary education – how they see it serving them – is a personal, individual matter. It is not for Government or its agencies; the system or its institutions; or indeed organisations like ours to dictate a learner's reason-why. It's theirs. (Ed.Collective, sub. 89, p. 9)

The ACE sector's strength is the knowledge of how to progress learners, generally from a very low base of skill, to become contributing and productive members of society. An innovative measure of the funding spend could be a learner's level of progression. (ACE Strategic Alliance, sub. 34, p. 3)

Submitters also expressed a variety of views on how well the current system is performing:

Although the New Zealand university system is not perfect, it is extremely strong by international standards and is stellar when compared with other parts of the New Zealand tertiary education system. (UNZ, sub. 17, p. 10)

We recognise that these [sector performance] figures are not uniform – particularly in regard to outcomes for Māori and Pacific people – but overall they indicate a sector that is having considerable success in meeting its objectives. (TEU, sub. 83, p. 11)

Those who have been away from the system for a long time tend to have a perspective that teaching quality within our tertiary institutions is poor. It is certainly the case that tertiary teachers are employed on other bases than their teaching ability ... However, it is not the case that this means tertiary teaching quality is poor. (New Zealand Union of Students' Associations, sub. 19, p. 2)

The ITP sector is successful in responding to the needs and priorities of both employers and learners... (NZITP & Metro Group, sub. 42, p. 1)

The reality is this: the current system is failing students as it is. We know this. Approximately 33% of students do not complete their degrees within 8 years... [For providers, it] seems to be perfectly fine to fail at the same rate, as long as you don't change anything and everyone else is failing with you. (Ed.Collective, sub. 89, pp. 51–52)

The Tertiary system has not changed for centuries and has only made continuous improvements to an outdated education model in order to keep pace with technology and student needs. It is slow

and unresponsive due to the process for adopting changes to qualifications and isn't customer centric. (Creative HQ, sub. 75, p. 1)

Apprenticeship completion and retention rates in New Zealand compare very badly to a number of OECD countries (OECD 2014). For example, Germany, Switzerland and Sweden enjoy apprenticeship completion rates above 80%, while New Zealand completion rates are around 50%. (Quality Public Education Coalition, sub. 48, p. 9)

[O]ur tertiary system is failing to meaningfully improve the situations from minority demographics and no amount of fiddling with statistics will change that. (Victoria University of Wellington Students' Association, sub. 80, p. 11)

The inability or unwillingness of higher education to engage in an evidence-based research-exploration of graduateness leads many to assume that it is scared to look under this particular carpet. And the problem is I think more severe in New Zealand than elsewhere. (Shephard, sub. 16, p. 4)

9.2 Government's changing performance focus

New Zealand governments have thought about tertiary education system performance in different ways over time, with the focus of policy and quality assurance shifting gradually from participation (inputs), to outputs, to outcomes.⁵⁴

In the 1990s, performance improvement focused on participation and access while maintaining basic quality

Government significantly reformed the tertiary education system in the late 1980s and early 1990s to make it more responsive to the economy's needs. The reforms aimed to raise the overall skill levels of the population by expanding access to tertiary education (including removing volume caps on the system in 1999), and making it easier for students to move between different parts of the system. To help control its costs, government enabled tertiary providers to introduce higher tuition fees. It also introduced student loans and targeted student allowances to enable access by students from low-income families.

The New Zealand Vice-Chancellors Committee (now Universities New Zealand) was responsible for ensuring the quality of educational delivery at universities, and the New Zealand Qualifications Authority (NZQA) was responsible for the rest of the system. The quality assurance system sought to ensure that providers complied with minimum standards of pedagogical robustness and organisational capability.

During this period, government mainly collected and published data about participation in tertiary education. There was (and is) less information available about access, that is, who is not participating but could benefit if they did (Chapter 3). While government collected some data about tertiary outputs, this was not routinely analysed or reported at provider level.

In the early 2000s, government's focus expanded to include completions

Participation in tertiary education expanded during the 1990s and early 2000s and fiscal costs increased. Government (and consequently providers) faced growing pressure to make better use of resources, and in particular to ensure that participation resulted in qualification completion. Government made funding entirely demand-driven in 1999, but capped it again in 2006, in response to a blowout of enrolments in fees-free subdegree courses of questionable value to students or the economy.

In 2009, government began to publish data on each provider's performance against four output-focused Educational Performance Indicators: course completion, qualification completion, retention and progression. These four measures also formed the basis of the Performance-Linked Funding policy, and of some funding decisions by the Tertiary Education Commission (TEC).

⁵⁴ Much of the historical information given here about policy reforms is drawn from Crawford (2016).

NZQA's quality assurance focus shifted away from maintaining minimum standards, toward encouraging continuous improvement through self-assessment. From 2009, NZQA implemented an ongoing programme of external evaluation and review, in which all non-university tertiary education organisations were periodically and independently assessed for their educational performance and their capability in self-assessment. This included consideration of the relevance of the education to the labour market, as well as its pedagogical quality. Teaching quality was assessed by examining providers' systems, processes and outputs (including via Education Performance Indicator data) rather than direct methods such as in-class observation.

Government's focus now is on improving post-study outcomes and relevance

Since the mid-2000s, and especially over the last five years, government has increasingly talked about the need to improve the "relevance" (to the economy in particular) of tertiary education, and the post-study outcomes of its graduates. The *Tertiary Education Strategy 2014–2019* (MoE & MBIE, 2014) identifies economic outcomes as of particular importance – in terms of graduate employment, and in terms of the wider economic impact of tertiary education (including research and knowledge transfer).

9.3 What is known – and not known – about performance

A lot is known

A lot of data is available about selected aspects of tertiary system performance. For example:

- the Ministry of Education's "Profile and Trends" publications (MoE, 2016e) give performance information for the system as a whole, and by ethnicity, gender and subsector, for a range of participation and (non-value-added) achievement and attainment measures;
- TEC's "Tertiary Education Performance Report" (TEC, 2015g) gives performance information (including Educational Performance Indicator data and contextual information) for each individual tertiary education institution (TEI); and
- the Ministry of Education has published national-level information about graduates' labour market outcomes since 2009 as part of its Employment Outcomes of Tertiary Education (EOTE) project, and will be publishing provider-level information from 2017.

The Commission has drawn the performance information in sections 9.4–9.7 chiefly from these sources.

But there are gaps in information about some students groups

The Commission has not found good information about how well the system is performing for some groups of students.

- **Students from low-income families.** Information is sometimes available by school decile, but this is not a good proxy for the socio-economic status of individual students.
- **Students with disabilities.** MoE's *Profile & Trends 2009* publication (MoE, 2010b) includes a short article on students with disabilities. It looks only at participation, and does not provide enough information to enable an assessment of system performance.
- **Students who cannot access campus-based learning.** Research is available about online education (eg, Guiney, 2016, discussed in Chapter 11), but does not distinguish between students actively choosing online delivery versus those for whom it is the only available option. The two groups may experience different outcomes, especially in blended delivery, due to their different abilities to attend block courses or face-to-face sessions as a complement to online delivery.

A paucity of value-added measures

The Commission has not found performance data (eg, course and qualification completions) adjusted for student characteristics that almost certainly affect (or proxy for other effects on) students' educational co-production and consequent learning outcomes. This includes things like students' prior achievement or their parents' qualifications. Current published measures of course and qualification completions, including the

Education Performance Indicators used in Performance-Linked Funding, do not adjust for these things but instead are “raw” measures.⁵⁵

The advantages of using raw measures to track system or provider performance are that they are simpler to produce, and (when collected and reported at provider level) they give providers strong incentives to invest the extra it might take to help every student to “get across the line” to pass a course or qualification.⁵⁶

The downside of using raw measures is that they do not distinguish between the difference that providers make to students, and pre-existing differences in the students that they enrol. This matters because tertiary education outcomes depend on both students and providers (Chapter 2). Any form of measurement that fails to account for differences in students’ starting positions will tend to punish providers that enrol students who require more support to succeed, and reward or shield those that enrol students who require less support to achieve. Such measures cannot reliably give meaningful information about the performance of providers or, in the aggregate, the system as a whole.

For example, Table 9.1 compares course completion rates among universities. Massey University has the lowest completion rates, but Massey also has a long tradition of distance education for which completion rates tend to be lower. By contrast, the University of Auckland scores more highly but does not stand out from the other universities, despite the fact that it has higher entry requirements than other universities. A better system of measuring outcomes would take account of these sorts of differences to make fairer comparisons of provider value-add.

Table 9.1 2014 course completion rate by New Zealand universities, degree and postgraduate

University	Course completion rate
Lincoln University	90%
University of Auckland	88%
University of Otago	88%
University of Canterbury	87%
Victoria University of Wellington	87%
Auckland University of Technology	85%
University of Waikato	84%
Massey University	80%

Source: TEC, n.d.

Notes:

1. For postgraduate study, only levels 7 and 8 are included.

Government’s use of raw measures in Performance-Linked Funding and in published information also gives providers an incentive to cherry-pick the best students; and weakens their incentives to help students to become high achievers (rather than just pass courses).

F9.1

Course and qualification completion rates as currently published by government are not a reliably good indicator of a provider’s performance in educating students, because they do not measure value-add.

⁵⁵ In the case of Performance-Linked Funding, the data is weighted for students’ part-time status but not for other characteristics. The Performance-Based Research Fund measures research outputs, and tries to take account of the quality of research. But the Research Degree Completion metric that allocates 25% of PBRF funding is a raw measure of output quantity.

⁵⁶ Raw measures are sometimes also described as “more transparent” or “easier to understand”. However, they are actually less transparent to a lay audience than value-added measures, because they appear to be informative about system or provider performance in a way that they are not.

Developing value-added measures of tertiary performance

The Ministry of Education has work planned using the Integrated Data Infrastructure (IDI) to track how tertiary outcomes (in particular graduates' earnings) are influenced by students' background characteristics and prior achievement, including NCEA achievement, subject choice, and a range of demographic factors. This will build on Engler's research (Box 9.2) about the determinants of students' Bachelor's-level enrolment and first-year success. The Ministry of Education does not yet know when this analysis will be completed.

In addition, the Productivity Commission is undertaking research using the IDI to explore to what extent differences in tertiary participation and achievement by Māori and Pasifika students can be explained by those students' prior school achievement and socio-economic status (using New Zealand Index of Deprivation data by Census meshblock, rather than school decile). Findings (at national level and by subsector, but not by provider) will be included in the final version of this report in February 2017.

Such projects can shed light on the results of different combinations of groups of students, providers, and types of study, to isolate the differences that matter to outcomes and identify the most valuable combinations for each student group. This kind of analysis has the potential to enable decision-makers in the system (students, providers and government) to make better choices about their tertiary enrolments and investments. Within current system settings, these choices are constrained by limits on price and volume (Chapter 7); different settings would enable re-orientation of the system toward better outcomes for students.

Chapter 12 explores this idea further, and recommends that government prioritises analysis of the value-add of tertiary education, including at provider level. It recommends that government identify what kinds of study and at what providers, result in the best outcomes for different groups of students, and publish this information for use by students, parents and providers.

Box 9.2 **What is already known about what influences students' enrolment and success in tertiary study**

Engler (2010a) looked at what made school leavers with University Entrance less or more likely to start studying for a Bachelor's degree between 2005 and 2008, and what affected their success in the first year of studying for their Bachelor's (2010b). Engler found that enrolment and success at Bachelor's level were both strongly determined by school achievement, with some additional effects relating to ethnic group and school decile.

Findings about students' likelihood of enrolling in Bachelor's level study are noted below.

- The higher a student achieved at school (as measured by National Certificate of Educational Achievement (or NCEA) achievement score), the more likely they were to study at Bachelor's level.
- School decile strongly affected the propensity of students to study at Bachelor's level. Students from low-decile schools were less likely to go on to Bachelor's study than students with similar NCEA achievement scores from mid-decile schools; and students from mid-decile schools were less likely to go on to Bachelor's study than students with similar NCEA achievement scores from high-decile schools.⁵⁷ However, this did not apply to students with the lowest NCEA achievement scores, whose propensity to go on to Bachelor's study was not affected by their school decile.
- School decile interacted with ethnicity for Māori and Pasifika students. For students defined as ever-Māori, sole-Māori, or sole-Pasifika,⁵⁸ and who gained University Entrance and went straight into tertiary education, those from lower-decile schools with mid to higher achievement scores were significantly less likely to study at Bachelor's level than similar students from higher-decile schools. There was no such effect for European or Asian school-leavers.

⁵⁷ The differences were large: "Higher-decile school students with an achievement score of 55 have a 95 per cent likelihood of studying at bachelors level. Lower-decile school students, on the other hand, have an achievement score of 85 for the same likelihood" (Engler, 2010a, p. 22).

⁵⁸ See the discussion in Chapter 3 about definitions in tertiary education ethnicity data.

Findings about Bachelor's students' success in their first year are noted below.

- School achievement was the strongest predictor of performance in the first year of a Bachelor's degree. However, "not all higher-achieving school students performed equally well at university, and some who had lower school achievement out-performed students with higher school achievement" (2010b, p. 1). Students who were high-achievers at school but not at university included those who studied part time or part year, those from the sole-Pasifika ethnic group, or those from low-decile schools and not of sole-European ethnicity.
- Students who were not high-achievers at school but who did well at university included those who took a year off between school and university – especially for students from low-decile schools. There was no beneficial "gap year" effect for European or sole-Pasifika students.
- Lower-achieving students from low-decile schools did better in their first year of Bachelor's study than similar students from high-decile schools. "This suggests that among lower achieving students, NCEA underestimates the ability of those from lower decile schools. And conversely, NCEA overestimates the ability of those from higher decile schools" (2010b, p. 1).

Qualifications are an imperfect proxy for skills, but learning can be assessed directly

Direct measurement of skills shows that qualifications are an imperfect proxy for skills.

- Research commissioned by TEC in 2014 found that approximately 50% of school and tertiary students with NCEA 1, and approximately 40% with NCEA 2, did not meet a widely accepted minimum benchmark for adult literacy and numeracy. This was even though they had acquired all the requisite credits in literacy and numeracy either at school or in the course of their tertiary study (Thomas et al., 2014a; 2014b).
- The OECD's Programme for the International Assessment of Adult Competencies (PIAAC) programme directly measures skills for the general adult population. PIAAC data for New Zealand, as for other participating nations, shows a strong correlation overall between qualification and skill level. But it also shows plenty of variation in individuals' skills at a given level of qualification, and of individuals' qualifications at a given level of skill. Box 9.3 summarises New Zealand's PIAAC results.

Aside from PIAAC, the skills of graduates in New Zealand are not systematically measured directly. The OECD tried in recent years to initiate a cross-country programme of direct measurement of learning for higher education graduates (the "Assessment of Higher Education Learning Outcomes" or AHELO), but the programme floundered in cross-country disputes about methodology. A similar project specific to Europe, Comparing Achievements of Learning Outcomes in Higher Education in Europe (CALOHEE), seems to be making progress (EURASHE, 2016) but is only open to European participants.

New Zealand does undertake direct assessment of the literacy and numeracy skills of some tertiary participants, via TEC's Adult Literacy and Numeracy Assessment Tool. TEC requires that tertiary providers use this online tool to assess students funded by SAC level 1–2 and Youth Guarantee at the start and end of each enrolment (TEC, 2016j). TEC has set a target that by 2019, 25% of students will achieve a statistically significant gain in literacy and numeracy skills during their enrolment (2015j). This proportion was 19% in 2011.

TEC is planning to use data from the Literacy and Numeracy Assessment Tool not just to assess learning gain but also, by controlling for relevant student characteristics, to analyse the value-add (in terms of developing students' literacy and numeracy skills) of different courses, providers, or delivery approaches. This will be valuable analysis, and should be prioritised, in line with recommendation 12.4.

The rest of this chapter mostly uses data about course and qualification completions as the best available proxy for the system's success in developing students' knowledge and skills.

Box 9.3 New Zealand's PIAAC data

PIAAC assesses adults' skill levels directly across multiple countries. New Zealand participated in the second round in 2014, and results were released in mid-2016. PIAAC builds on two earlier OECD surveys in which New Zealand also participated: the International Assessment of Literacy Survey (IALS) in 1996, and the Adult Literacy and Life Skills Survey (ALLS) of 2006.

Early findings from the New Zealand PIAAC data⁵⁹

- New Zealand continues to rank higher than the OECD average overall in literacy, numeracy, and problem solving, but a relatively large proportion of the population has low skill levels.
- Higher qualifications are correlated with higher skill levels, but there is significant variability between individuals at a given qualification or skill level. Educational attainment has less influence on literacy scores in New Zealand than on average across the OECD.
- The difference in literacy skills between the most and least educated groups in New Zealand has increased since 1996. In terms of numeracy skills, the difference has decreased slightly over time but remains larger overall.
- Among those with a Bachelor's degree or higher qualifications, New Zealand Europeans have higher literacy, numeracy and problem-solving skills than any other ethnic group.
- Literacy and numeracy skills increase from the 16–24 age group to the 35–44 age group, then decline for older age groups. Problem-solving skills peak in the 25–34 age group. This is a broadly similar pattern to that seen in other countries.
- Literacy scores among younger age groups have increased since 2006, but New Zealand's performance has declined relative to the OECD average.

PIAAC data shows that overall New Zealand has a highly qualified, highly skilled population by OECD standards, but with a significant proportion of low performers. It also shows that, while raw scores for the youngest age group have increased, their relative position across the OECD has declined.

Comparison to PISA

The same patterns apply to New Zealand's results in the Programme of International Student Assessment (PISA), which assesses the skills of 15-year-olds. New Zealand's 2009 and 2012 PISA results showed that, while New Zealand's average scores were high, the difference between high- and low-achievers was the largest (for reading) or second-largest (for mathematics) in the OECD. Also, while raw PISA scores increased between 2009 and 2012, New Zealand's relative position in the OECD slipped from 7th in reading, 7th in science and 13th in maths to 13th, 18th and 23rd respectively.

The similarity in patterns between PISA results and young adults' PIAAC results suggest that whatever happens educationally between age 15 and young adulthood in New Zealand does not reduce variation in skill levels across the population, or improve the skills ranking of younger New Zealanders compared to other OECD countries.

Source: MoE & MBIE (2016a, 2016b, 2016c) and OECD (2016d) for PIAAC data; May et al. (2013) and Telford (2010) for PISA data.

⁵⁹ New Zealand has the second-highest proportion of adults born overseas of all countries participating in PIAAC (25%, second only to Australia with 28%). In New Zealand, migrants for whom English is a first language have overall higher skill levels than New Zealand born adults; but those with a non-English first language have lower levels. This affects the PIAAC findings presented in Box 9.3 (which relate to all adults surveyed, not just those born in New Zealand).

F9.2

Whatever happens educationally between age 15 and young adulthood in New Zealand does not reduce variation in skill levels across the population, or improve the skills ranking of younger New Zealanders compared to other OECD countries.

Grade inflation

The proportion of graduates receiving higher rather than lower grades appears to be increasing over time in some countries (Rojstaczer & Healy, 2012). Four of the possible explanations for an increase in average grades over time are higher-ability students, better teaching, changes in what provision is delivered, and falling assessment standards.

The term “grade inflation” is used in this report to refer to the phenomenon where progressively higher grades are awarded for assignments or examinations than would have been awarded in the past for comparable performance – when, for example, today’s C is last decade’s D, or today’s A- is last decade’s B+.

Is grade inflation occurring in New Zealand?

Inquiry participants report strong incentives or pressures to inflate the grades of borderline students to prevent them from failing to complete a course:

The funding mechanisms also encourage (or even require) grade inflation to meet constantly increasing measurements. There is no way that student cohorts and/or teaching gets better year on year relentlessly... (Independent Tertiary Institutions, sub. 81, p. 11)

...systematic and gradual grade inflation aimed at easing of standards to be more inclusive of a larger number of students and/or a broader range of student backgrounds (in terms of prerequisites) and thereby increasing the flow of EFTS into a programme... (Sainudiin, sub. 74, p. 7)

The focus on Educational Performance Indicators (EPIs) by the government, and its associated use in league tables, has the potential to pit the economic interests of the organization against maintaining high academic standards. Three out of four EPIs for universities (successful completion of courses; completion of qualifications; student progression to higher level study; students retained in study) can in theory be mitigated by grade inflation. Though there is no evidence of this actually occurring, members have reported increased pressure to pass students. (Higher Education Research and Development Society of Australasia (HERDSA), New Zealand branch, sub. 72, p. 6)

The continued funding of our courses requires a set percentage of students to pass the course and so there is pressure to drop standards in some courses in order to maintain the required pass rates. While we resist these pressures, they are real. (Unitec Department of Civil Engineering, sub. 76, p. 9)

A 2016 Tertiary Education Union (TEU) survey of its members found that tertiary staff perceive they are under increasing pressure to pass students (Table 9.2).

Table 9.2 TEU staff members’ perceptions of how “pressure to pass a higher percentage of students” has changed over the last decade

Much better	Better	Somewhat better	About the same	Somewhat worse	Worse	Much worse
0.1%	0.7%	1.4%	23.6%	14.9%	12.3%	16.8%
Overall better: 2.2%					Overall worse: 44.0%	

Source: TEU, 2016

New Zealand’s quality assurance system uses no direct or indirect measures of students’ learning outcomes. It therefore relies on each provider’s robust processes, and on each academic’s professional integrity, to resist any incentives and pressures to pass students who ought to receive a failing grade.

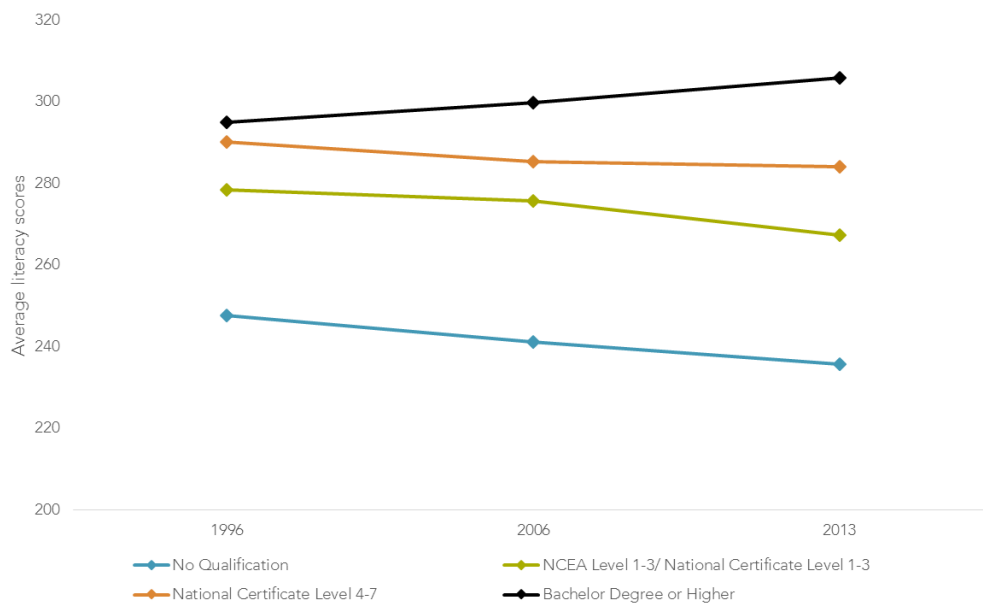
The Commission has been unable to access time-series information about the average grades for undergraduates in New Zealand. However, the Commission did analyse Honours and Master’s level data published on the websites of four New Zealand universities. The analysis found evidence of statistically significant higher grades being awarded over time, at both Honours and Master’s level, at three of the four

universities. It is not possible to tell from this data whether these changes result from grade inflation or from another cause such as higher entry standards or better teaching.

Analysis of OECD literacy survey data

The Commission also looked at OECD literacy survey data for 25–34 year olds in New Zealand to see whether the correlation between qualification level and literacy skill for recent graduates had changed over time. A finding that individuals at a given age with the same level of qualification were, over time, less skilled might suggest that standards for qualification attainment were falling. However, the data do not show this. Literacy scores for 25–34 year olds with a Bachelor's degree or higher actually increased slightly between the three surveys (Figure 9.1).

Figure 9.1 Mean literacy scores for ages 25–34, by grouped qualification level, 1996, 2006 and 2013



Source: Productivity Commission analysis.

Notes:

1. Data is from the IALS (1996), ALLS (2006), and PIAAC (2016).
2. Y-axis starts at 200.

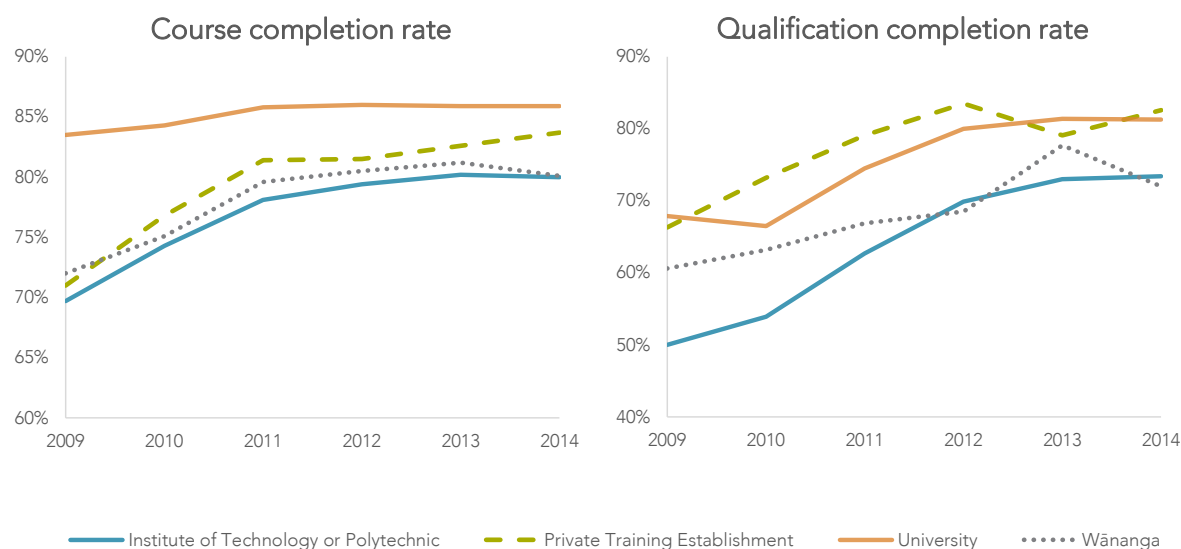
Scores for all other qualification groups (level 4–7 non-degree, level 1–3, and no qualifications) declined, though differences were small. These declines are likely to be a selection effect, arising from large increases over the last two decades in attainment at senior secondary and tertiary level (including growth in degree-level study). These increases mean that, over time, fewer people – plausibly, the least skilled of each group – remain in the no-qualifications or low-qualifications groups.

The same selection effect would anticipate a reduction in skill levels at Bachelor's level, as entry to these degrees has become less selective. However, the data show the reverse effect. More detailed analysis shows that, across all three surveys, the top quartile of the level 4–7 group is more skilled than the lowest quartile of the Bachelor's group. To the extent that increases in degree-level participation over time have drawn from the most skilled members of the population that would previously have studied at levels 4–7, this selection effect would also explain the increase in skills at Bachelor's level.

9.4 Overall outcomes for students

Achievement outcomes

In New Zealand, raw course and qualification completion rates have increased in each subsector since 2009 (Figure 9.2). The largest increase for course completions (the more informative measure – see notes to the Figure) occurred between 2009, when completion data was first published and the Performance-Linked Funding policy was announced, and 2011.

Figure 9.2 Completion rates by subsector, 2009–2014

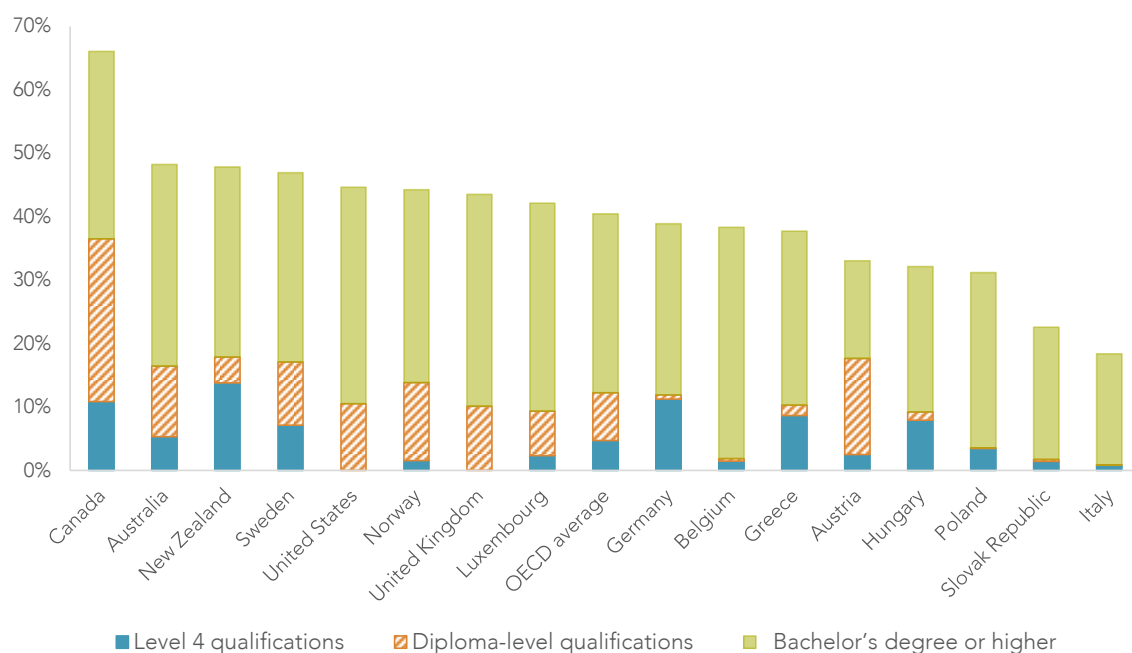
Source: Data provided by the Tertiary Education Commission.

Notes:

1. The qualification completion rate in this data is measured against an artificially constructed cohort and is affected by changes in student volumes. For example, in 2014, 26 tertiary providers had apparent qualification completion rates of over 100%. The Ministry of Education and TEC are currently developing a more meaningful indicator for qualification completions.
2. Y-axis does not start at 0.

The six-year qualification completion rate for full-time Bachelor's degree students in New Zealand is 81%, among the highest in the OECD. However, compared to other OECD countries, New Zealand has a low share of students enrolled full-time as opposed to part-time (Crossan & Scott, 2016).

Some 30% of adult New Zealanders have a degree or above, compared to an OECD average of 29%. New Zealand has a relatively high proportion of adults with level 4 qualifications (Figure 9.3). The qualification levels of immigrants and emigrants also influence these data; in New Zealand, immigration is a larger contributor to labour market supply than is domestic tertiary supply, and most immigrants are skilled (Chapter 4).

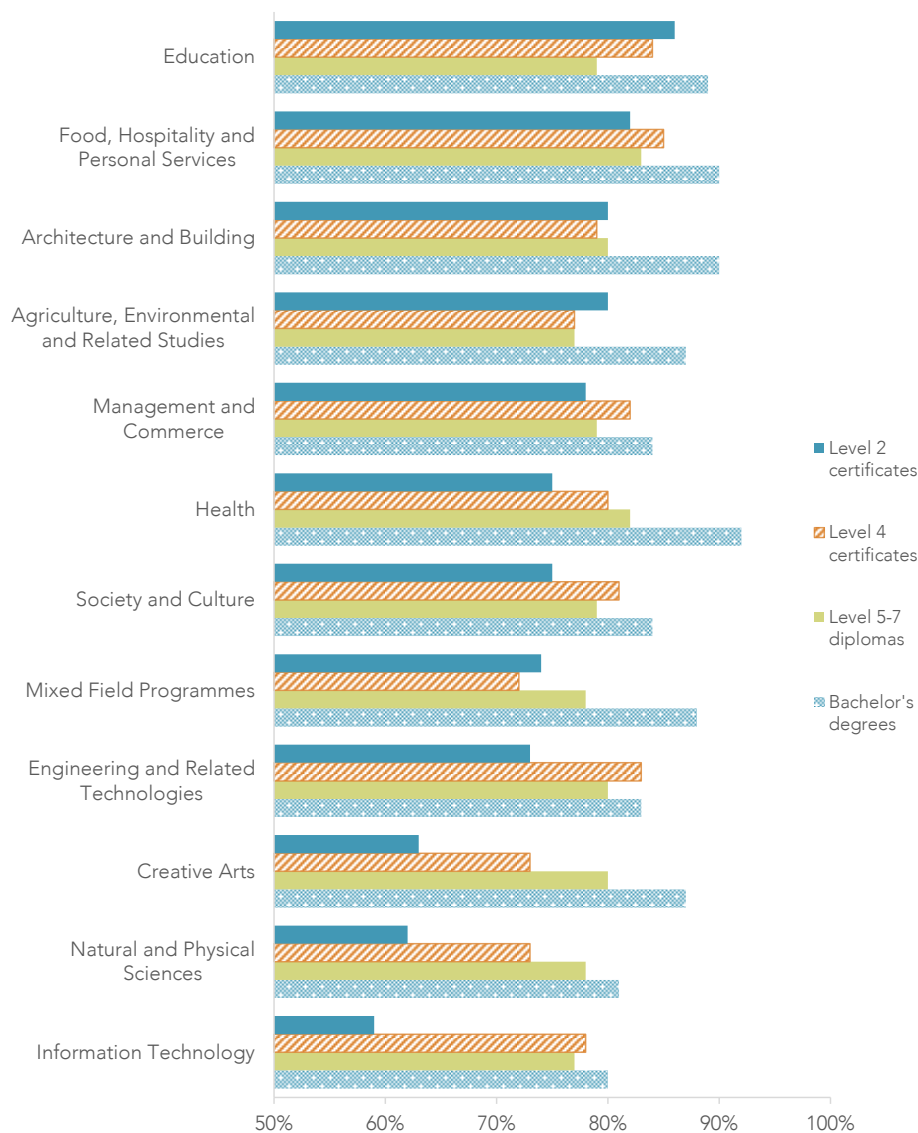
Figure 9.3 Share of the population aged 25–64 with a diploma or Bachelor's/postgraduate degree, selected OECD countries, 2015

Source: Crossan and Scott, 2016.

Achievement by field of study

Figure 9.4 shows course completion rates by broad field of study in 2014 for selected levels of study. It shows that higher-level courses tend to have higher completion rates across all fields, and that some fields have consistently higher rates than others, though the differences are mostly small.

Figure 9.4 Course completion rates by broad field of study and selected levels, 2014



Source: MoE, 2016a.

Notes:

1. Fields of study are sorted here by course completion rates for level 2 certificates, in descending order.
3. Not all levels of study are shown in this figure.
4. See the Technical Notes sheet in the original source for more information on data and technical definitions.
5. Field of study is determined at the course level.
6. X-axis starts at 50%.

Smart (2016) looked at patterns in the field of study of graduates at different levels of the NZQF over time, and found that:

- the distribution of graduates at Level 1 and 2 certificates by field of study showed relative volatility over time, with an increase in graduates in the Mixed field programme field. Changes in the content and provision of this level of qualification, such as an increased focus on foundation-level learning, are likely factors in this pattern

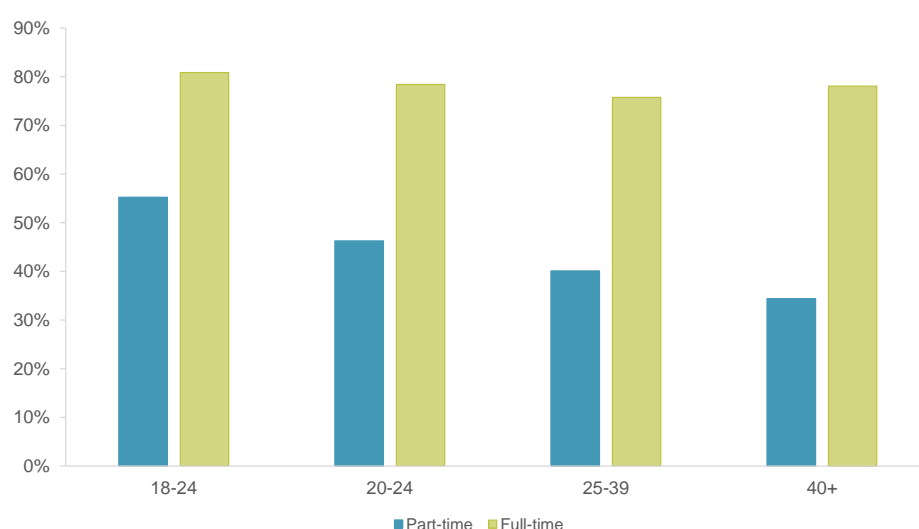
- graduates with Level 3 to 7 certificates/diplomas showed less variation in the field of study over time, with Society and culture and Management and commerce remaining the largest fields of study at this level
- at the Bachelor's or higher level, there was an increase in the proportion of graduates in STEM-related subjects, a trend shared by Australia, but with a faster pace of change in New Zealand. (p. 2)

Smart also found that women were more likely to study and graduate in fields such as nursing and teaching, while men dominated the graduates in areas such as engineering and information and communications technology (ICT). Māori and Pasifika were relatively less likely to graduate in fields related to science, technology, engineering, and mathematics (STEM) at the Bachelor's or higher level.

Achievement by age

Qualification completion rates for full-time students do not differ much by age, but rates for part-time students decline with age (Figure 9.5).

Figure 9.5 Eight-year qualification completion rates, by age at time of completion, 2015



Source: MoE, 2016a.

Notes:

1. Data relates to students in formal qualifications at a tertiary education provider who began study in 2007. It excludes on-job industry training.
2. The completion rate is defined as the percentage of students who have successfully completed a qualification at the same level as or higher than the one they started.
3. Students who studied a qualification at more than one level have been counted in each level. Consequently, the sum of the students in each level may not add to the total.
4. Full-time means full-time, full-year (or for the length of the qualification if less than a year) and continuously every year until leaving or completing.

Intergenerational patterns of educational attainment

In New Zealand, as in other OECD countries, a person's educational attainment is influenced in part by the level of education of their parents. Where a person attains a higher level of education than either of their parents did, the OECD's *Education at a Glance* publication calls this "upward mobility".

Upward mobility is more common in New Zealand than most other OECD countries, though this is in part due to migration policies that favour skilled migrants.

Eighty-six percent of people have at least an upper-secondary education, compared with 70% of their parents. Fifty-six percent of 25 to 44 year-olds have attained a tertiary qualification compared with 44% of their parents. Some 288,000 adults or 16% attained a higher education than their parents. This was above the average increase of 12 percentage points across the OECD....

The mobility change in part reflects imported change as well as domestic system change. New Zealand...has immigration policies that favour immigrants with relevant qualifications and skills. (Crossan & Scott, 2016, p. 35)

Where a person attains a lower level of education than either of their parents, this is “downward mobility”. Levels of downward mobility in New Zealand are similar to the OECD average (ibid).

Labour market outcomes

The labour market outcomes of individual graduates have multiple causes, and it is hard to know what should be attributed to their tertiary education, and what to other influences.

- Students bring widely different personal characteristics to tertiary education, in terms of prior work or study experiences, family resources and networks, and personal skills or traits such as study habits, perseverance, or resilience. These personal characteristics are likely to influence both how effectively a student engages in the co-production of their tertiary education, and how well they do in the labour market and other aspects of life after graduation. But the personal characteristics are often hard to measure, and therefore hard to control for when trying to determine the “value-add” of tertiary education.
- Tertiary providers with established reputations endow graduates with prestige as well as with a qualification. To give a US example, a graduate from an Ivy League university is likely to do better in the labour market than a graduate from a little-known university, even if the graduates have similar personal characteristics and skill levels. It is hard to separate this effect in the labour market from effects arising from the actual learning experience. Reputation and brands have their strongest effects where information about the quality of delivery is poor.
- Most providers in New Zealand have a mainly regional, rather than national, catchment of students. While some graduates will move away after graduating, others will stay close to family and friends. This means that regional differences in labour markets, wage pressures, housing markets, and health and social services may drive regional differences in a graduate’s work and life outcomes, regardless of the value-add of their tertiary education.
- The labour market outcomes of new domestic graduates who stay in New Zealand will vary from year to year according to the level of competition across the cohort and from skilled new migrants to New Zealand. The last few years have seen significant increases in migration, with a substantial proportion of migrants being skilled (Chapter 4).

The institute of technology and polytechnic (ITP) subsector is clear that its main purpose is to prepare students for work, but those within the university subsector disagree about whether or not employment outcomes should be a key measure of its success. However, employability is clearly a major concern for students (Chapter 3); and likewise for government, which has a multi-year project under way to measure and publish information about graduates’ labour market outcomes: the Employment Outcomes of Tertiary Education (EOTE) project.

The Employment Outcomes of Tertiary Education project

The Ministry of Education’s EOTE project has published selected national-level data about the employment outcome of graduates since 2013, comparing outcomes by level of study and by field of study. From 2017, the data will also compare outcomes by individual provider. TEC intends to use EOTE data to shift its spending between providers, or within a provider’s mix of delivery.

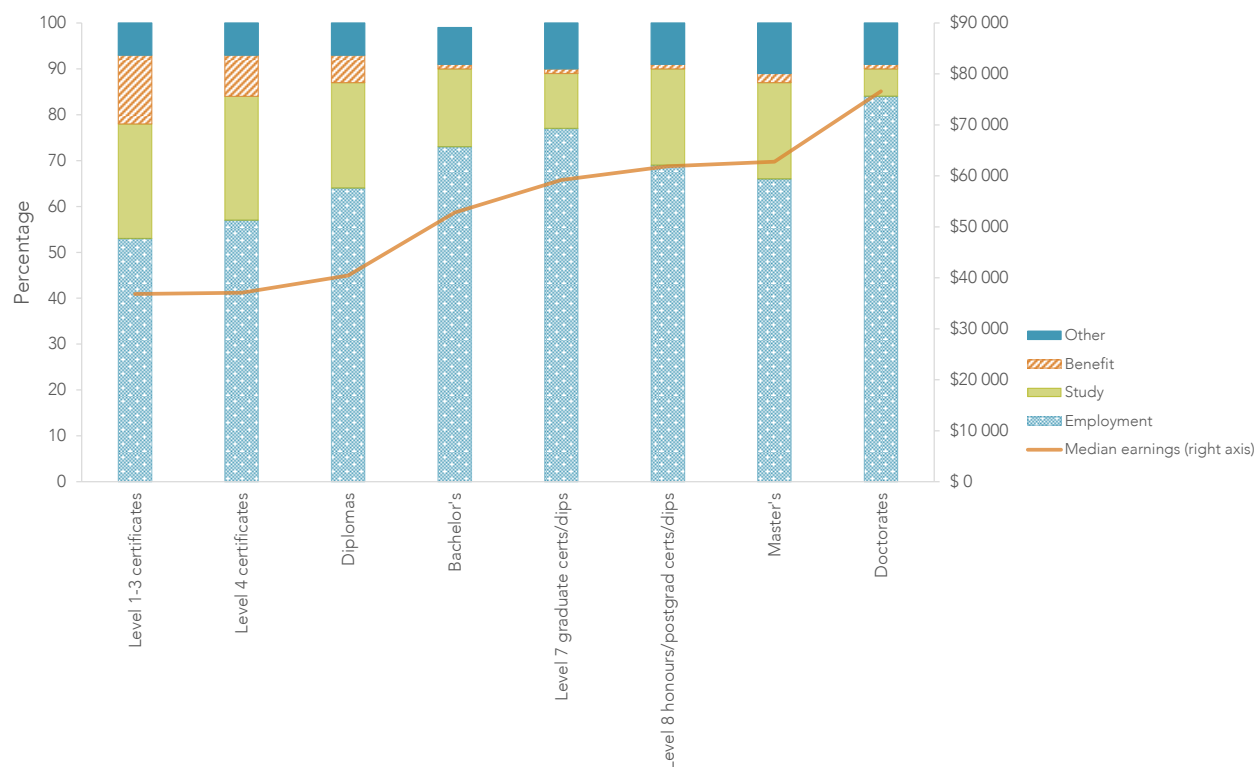
The EOTE project focuses on young graduates (rather than older adult students) to reduce the impact on the data of prior work experience. However, it does not take into account differences in the student intake across levels, fields, providers, faculties or modes of delivery, even though such data is available within the dataset.

In this way, EOTE will miss an opportunity to provide a value-added measure with more meaningful information about the relative performance of different parts of the tertiary education system.

EOTE findings to date

The EOTE project so far has found that the main determinant of post-study outcomes is the level that the graduate has studied to, rather than their field of study or the type of provider in which they enrolled. Figure 9.6 shows graduates' median earnings and destinations by level of qualification.

Figure 9.6 Destination and median earnings, five years post-graduation, of young domestic graduates who stay in New Zealand, 2014

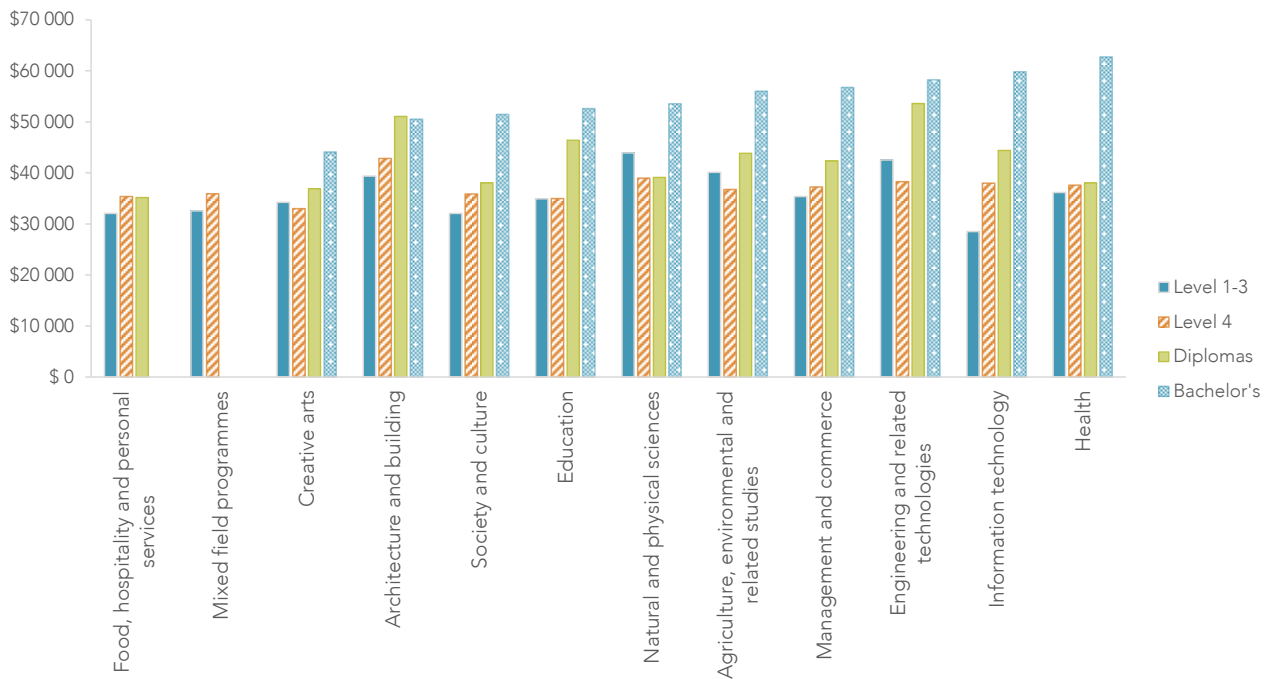


Source: MoE, 2016a.

Notes:

1. Destination categories are exclusive, and "Study" includes all graduates in any further study (at any level, part-time or full-time). This includes some graduates who are also employed.
2. Earnings are the median income of employed young domestic graduates and are not adjusted for hours worked.
3. The age definition of "young graduate" differs by level of study. See original source for further technical notes and definitions.

The data also revealed large differences in post-study earnings by field of study (Figure 9.7).

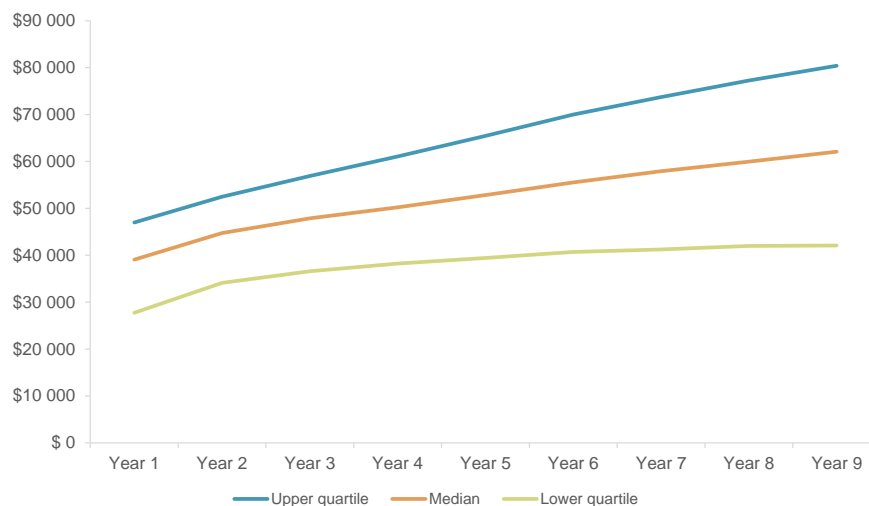
Figure 9.7 Median income of employed young domestic graduates, by field of study, 2014

Source: MoE, 2016a.

Notes:

1. Field of study defined by broad New Zealand Standard Classification of Education (NZSCED).
2. The age definition of "young graduate" differs by level of study. See original source for further technical notes and definitions.

The EOTE project also found that graduates' incomes fall within a narrow range in their first year of work, but start to spread in following years (Figure 9.8). This suggests that employers employ graduates at a fairly standard initial salary. Over time, employers learn more about their workers' actual performance in the workplace, and adjust salaries accordingly.

Figure 9.8 Earnings of Bachelor's graduates in the first nine years post-graduation, median and quartiles

Source: MoE, 2016a.

Notes:

1. Incomes are of employed young domestic graduates. See original source for further technical notes and definitions.

Other sources of labour market outcome data

Tumen et al. (2015) examined the labour market outcomes of students who left school without NCEA 2, and then enrolled in a tertiary qualification while aged 16–19. Of these tertiary students, 44% completed their qualifications. The study found small positive impacts on employment rates for these completers, but not on earnings once employed; and no positive impacts for those who did not complete the qualifications in which they enrolled. Benefits varied by ethnic group, gender, provider type and field of study, and were generally larger for level 4 certificates than level 1–3 certificates.

International comparisons

The difference in New Zealand in employment rates between the most educated (ie, those with a diploma or higher qualification) and the least educated (ie, those with less than an upper secondary school qualification) is smaller than in most OECD countries (Crossan & Scott, 2016). This is because the least-educated group in New Zealand has a higher employment rate.

Tertiary graduates in New Zealand earn significantly more than their unqualified peers, but the income premia are lower than in most OECD countries. Zuccollo et al. (2013) suggest that this is partly a measurement effect, partly a result of New Zealand's mix of tertiary qualifications (with a comparatively high proportion of subdegree qualifications), and partly a result of New Zealand's generally poor economic performance.

Analysis of the PIAAC survey, which provides information about educational qualifications, actual skill levels, and matching of both to occupation, may offer further insights. For example, the OECD has noted that literacy proficiency is stronger predictor of higher wages in New Zealand than in most other OECD countries (Quintini, 2016). Several government agencies (including the Ministry of Education, the Ministry of Business, Innovation and Employment, and the Productivity Commission) are currently analysing the new PIAAC data to better understand the links between skills, qualifications, labour market outcomes and productivity.

Student satisfaction with study

As described in Chapter 2, the Graduate Longitudinal Study of New Zealand (Tustin et al., 2016) is a comprehensive survey of 8 000 graduates who completed qualifications at New Zealand universities in 2011. It suggests high levels of satisfaction among graduates overall, though with dissatisfaction among a sizeable minority (around 7%–9%). It does not provide data on the satisfaction of those students who do not complete their course of study.

The survey found that, on a five-point scale from “definitely no” to “definitely yes”, only 42% of graduates indicated that their study programme was “definitely” worth the time and effort, but a further 37% indicated that it probably was (Table 9.3). Just under 30% of graduates indicated that their university experience “definitely” met their expectations, with a further 44% indicating that it probably/mostly did.

Table 9.3 Graduates' response to questions about satisfaction with university study

Score	“Overall, was your study programme worth the time, cost and effort?”	“Did your overall experience at university meet your expectations?”
1 (Definitely no)	1.5%	1.8%
2	5.1%	7.0%
3	14.2%	18.0%
4	37.0%	43.8%
5 (Definitely yes)	42.0%	29.5%

Source: Tustin et al., 2016, p. 85.

The study also asked students about the relevance of their study to their working lives (Table 9.4).

Table 9.4 Graduates' response to the question, "To what extent are your knowledge and skills utilised in your current work?"

Score	Proportion of graduates
1 (Not at all)	4.3%
2	8.7%
3	16.5%
4	31.0%
5 (To a very high extent)	39.5%

Source: Tustin et al., 2016, p. 111.

A 2016 Law Foundation of New Zealand survey of recent law graduates found that, while graduates expressed high levels of satisfaction with the analytical and theoretical knowledge they gained through their study, an overwhelming majority considered that their tertiary education should have done more to prepare them for the realities of working life as a lawyer:

The vast majority of respondents (92.7%) agreed that law school had given them a good grounding in theory and analytical skills. ... [However] only slightly more than a third of respondents (35.7%) agreed that law school had given them a good grounding in legal practical skills, with a majority (52.4%) expressing their disagreement with that proposition. Almost seven out of every eight respondents (86.7%) agreed that their training at law school ought to have been more practical. (Pemberton, 2016, p. 14)

International student satisfaction

New Zealand participates in regular "i-Graduate" international student barometer surveys. Recent surveys have found that international students are very satisfied overall with their New Zealand study, though there is considerable variation between providers (ENZ, 2016).

A 2011 survey of university and ITP international students found that 88% of university students and 90% of ITP students were satisfied or very satisfied with their New Zealand education overall (Generosa et al., 2013). The biggest predictor of overall satisfaction was "satisfaction with the quality of learning", where the satisfaction ratings were 85% for universities and 89% for ITPs (p. 61).

Impact on students' wellbeing

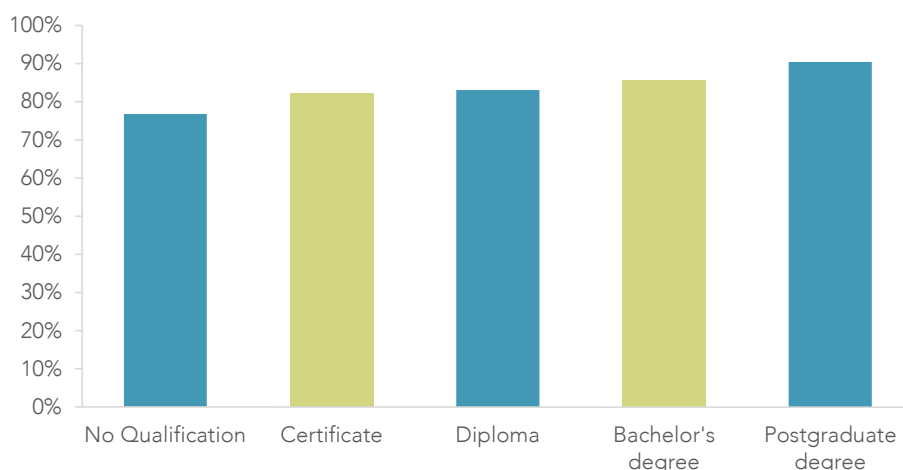
International research has found that a variety of elements of individual and social wellbeing increase with increasing education, including good health, longevity, life satisfaction, and law-abidingness (eg, Department for Business, Innovation and Skills, 2013b).

However, except in large longitudinal studies such the Dunedin Multidisciplinary Health & Development Study, it is very difficult to isolate the contribution of tertiary education to these outcomes, separate to its impact on employment and earnings. As far as the Commission is aware, none of the published research from the Dunedin study focuses on the impact of tertiary education on participants' wellbeing.

The Graduate Longitudinal Survey of New Zealand asks a range of questions about graduates' wellbeing but, as it only surveys university graduates, it does not enable comparison with the general population on these same measures.

The New Zealand General Social Survey found that life satisfaction increases with qualification level (Figure 9.9), though the data are not adjusted for labour market effects.

Figure 9.9 Proportion of people who indicated high overall life satisfaction, by highest qualification, 2014



Source: Statistics New Zealand, n.d.

Notes:

1. High overall life satisfaction is defined here as having scored 7 or higher on a 10-point scale.

PIAAC data found that educational attainment correlates with good health, but again, the data is not adjusted for labour market effects. PIAAC also showed the effect of education on self-reported health was smaller in New Zealand than across the OECD. This appears to be because the least educated group in New Zealand reported comparatively good health.

In New Zealand [in PIAAC data] the difference in self-reported health between those with the highest levels of education and literacy levels and those with the lowest level of education and literacy skill was small at 22 percentage points. The average difference across the OECD was 33 percentage points.

Relative to the least educated and least skilled in other countries, New Zealand reported comparatively good health, with 73% reporting that they were in good health, the third highest in the OECD and higher than the 59% OECD average. (Crossan & Scott, 2016, p. 54)

Q9.1

What evidence is there about the impact of New Zealand tertiary education on participants' or graduates' wellbeing, separate from their labour market outcomes?

9.5 Outcomes for Māori and Pasifika students

Box 9.4 Two prefacing notes about section 9.5

This section should be read in the context of the caveats about tertiary education ethnicity data presented in Chapter 3.

The final version of this report, due for release in February 2017, will contain updated data and discussion on participation and completion outcomes for Māori and Pasifika students, drawing on the Commission's research project described in section 9.3.

The Tertiary Education Strategy 2014–19 identifies Māori and Pasifika as priority groups in the tertiary education system. Many submitters commented on the need to improve outcomes for these students.

The system needs to do more to attract and support Māori and Pasifika learners to succeed on par with other learners. (TEC, sub. 2, p. 4)

In New Zealand there have been persistent ethnic disparities in academic success at tertiary level. ... *There is no excuse for tolerating continuing tertiary disparities when promising solutions and tools for evaluating success exist.* (Te Rōpū Āwhina Whānau, sub. 12, p. 1, emphasis in original)

Tertiary education providers need to find more suitable ways to accommodate to Pasifika students' needs. ... Many Pasifika students in tertiary education are the first in family to study at this level and so support, and information needs to be provided not just to the student, but to their whānau in a way that is aligned to their culture, not that of the institutions. (Ed.Collective, sub. 89, p. 46)

Despite the strategies and frameworks developed over time, participation and achievement rates for Māori in mainstream tertiary education organisations remain lower than anticipated... There are a myriad of structures and processes that can and do serve to impede Māori innovation and participation at all levels and in all contexts... (Te Mata o te Tau, the Academy for Māori Research and scholarship at Massey University, sub. 99, pp. 2–3)

However, current tertiary funding and quality assurance systems do not reflect stated government commitments to improving educational outcomes for disadvantaged student groups, including Māori and Pasifika (Chapter 8). The effect of this is visible in achievement outcome data for provider-based study.

Universities New Zealand (sub. 17) stated unequivocally and repeatedly that New Zealand universities cannot meaningfully improve outcomes for Māori and Pasifika within current levels of funding:

There is insufficient funding to advance important government policy objectives in areas such as lifting Māori and Pasifika participation and achievement... (p. 6)

Significant additional progress is unlikely in areas that are priorities for Government (lifting Maori and Pasifika participation, growing STEM numbers and improving graduate work-readiness) within current funding settings. (p. 11)

Where Government believes particular policy objectives are not being met (for example, lifting Maori and Pasifika participation, growing STEM numbers and improving graduate work-readiness) they must consider ways to lifting funding levels to allow universities the opportunity to continue to advance successful initiatives in these areas. (p. 13)

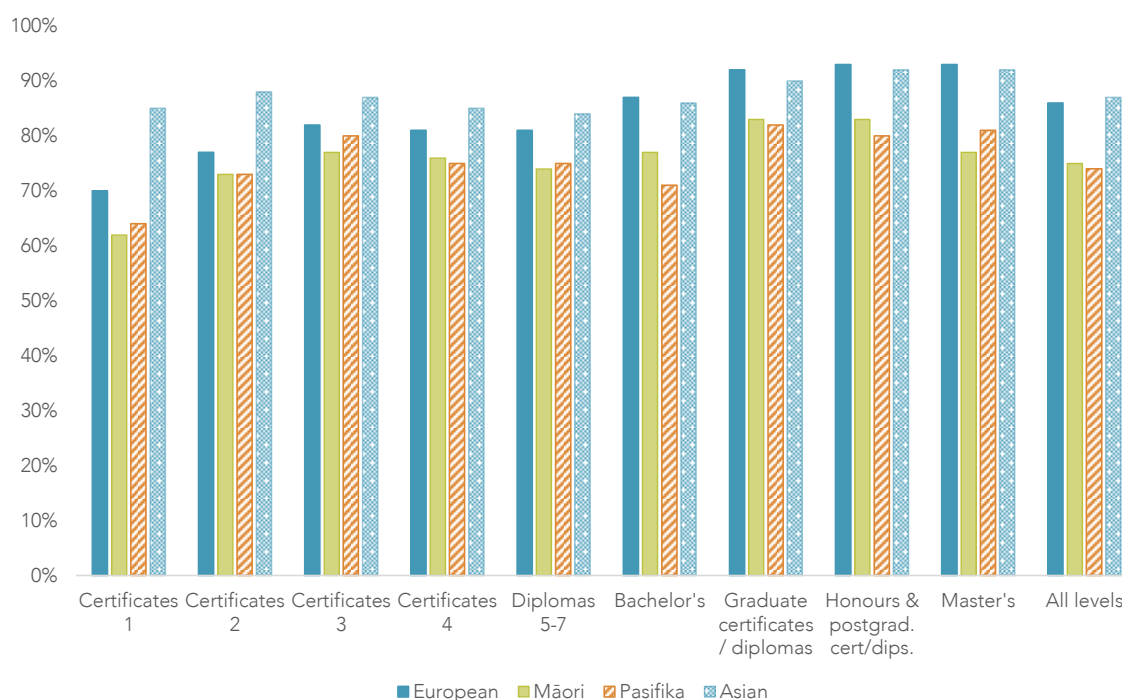
Government should consider supplementing SAC [Student Achievement Component] funding where it wants to see more differentiation or innovation – for example... where particular programmes to support Maori students have been shown to be effective. (p. 14)

The best way to increase participation and completion rates would be to increase Equity Funding for the specific purpose of lifting Māori and Pasifika participation and achievement... (p. 19)

If existing New Zealand universities are unable to do much more to improve outcomes for Māori and Pasifika students without additional funding, it is worth considering whether universities not currently operating in New Zealand (or operating here but not as universities) could do so. Chapter 12 explores this possibility.

Achievement outcomes for Māori and Pasifika

Course completion rates are lower across all levels of study for Māori and Pasifika students than for European or Asian students, particularly at higher levels of study (Figure 9.10).

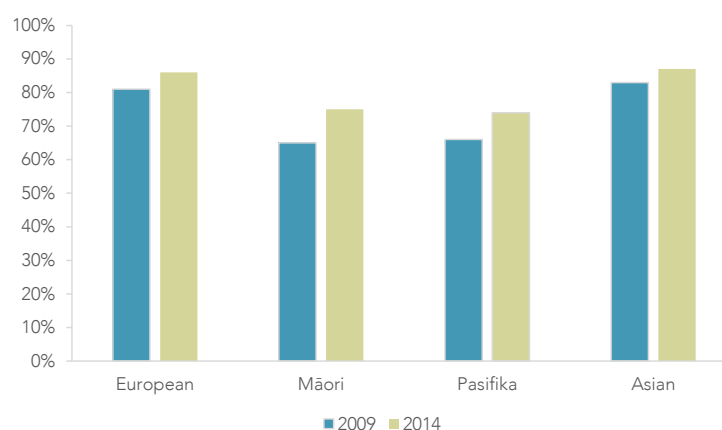
Figure 9.10 Course completion rates by ethnicity and level of study, 2014

Source: MoE, 2016a.

Notes:

1. Ethnicity data is multiple-response, so some individuals' results will be included in multiple categories.
2. These data exclude students whose ethnicity is recorded as "Other" or is unknown.

Course completion rates for Māori and Pasifika have risen over the last five years (Figure 9.11). However, they did not change at all between 2013 and 2014; and even with generous assumptions about trends Māori and Pasifika, the ethnicity gap in course completion rates would not close in the next five years (Table 9.5).

Figure 9.11 Course completion rates by ethnicity, 2009 and 2014

Source: MoE (2016e).

Notes:

1. Ethnicity data is multiple-response, so some individuals' results will be included in multiple categories.
2. These data exclude students whose ethnicity is recorded as "Other" or is unknown.

Table 9.5 Course completion rates (actual and projected) by ethnicity, 2009–2019

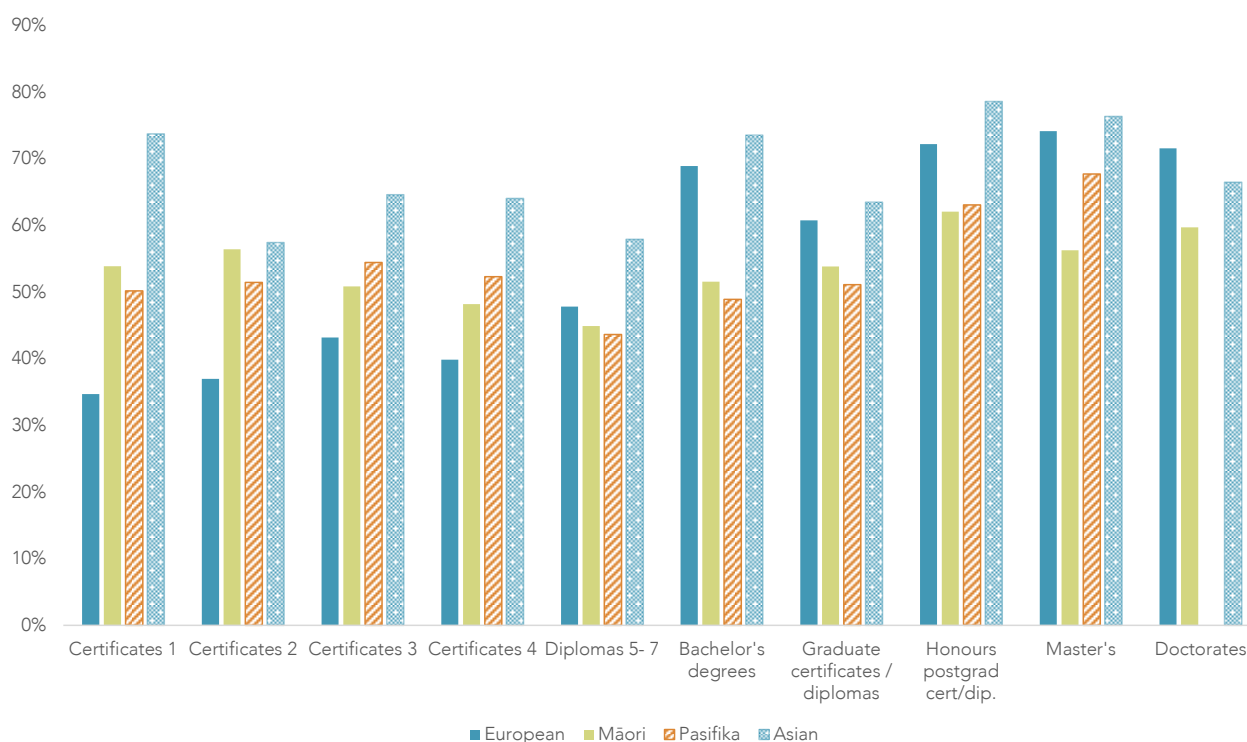
Ethnicity ¹	2009 (actual)	2013 (actual)	2014 (actual)	2019 (projected ²)
European	85%	88%	87%	87%
Māori	70%	77%	77%	84%
Pasifika	65%	71%	71%	76%
Asian	83%	86%	86%	86%

Source: MoE, 2016e.

Notes:

1. Actual ethnicity data is multiple-response, so some individuals' results will be included in multiple categories.
2. Projected 2019 figures created by NZPC. The projection holds European and Asian achievement rates steady at 2014 levels, and assumes that rates for Māori and Pasifika will increase over the 2014–2019 period by the same number of percentage points as they did over the previous five years 2009–2014. This assumption is likely to over-estimate actual increases, which are likely to slow down as marginal improvement becomes more challenging toward the top of the scale. The fact the rates for Māori and Pasifika did not change between 2013 and 2014 could suggest this is already happening, though it would be unwise to draw conclusions from a single pair of datapoints.
3. These data exclude students whose ethnicity is recorded as "Other" or is unknown.

When it comes to qualification completions, Māori and Pasifika students complete at a higher rate than European students at lower levels; but at a lower rate at higher levels (Figure 9.12). Asian students complete at the highest rates at all levels of study.

Figure 9.12 Qualification completion rates by ethnicity and level of study, 2014

Source: MoE, 2016a.

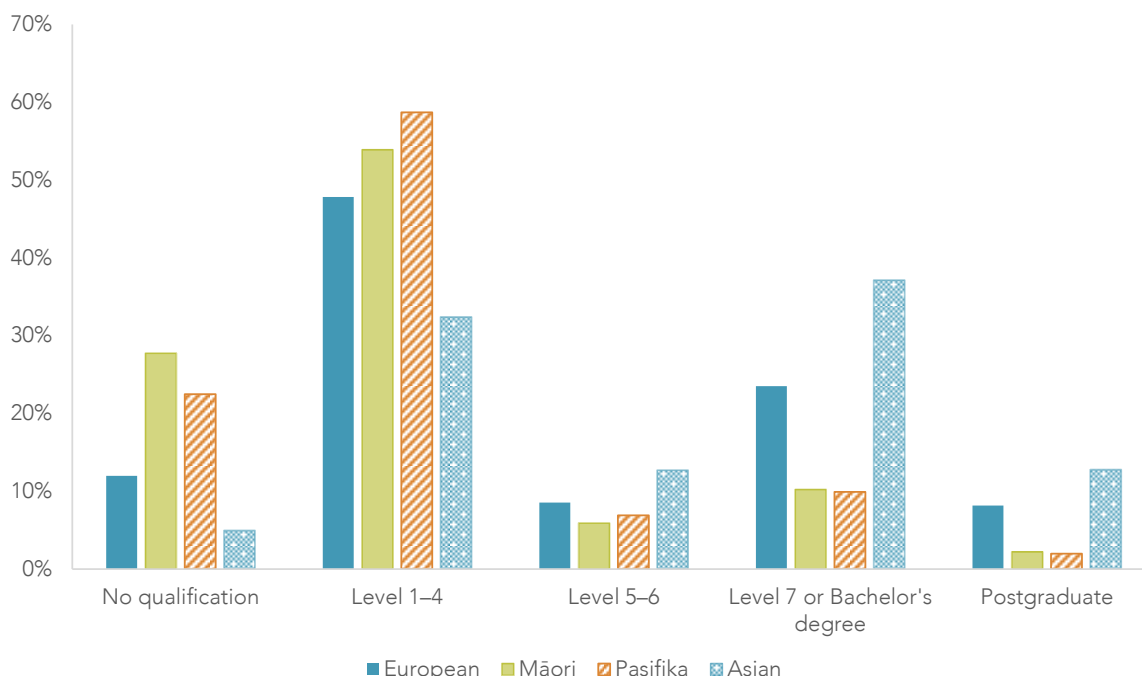
Notes:

1. Ethnicity data is multiple-response, so some individual's results will be included in multiple categories.
2. These data exclude students whose ethnicity is recorded as "Other" or is unknown.
3. Small numbers mean that no data are available for Pasifika graduates of Doctorate degrees.

Figure 9.13 shows the share of 25–29 year olds in New Zealand with a diploma, Bachelor's degree or postgraduate qualification as their highest qualification. The share of Māori and Pasifika in this age group

that hold a Bachelor's degree or postgraduate qualification is significantly lower than that for the European group. This gap in attainment is partly attributable to differences in tertiary education participation (Chapter 3) and partly to differences in tertiary achievement. Both may, in turn, be explained by differences in secondary school achievement. The Commission is exploring these questions and will present its findings in the final version of this report in February 2017.

Figure 9.13 Highest qualifications of 25–29 year olds in New Zealand, by ethnicity, 2013



Source: Statistics New Zealand, 2013.

Notes:

1. This figure describes attainment levels in the New Zealand population, including migrants.
2. Some people identify with multiple ethnicities, so totals may sum to more than 100%.
3. This data excludes students whose ethnicity is recorded as "Other" or is unknown.

In the case of Māori participation and achievement at Bachelor's degree level, Earle (2007a) found that achievement at secondary school has a significant bearing.

In order to make a step change in the number of Māori attaining degrees, the most important change would be to increase the number of Māori secondary school students achieving university entrance or better. This remains the major constraint on success. It limits the number of younger Māori who can enter degree studies. It is also an important factor for success where Māori students have entered degree studies later in life. (p. 3)

Earle (2007a) also noted that many variables influence the success of Māori students.

[S]uccess during the first year of study is only partially explained by the kinds of variables captured in enrolment data – that is, demographics, school background and area of enrolment. This reinforces a general theme throughout the international literature that there is a complex set of factors, institutional, personal and external, which influence student success. These include readiness for degree study, goal commitment, ability of the student to fit into the institution and ability of the institution to adapt to the student. (p. 3)

F9.3

The tertiary education system underperforms for Māori and Pasifika students. They experience persistently worse tertiary education outcomes than other students.

Labour market outcomes for Māori and Pasifika

Mahoney (2014a; 2014b⁶⁰) examined the destinations for young Māori and Pasifika tertiary graduates one year after completing a qualification (employment, further study, overseas, benefit, or other). In most situations, the destinations were similar between the two groups. The main exceptions were:

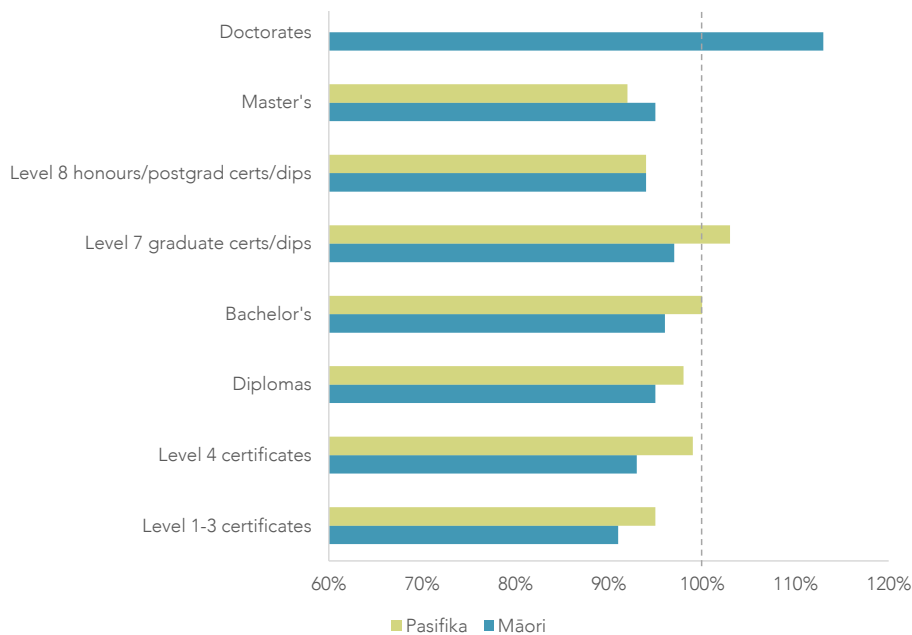
- young Pasifika who graduated with Diplomas 5–7 and Certificate levels 1 to 3 were less likely to be in employment than non-Pasifika, and were more likely to be in further study, on a benefit or out of the labour market; and
- Māori who graduated with levels 1–4 certificates were less likely to be in employment than non-Māori and over twice as likely to be on a benefit as non-Māori.

Mahoney also examined the earnings of young Māori and Pasifika graduates five years after completing a qualification (Figure 9.14). Across most qualification levels Māori and Pasifika earned around 95% of non-Māori and non-Pasifika. The exceptions are:

- Pasifika holding a Bachelor's degree earn the same amount as non-Pasifika;
- Pasifika with a level 7 graduate certificate or diploma earn 103% of non-Pasifika; and
- earnings for Māori with a doctorate are 113% of non-Māori.

These earnings data were not adjusted for hours worked, so differences in labour market participation (eg, more part-time and less full-time work due to higher levels of parenting among young female graduates) will affect the findings.

Figure 9.14 Earnings of Māori and Pasifika five years after graduation as a percentage of non-Māori and non-Pasifika earnings



Source: Mahoney, 2014a; 2014b.

Notes:

1. Data were not available for earnings of Pasifika with doctorates.
2. Based on median earnings.
3. Data are for "young graduates" (as defined in Mahoney 2014a), but are not further adjusted for age and gender within each type of qualification.
4. X-axis starts at 60%.

⁶⁰ Both reports include, in their ethnicity category of interest, all students who indicate their ethnicity (possibly alongside other ethnicities) on at least one enrolment. Data from students whose enrolment records include both Māori and Pasifika identifications (whether simultaneously or not) are included in both reports.

9.6 Outcomes for men and women

Submitters to the Issues Paper for this inquiry noted a lack of gender analysis:

We are surprised and disappointed that the paper contains no gender analysis looking at women’s experience and outcomes in tertiary education, or of the impacts on women of possible changes in the system. (New Zealand Federation of Graduate Women, sub. 47, p. 2)

Gender issues and impacts have to be considered as part of an Inquiry into tertiary education and the questions of why when levels of tertiary education are increasing for women they are still facing pay gaps and gender-based career disadvantage. (New Zealand Council of Trade Unions, sub. 69, p. 10)

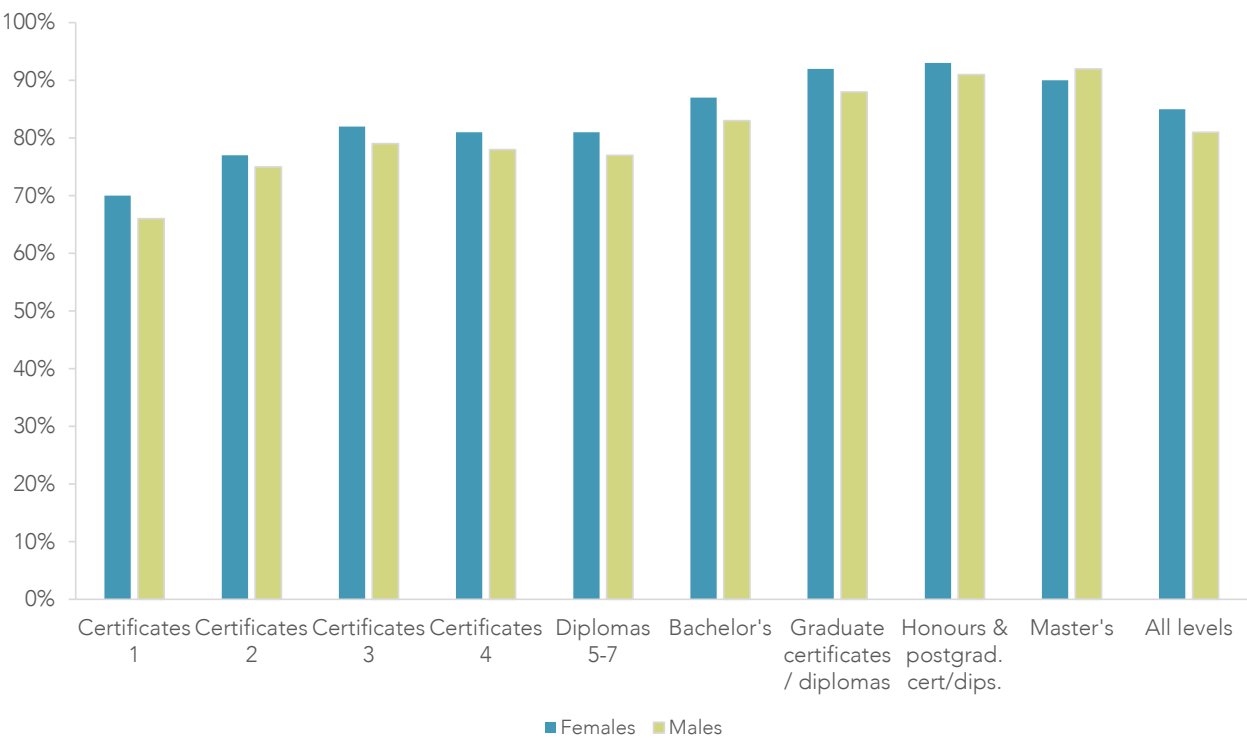
Chapter 3 discusses participation by men and women. This section considers the outcomes of that participation.

The overall picture is that women participate in tertiary education at a higher rate than men overall (though concentrated in different fields of study), and at most levels they are more likely to complete qualifications. However, female tertiary graduates earn less than their male peers graduating at the same level and field of study.

Achievement outcomes by gender

Women complete courses at a slightly higher rate than men at all levels of study except Master’s (Figure 9.15). A very similar pattern holds in qualification completions, though the gaps are larger (Figure 9.16).

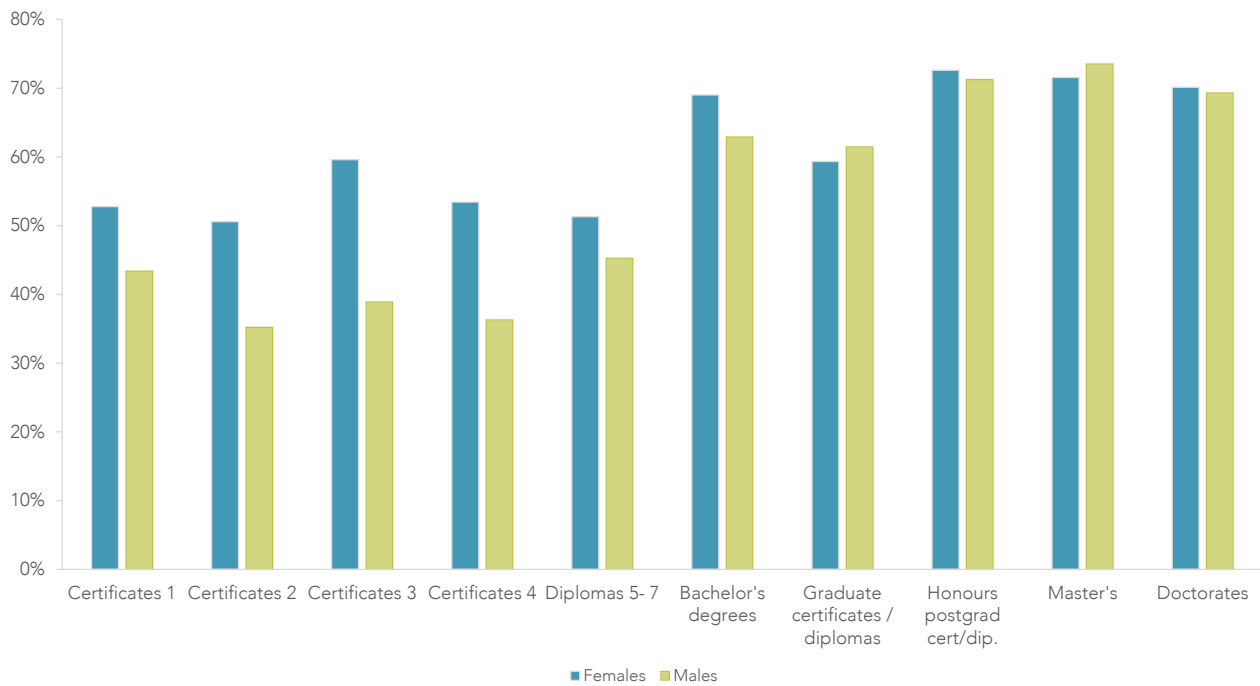
Figure 9.15 Course completion rates by level and gender, 2014



Source: MoE, 2016a.

Notes:

1. See the Technical Notes sheet in the original source for more information on data and technical definitions.

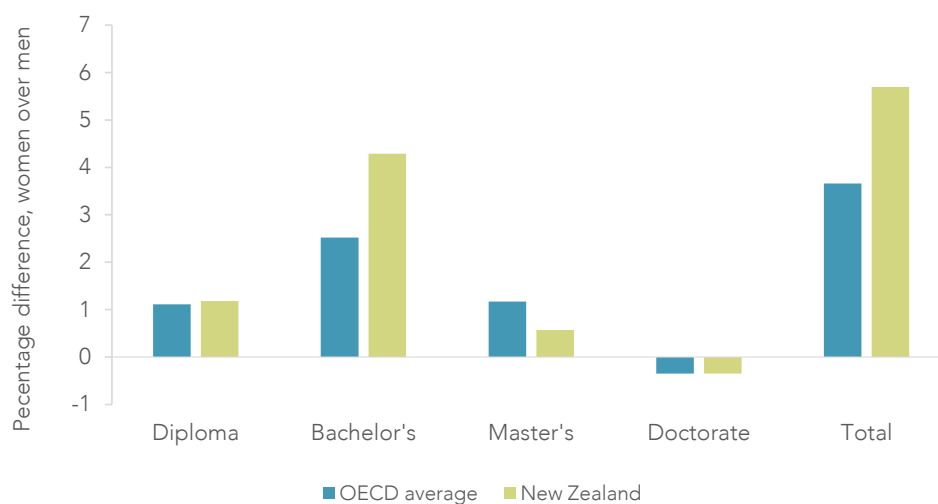
Figure 9.16 Eight-year qualification completion rates by gender, 2015

Source: MoE, 2016a.

Notes:

1. Data relate to students in formal qualifications at a tertiary education provider who entered study in 2007. These data exclude on-job industry training.
2. The completion rate is defined as the percentage of students who have successfully completed a qualification at the same level as or higher than the qualification they started.
3. Students who studied a qualification at more than one level have been counted in each level. Consequently, the sum of the students in each level may not add to the total.

Women attain qualifications at a higher rate than males in most OECD countries, but the difference in New Zealand is larger than the OECD average at most qualification levels (Figure 9.17).

Figure 9.17 Differences in gender tertiary attainment, by level and age group, 2014

Source: Crossan, 2016.

Labour market outcomes by gender

Mahoney (2011) compared the post-study outcomes of young male and female graduates. He found that, when controlling for labour market participation, men earn more than women after their tertiary education, and women's wages grow more slowly than men's wages. This finding is consistent with other research on the "gender pay gap" (eg, Statistics New Zealand, 2014c).

Mahoney's findings are limited by the fact that the dataset used does not measure hours worked, so cannot adjust for part-time work which is more common among women. The findings are also influenced by gender differences arising from different choices about field of study and subsequent occupation. (The earnings data was not adjusted for field of study; and occupation is not recorded in the dataset.) That is not to suggest that such choices are gender-neutral; but they are a separate phenomenon to gender differences in the labour market outcomes of men and women with the same qualification or in the same occupation.

Mahoney (2011) noted that men and women with tertiary qualifications earn a similar premium compared to their unqualified peers.

9.7 Outcomes for industry trainees and apprentices

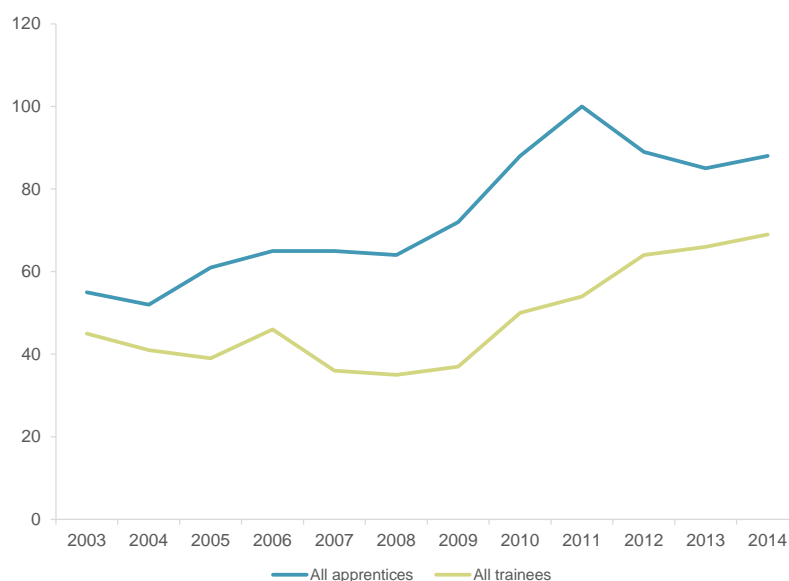
Outcomes for industry trainees and apprentices⁶¹ overall have improved over the last decade, and in particular since an operational review of industry training in 2010 which made improvements to monitoring and reporting (Chapter 4).

Credit achievement rates

Credit achievement in industry training refers to the number of credits achieved for each standard unit of delivery. It is calculated by dividing the sum of credits achieved by the sum of Standard Training Measures (STMs) consumed, multiplied by 120 (as each STM nominally represents 120 credits' worth of delivery).

Credit achievement rates for apprentices have been consistently higher than those for non-apprentice industry trainees. The gap has closed in recent years, though, as achievement rates for trainees have risen steadily, while rates for apprentices fell slightly after a peak in 2011 (Figure 9.18).

Figure 9.18 Credit achievement rates for trainees and apprentices, 2003–2014



Source: MoE, 2016a.

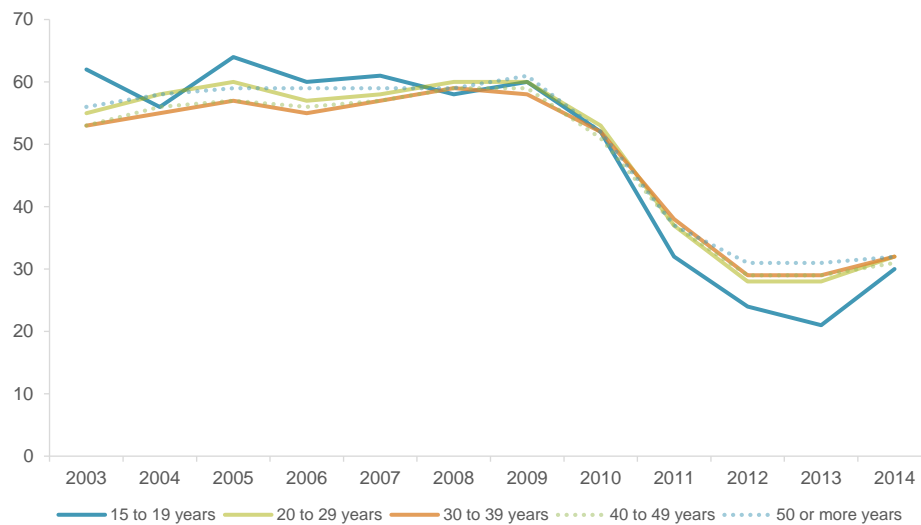
Notes:

1. Apprentices are defined as Modern Apprentices, New Zealand Apprentices, and industry trainees whose programme meets or exceeds the NZ Apprenticeships criteria.
2. Credit achievement rate is calculated by dividing the sum of credits by the sum of consumed STMs, multiplied by 120.
3. STMs measure the amount of training delivered. Each STM represents the amount of training required for the equivalent of 120 credits to be attained.
4. Credit achievement rates can exceed 100% as the numerator (STMs consumed) and the denominator (credits achieved) are only indirectly linked.

⁶¹ "Apprentices" are industry trainees who are enrolled via an Industry Training Organisation in a TEC-approved New Zealand Apprenticeship programme. "Trainees" are all non-apprentice participants in industry training. Chapter 4 describes the industry training system in more detail.

The proportion of trainees considered “inactive” (ie, who gained no credits in a given year) has declined significantly over the last half-decade (Figure 9.19) as a result of changes made following the operational review. Propensity to be inactive increases slightly with the trainee’s age.

Figure 9.19 Proportion of trainees who are inactive, by age, 2003–2014



Source: MoE, 2016a.

Notes:

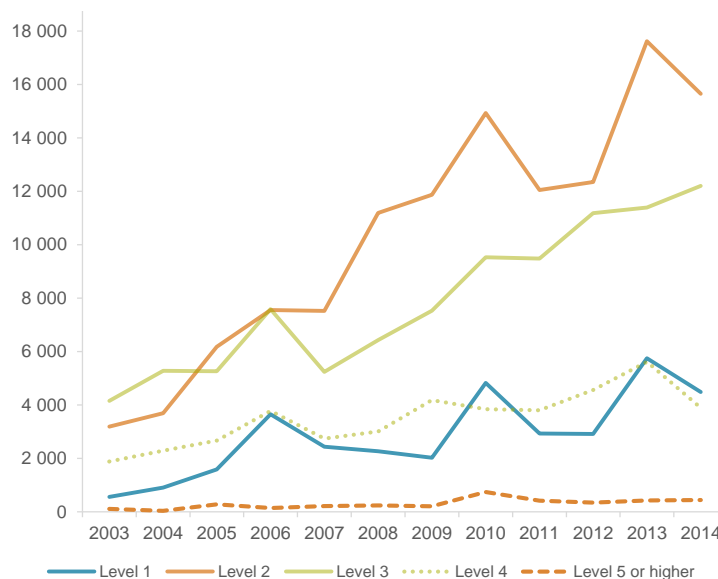
1. See Figure 9.18 in this section for notes on the data.

The age effects are much larger among apprentices, with the oldest apprentices much more likely to be inactive than the youngest. The overall decline in inactivity for apprentices is less dramatic than that for trainees.

Qualifications achieved

Growth in qualification achievement for trainees over the last decade was marked, especially for levels 2 and 3 (Figure 9.20).

Figure 9.20 Qualifications gained by trainees, by NZQF level, 2003–2014



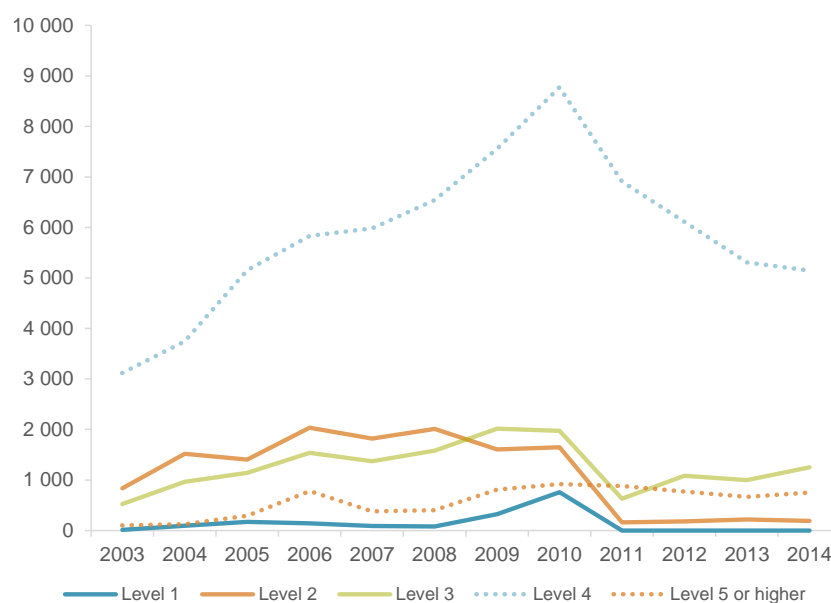
Source: MoE, 2016a.

Notes:

1. See Figure 9.18 in this section for notes on the data.

The pattern is different for apprentices, where the data show a large, but temporary, growth in the number of apprentices attaining level 4 qualifications around 2010 (Figure 9.21).

Figure 9.21 Qualifications gained by apprentices, by level, 2003–2014

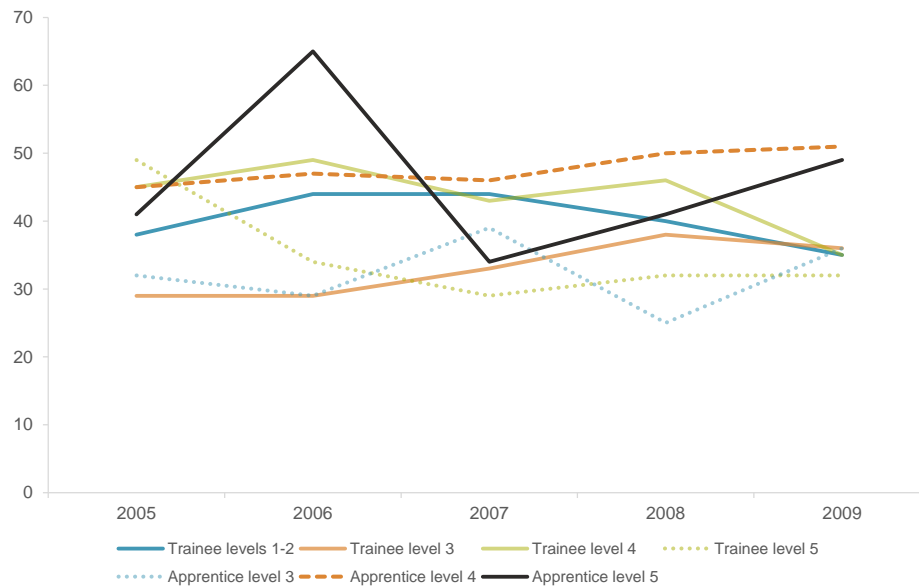


Source: MoE, 2016a.

Notes:

1. See Figure 9.18 in this section for notes on the data.

The qualification completion rates of trainees or apprentices shows no discernible pattern over time (Figure 9.22).

Figure 9.22 Six-year qualification completion rates for trainees, by level, 2005–2009

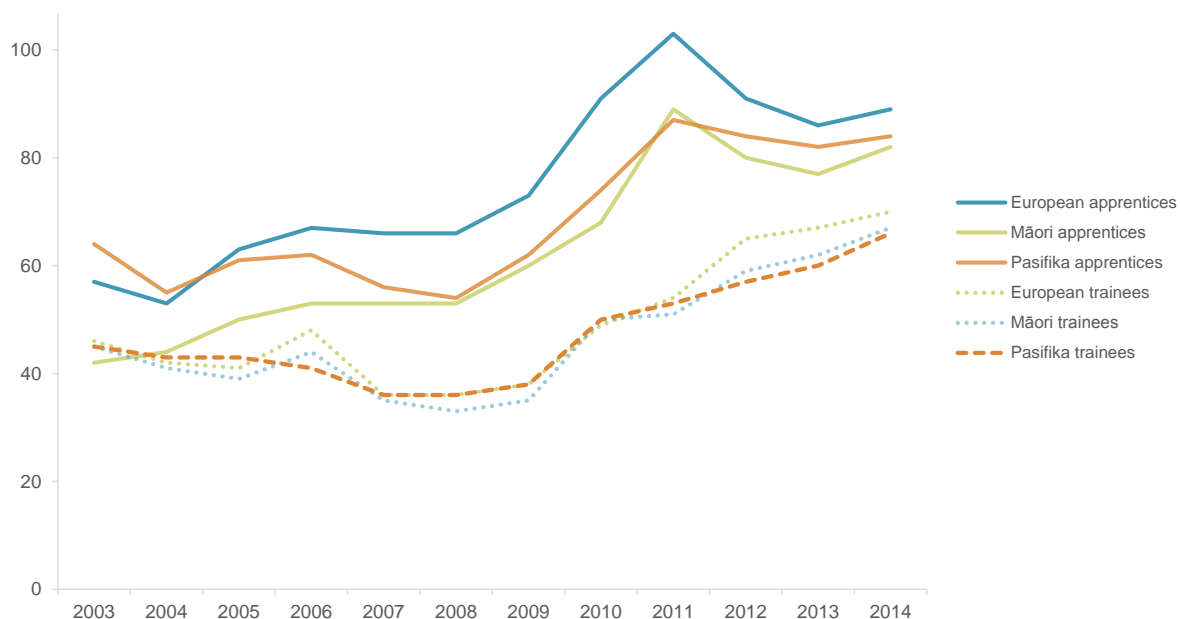
Source: MoE, 2016a.

Notes:

1. Industry trainees are defined as non-apprentice industry training learners. They are industry trainees whose programme does not meet the New Zealand Apprenticeship criteria.
2. A cohort begins when a trainee enters industry training for the first time. Grouping variables coincide with this first entry.
3. NZQF level is the highest level the trainee was enrolled in the cohort entry year.
4. Data shows the proportion of the cohort awarded their intended qualification within a period.
5. The intended qualification is at the programme NZQF level or a higher NZQF level than the programme the trainee was enrolled in when it is awarded. The year awarded is defined as the earliest date a trainee was awarded their intended qualification.
6. Qualifications awarded at lower levels than the NZQF level of the programme are not counted.
7. Cohort entry is not limited to national certificate programmes, and can include Limited Credit Programmes and Supplementary Credit Programmes.

Differences by ethnicity

The differences between ethnicities in credit achievement rates in industry training are overall smaller than in provider-based training. Credit achievement rates for trainees of different ethnicities were nearly identical in 2010. Since then, European trainees have achieved credits at a slightly higher rate than Māori or Pasifika trainees. Apprentices show more variation of ethnicity, with European apprentices having had a consistently higher credit achievement rate than Māori or Pasifika apprentices since 2005 – though the gap has narrowed over the last few years (Figure 9.23).

Figure 9.23 Credit achievement rate for trainees and apprentices, by ethnicity, 2003–2014

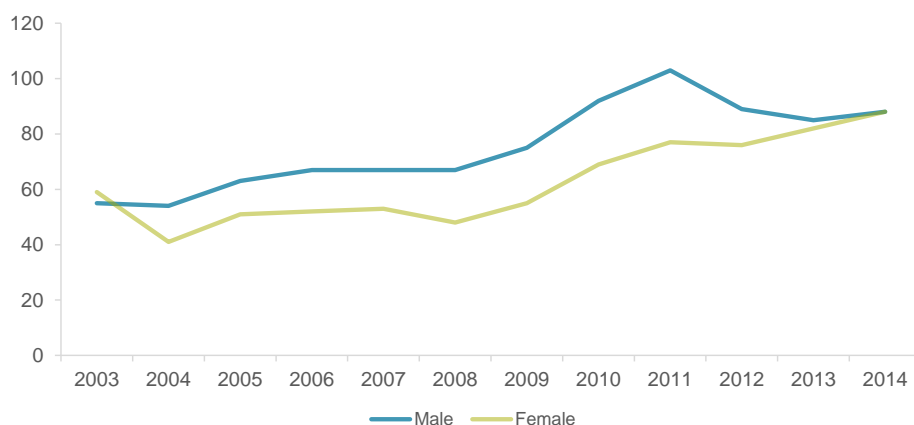
Source: MoE, 2016a.

Notes:

1. See Figure 9.18 in this section for notes on the data.

Differences by gender

Male and female trainees have achieved in industry training at similar rates over the last decade, with no clear pattern differentiating the genders. For apprentices, males have historically achieved credits at a higher rate than females, but the gap has closed since 2011 (Figure 9.24).

Figure 9.24 Credit achievement rates for apprentices, by gender, 2003–2014

Source: MoE, 2016a.

Notes:

1. See Figure 9.18 in this section for notes on the data.

Labour market outcomes

Employment rates are not a meaningful performance measure for industry trainees and apprentices, as they are by definition already employed. However, analysis of longitudinal data can reveal whether employees who participate in industry training earn a wage premium compared to those who do not.

Crichton (2009) examined this question for trainees who left industry training between 2003 and 2005 and made a number of conclusions.

- Gaining a qualification at level 4 or higher improved participants' earnings by about 7% on average, but with large variations by age and sex. Young males aged 15–24 earned premia of 11%, compared to about 1–4% for older males, and 2% for females.
- Gaining a qualification at level 3 improved the average earnings of males (by about 2%) but not females.
- Gaining a qualification at level 1 or 2, completing a limited credit programme, or gaining no qualification did not improve average earnings during the 48 months after training started.
- In terms of comparisons between industries, most differences between Industry Training Organisations (ITOs) reflected the different demographic profile of students associated with the various ITOs.

9.8 Outcomes for society and New Zealand

Supporting a well-functioning, democratic and fair society

Tertiary education is valued in part because many believe it generates an active and informed citizenry, supporting a democratic and socially just society. For example, the Quality Public Education Coalition's submission refers to

a 1995 UNESCO document on "the proactive university," which amongst other features encompasses a community fully engaged in the search, creation and dissemination of knowledge, "in the pursuit of truth, defence and promotion of human rights, democracy, social justice and tolerance".... Part of the social role of higher education, in this formulation then, is the betterment of society. (sub. 48, p. 7)

Assessing how well the New Zealand tertiary system contributes to this end is difficult because of the complicated nature of causation and difficulty in identifying suitable proxies. For example, the New Zealand General Social Survey found that people's propensity to volunteer and do unpaid work increases with their level of education (Table 9.6). However, the finding may be a selection effect, or the result of higher incomes, rather than an effect of being tertiary-educated. Moreover, while indicators of certain types of prosocial behaviour exist, they may not be good proxies for civic engagement. The same survey found no clear correlation between highest qualification, and propensity to vote in general elections (Table 9.7).

Table 9.6 Volunteering in the previous four weeks, by highest qualification, 2008

Highest qualification	Undertook voluntary work %	Undertook unpaid work %
No qualification	25.9	54.1
Level 1–4 certificate	29.8	67.7
Level 5–6 diploma	37.7	69.9
Level 7 Bachelor's degree and above	41.8	69.4

Source: Statistics New Zealand, n.d.

Table 9.7 Non-voters in general elections, by highest qualification, 2008 and 2011

Highest qualification	2008 %	2011 %
No qualification	19.4	21.6
Level 1–4 certificate	19.9	21.2
Level 5–6 diploma	15.3	16.9
Level 7 Bachelor's degree and above	18.1	16.2

Source: Statistics New Zealand, n.d.

Notes:

1. People in the 2010 and 2012 NZGSS who were aged 18 years or over and said they did not vote in the general elections.
2. Statistics New Zealand provides the following caveat about the table from which this data is taken: "Relative sampling error is 30%–49.9%, and should be viewed with caution." It is not clear whether this applies to these specific statistics.

The McGuinness Institute submitted that civics education needs to happen at school if it is to be effective (sub. 90, p. 5)

A survey by Zepke et al. (2010; cited in Zepke, 2012) of 376 tertiary teachers found that they were more likely to prioritise the application of knowledge in their teaching than wider social goals:

Results show that 10% of teachers thought that teaching students to effect change in the community and society was a top priority; 41% thought it a priority. Moreover, only 11% of respondents prioritised enabling students to challenge and question their teaching. In contrast, 33% thought it a top priority to teach students to apply subject knowledge in practice, and 56% thought it was a priority. (p. 159)

Critic and conscience, and academic freedom

It is also difficult to draw conclusions about how well universities are fulfilling the expectation of section 162 of the Education Act 1989 that they should "accept a role as critic and conscience of society". The Academic Quality Agency (then the New Zealand Universities Academic Audit Unit) noted that the "critic and conscience" role

suggests that universities are to provide an environment within which academic staff can state and publish ideas and conclusions without fear of retribution or persecution, either within or beyond the walls of the universities (Jones et al., 2000, p. 5)

In other words, it is about academic freedom. The paper identified the questions that academic auditors would ask of institutions to determine how effectively they were protecting academic freedom. However, it did not present findings.

Jones et al., along with Bridgman (2007), noted some potential threats to academic freedom at New Zealand universities, including:

- managerialism and an "enterprise culture" within universities that prioritises demonstrable, auditable short-term usefulness, rather than intellectual rigour and the advancement of knowledge for its own sake;
- stifling political correctness, which prevents academics from speaking freely for fear of offending sensibilities or "inducing trauma in the underprivileged" (Swinnerton-Dyer, 1995; cited in Jones et al., p. 21); and
- anti-intellectualism in the general public, and some people's resistance or even antagonism to evidence that is contrary to their personal experience or inclinations.

The third of these originates from outside the university, but the first two originate from inside it (though possibly in response to external pressures). Jones et al. argue, with Zepke (2010), that the internal threats to academic freedom is at least as concerning as the external threats.

Hendy (2016) has recently argued that science academics at universities and Crown Research Institutes in New Zealand face considerable pressure (internal and external) not to talk freely to media, or to present scientifically supported findings that challenge government policy or mainstream thinking. When they do these things, and attract criticism in the press, Hendy argues that they often face poor support from their institutions.

The TEU submitted along similar lines that

[t]ertiary education institutions require autonomy from the political, social, and economic elite of the nation in order to serve the interests of all New Zealanders. This enables academic freedom, but the current system restricts its full expression. (sub. 83, p. 32)

Grey and Sedgwick (2016), in a research note prepared for the TEU, further argued that academic freedom is fundamental to innovation in tertiary education:

Real innovation and creativity can only occur if those working in the tertiary education sector are able to act as the critic and conscience of society and to test received wisdoms through the exercise of academic freedom. (p. 8)

Wānanga's role in protecting and preserving Māori culture

The Education Act 1989 (s 162) states that a wānanga (among other things) “assists the application of knowledge regarding ahuatanga Māori (Māori tradition) according to tikanga Māori (Māori custom)”.

A 2003 report by the New Zealand Institute of Economic Research on the contribution of Te Wānanga o Aotearoa found that

[a] prominent feature of the wānanga is the creation of a consciously Māori-driven educational institution with a distinctive style; this is built around a deliberate, culturally aware, yet modern, Māori format. While not unique, its homemade success projects to the students as a sort of metaphor. It has the virtue of making concrete the idea that unusual and innovative approaches are worthwhile, and can be made to work even by the disadvantaged who are starting from a low base, as long as approached the right way, in today's world.

Moreover, the confidence building and rekindling of interest (and pride) in things Māori among many students has had a positive effect in its own right. Aside from the benefits that may accrue personally to those actually on the courses, it appears that the training is sufficiently well designed to produce graduates of a calibre to be able to be comfortable in wider Māori circles. This has already added to the flow of Māori with respectable standing in their own culture, and, in the longer term adds significantly to the sustainable flow of educated and confident Māori in the New Zealand community. (Lattimore et al., p. 91, p. 94).

The Te Kupenga survey (Statistics New Zealand, 2014a) found that Māori who had studied at a wānanga were more likely to know and visit their ancestral marae, and more likely to speak te reo Māori, than other Māori.

This correlation could be the result of selection effects – that is, students with more interest or competence in things Māori may be more likely to enrol at wānanga. However, Earle (2007b) reported that wānanga have made a significant contribution to te reo Māori learning, in particular through substantially lifting the number of people with a basic understanding of te reo Māori. In 2005, 85% of all students enrolled in te reo Māori programmes were at wānanga (and 75% of all students enrolled in te reo Māori programmes were enrolled in Te Wānanga o Aotearoa's entry-level Te Ara Reo Māori programme).

Adult and Community Education's role in promoting social inclusion and wellbeing

Adult and Community Education (ACE) aims to transform communities and whānau through adult and community education. The purpose of the ACE Fund is “to provide community-based education, foundation skills, and pathways into other learning opportunities that meet community learning needs” (TEC, 2016k). The Fund states that, except in the case of delivery of English for Speakers of Other Languages, New Zealand Sign Language, or te reo Māori, TEC must use ACE funding only to purchase:

[a] programme of study or training that is designed to:

1. target learners whose previous learning was not successful; and
2. raise foundation skills; and
3. strengthen social cohesion, enhancing a learner's ability to participate in society and economic life.

A programme must meet all three of these criteria to attract funding.

This is a more restrictive set of requirements than those applying before 2009. Before then, ACE funding was available to support social cohesion and an adult's lifelong learning (including, until 2013, at universities), regardless of the adult's prior learning. This meant that it subsidised a large number of general-interest courses. As discussed in Chapter 7, ACE providers have variously responded to the funding changes by:

- restricting provision to what is fundable;
- reducing costs; and
- seeking other revenue sources, including user fees, and local government or community funding.

The Commission cannot find any information about the impact of funding changes on ACE's effectiveness in achieving its goals (for example, research into the effect of reduced government funding on participation in ACE by different kinds of learners). However, recent surveys by ACE Aotearoa provide data on what ACE learners gain from their participation (ACE Aotearoa, 2015; 2016). They found that

- about three-quarters of ACE participants in 2014 and 2015 achieved "all" or "most" of the learning goals they set for themselves at the start of their course;
- overall, learners who achieved more learning goals also had more positive beliefs about their chances of finding work; more intention to continue to higher levels of education; and more hope for the future; and
- the median level of self-reported confidence among learners was higher at the end of the ACE course than at the start.

10 Trends

Key points

- The economy of New Zealand has changed significantly in the past and the tertiary education system has changed with it. Increased labour specialisation, the development of the service economy, and skills-biased technological change have meant an increasing number of New Zealanders are tertiary qualified in an increasing range of fields.
- Some providers consider that real revenue per student is falling, while also claiming they produce consistently strong performance. But at the aggregate level, government tuition subsidies per equivalent full-time student (EFTS) have increased faster than the rate of inflation over the last decade.
 - Average student achievement component (SAC) funding per EFTS has increased in real terms since 2000 in the university and institute of technology and polytechnic (ITP) subsectors, and remained largely unchanged in wānanga.
 - Average SAC funding for private training establishments (PTEs) declined in real terms between 2001 and 2009, before rising to nearly the same level as 2000.
 - The average funding per full-time industry training trainee increased slightly in real terms between 2004 and 2013.
- Since 2000, university tuition fee revenue per EFTS has increased by 24% in real terms, while fee revenue at wānanga and ITPs has fallen. Changes in fee revenue is affected by both changes in the proportion of enrolments into higher-cost or lower-cost courses as well as changes in the actual fees charged to individual students.
- Since 2000, revenue from international students has more than doubled at universities and ITPs. The fees that international students pay are an important supplement to tertiary providers' other revenue sources.
- The composition of New Zealand's population continues to change. The share of the population that identifies as European has decreased markedly in recent years. The population is becoming older and more urbanised.
- Submitters considered that ongoing rapid technological change will require people to upskill and re-train with greater frequency in the future. By contrast, providers did not consider that technology would significantly change their core operating models in the future.
- Past predications about the future of tertiary education have frequently proved to be incorrect. Attempts to predict how technology will change tertiary education have had mixed results.
- The implication of this uncertainty is that the tertiary education system should be responsive and flexible. But the system is tightly constrained by government policy and funding settings. Under current settings, the future success of the tertiary system largely relies on the government accurately predicting future trends so that the rigid settings are appropriate for changing times.
- Freeing providers to pursue different strategies and allowing a more diverse range of models to flourish could better equip the system to respond to exogenous change.

10.1 Introduction

The tertiary education system is subject to ongoing change. For example, Universities New Zealand (UNZ) notes:

Universities are among the longest-lived organisations in the western world. That they have survived and prospered over the centuries is evidence of their ability to thoughtfully innovate and adapt to change. (UNZ, sub. 17, p. 87)

One of the tasks of this inquiry is to identify and examine key trends that are likely to underpin challenges and opportunities for New Zealand's tertiary system, and that may drive changes in the business and delivery models of tertiary providers. In particular, the Commission was asked to examine changes in:

- student and employer demand;
- demographics;
- tuition costs;
- technology; and
- internationalisation.

These trends are the primary focus of this chapter. Section 10.2 considers how these trends have affected the tertiary system over the past twenty or so years. Section 10.3 considers how various trends might influence the tertiary system in the next twenty years. Section 10.4 sets out some of the problems associated with different projections. The chapter concludes by discussing the implications of planning for an uncertain future.

10.2 Past trends in tertiary education

Student and employer demand for tertiary education

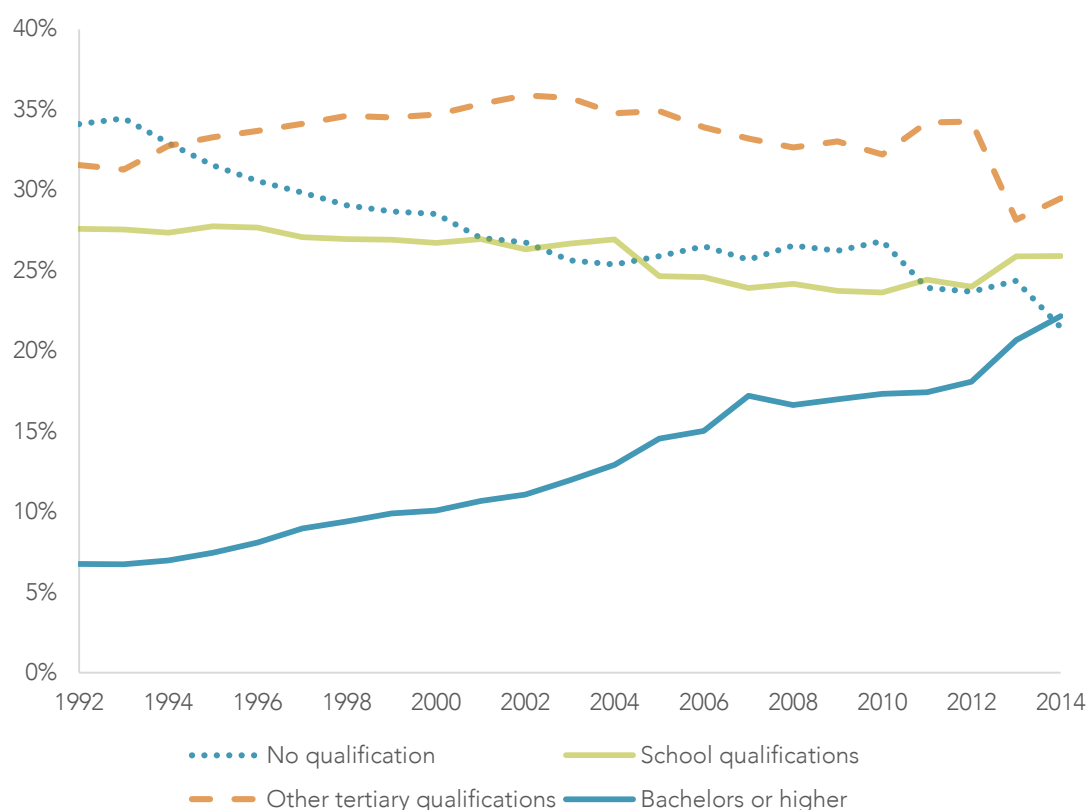
The last 200 years have seen big shifts in the nature of advanced economies worldwide (Acemoglu, 2009). The skills required and rewarded by employers have changed accordingly.

The Industrial Revolution, rapid urbanisation and changes in roles and expectations of women shifted ideas of what constituted a “suitable education for the masses” in modern Western economies. This has changed from “next to nothing” at the beginning of the 19th century, to basic literacy and numeracy, to primary school, to secondary school, and now to some form of tertiary education.

More New Zealanders are tertiary educated

Total enrolments in tertiary education increased from 51 600 in 1965 (1.9% of the total population) to 197 100 in 1993 (5.5% of the population) (MoE, 2016a). Enrolments reached their highest number in 2005 with 452 000 enrolments (10.9% of the population) before declining to 358 000 in 2015 (7.7% of the population).

The share of adults with a Bachelor's degree or higher has risen significantly since the early 1990s, and the share of the population over 15 years of age with no qualification has fallen (Figure 10.1). Chapter 3 provides a more detailed description of recent trends in tertiary education participation and student characteristics.

Figure 10.1 Percentage of New Zealanders aged 15 and over by highest qualification, 1992–2014

Source: MoE, 2016a.

Figure 10.1 shows that, in 1992, someone with a Bachelor's degree was in the top 7% of most qualified adult New Zealanders; by 2014, they were in the top 22%. Inquiry participants noted that one consequence of higher rates of educational attainment is that the signalling power of some qualifications has been muted.

For youth entering full time, multi-year courses, the investment is expensive, 'one shot', and is based on realising an abstract future benefit. In the past, for many students, this benefit was assured. Today, the value of a degree has been eroded by the massification of education and consequential high levels of degree attainment in our population. (Flexible Learning Association of New Zealand, sub. 98, p. 7)

When only a small proportion of the workforce of any country possessed degrees they were useful information for potential employers... The problem is that as degree attainment becomes more common it loses this ability to signal worth as strongly. Employers are forced to become more discerning, to focus their attention on higher degrees, or more specialist degrees... Attempting to differentiate themselves, students seek more specialist qualifications, higher degrees, and combinations of degrees; essentially decorating themselves with a plumage of educational signals in the hope that one is attractive to an employer. (Marshall, sub. 73, p. 16)

Higher and vocational education increasingly overlap

In the early to mid-20th century the distinction between two types of tertiary education (higher education, and vocational or "technical" education and training) remained sharp.

- Higher education, which took place at university, was for the academically-oriented and gifted minority. It was generally not focused on preparing students for a career, other than academia or a limited (but growing) number of professions (such as medicine or law).
- Vocational or "technical" education and training took place at high schools, technical colleges (later ITPs), teacher's colleges, and via apprenticeships. It focused on supplying the labour market with appropriately skilled workers, and on providing students with training that would start them on a career.

This distinction became increasingly fragile during the second half of the 20th century as the skill needs of employers, and consequently of the workforce, continued to increase. The list of professions for which it was possible or necessary to get a university degree, rather than a vocational qualification, expanded to include many previously considered straightforwardly vocational (eg, accountancy, teaching or nursing). Tertiary

qualifications increasingly became a common entry requirement for industries previously accessible to those with only a school qualification (eg, journalism or banking).

This shift toward higher entry qualifications was not unique to New Zealand. It is not clear whether it was led by supply or demand. That is, whether it was instigated by providers and students over-supplying a labour market that then became more selective, or by students and providers responding to a labour market under-supplied with skills. However, the rising income premia of graduates over the same period are consistent with a shortage of suitably qualified employees, which supports the demand-led explanation (Murphy & Welch, 1989; Goldin & Katz, 2007).

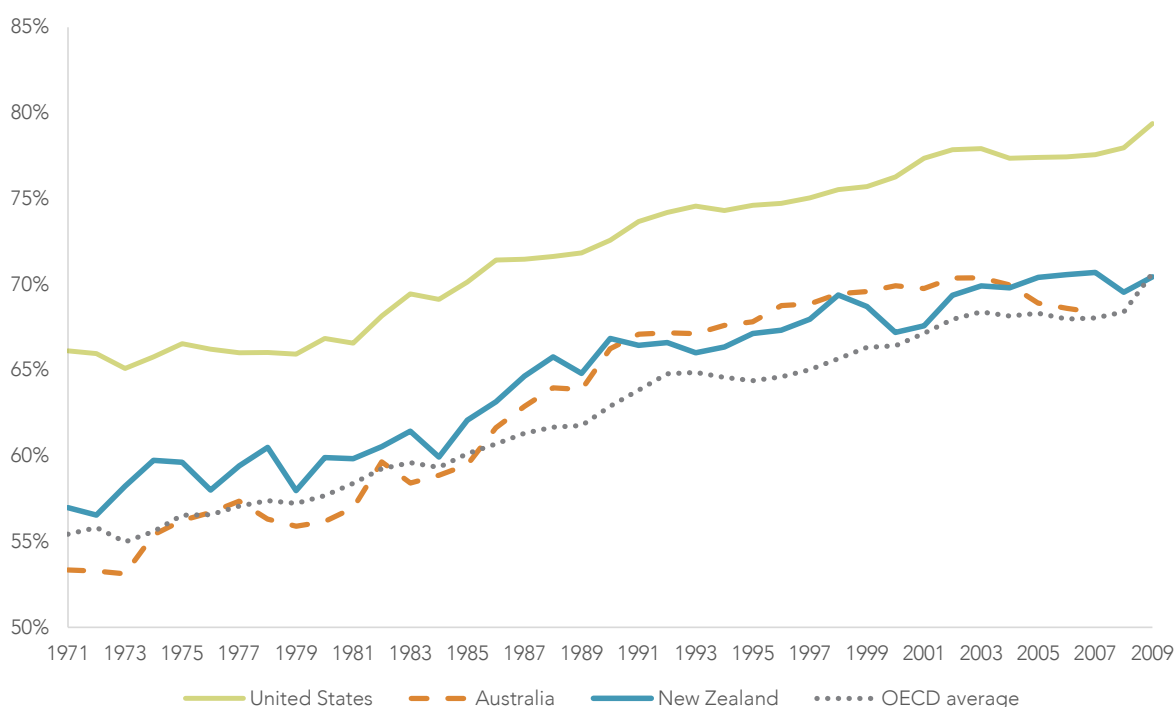
Increasing specialisation

Alongside an increase in the quantity of tertiary education was an explosion in the variety of courses offered. Increasing educational specialisation reflects the high (and increasing) returns to specialisation across the national (and global) economy. While labour specialisation has its benefits, it can also be risky for workers (if they cannot find a suitable job) and for employers (if they cannot find a suitable employee). A rational response for both is to locate themselves in larger population centres and, indeed, this response is a major driver behind increased urbanisation (Bertaud, 2014).

Skills are increasingly important as New Zealand becomes a service economy

New Zealand's economy has a growing services sector and shrinking goods-producing and primary sectors. This follows the pattern of similarly advanced economies worldwide (Figure 10.2). Relatively weak productivity performance in the services sector has contributed significantly to New Zealand's lack of progress towards closing its aggregate productivity gap with Australia and other leading OECD countries (NZPC, 2014b).

Figure 10.2 Services sector share of GDP compared internationally, 1971–2009



Source: NZPC, 2014b.

Notes:

1. OECD data are only available to 2009. Since 2009, the services share of New Zealand's GDP has risen from 70.9% to 72.4%.

New Zealand's growing services sector increases the importance of skills development, their availability in the labour market, and their effective use by employers. This is because performance improvement in the services sector relies on the acquisition, manipulation and application of information – and this is strongly influenced by worker skills (Uppenberg & Strauss, 2010). By contrast, in the primary and goods-producing

industries, while skills matter, performance can also be lifted by improving the quality or availability of other inputs.

Demographic trends

Since 1996, New Zealand's total population growth has fluctuated between 0.6% and 2% each year. Growth has consisted of reasonably stable natural population growth (averaging around 31 000 a year) and variable levels of net migration (which have fluctuated between net outflow of 11 300 and an increase of 64 900).

The composition of New Zealand's population has changed – over the past three census periods it has become more diverse, older and more urbanised. Table 10.1 shows that the share of the population that identifies as European has decreased markedly between 1996 and 2013. These trends are particularly apparent among younger age cohorts.

The population is also ageing, meaning that over the same time period the share of the population aged 50 years and over has increased from 25% to 33%. Slightly higher shares of the population were living in urban areas in 2013 than in the two prior censuses.

Table 10.1 Share of total population by ethnicity, 1996 and 2013 census

	All ages		15–24 year olds	
	1996	2013	1996	2013
European	82.4%	74.6%	77.6%	68.1%
Māori	15.4%	15.6%	20.0%	20.4%
Pasifika	6.1%	7.8%	7.9%	10.6%
Asian	5.2%	12.2%	7.5%	15.5%
Middle Eastern/Latin American/African	0.5%	1.2%	0.6%	1.5%

Source: Statistics New Zealand, 2015a.

Notes:

1. Totals sum to more than 100% because individuals may associate with more than one ethnic group.
2. European group includes "other" ethnicities.

Trends in fees and costs

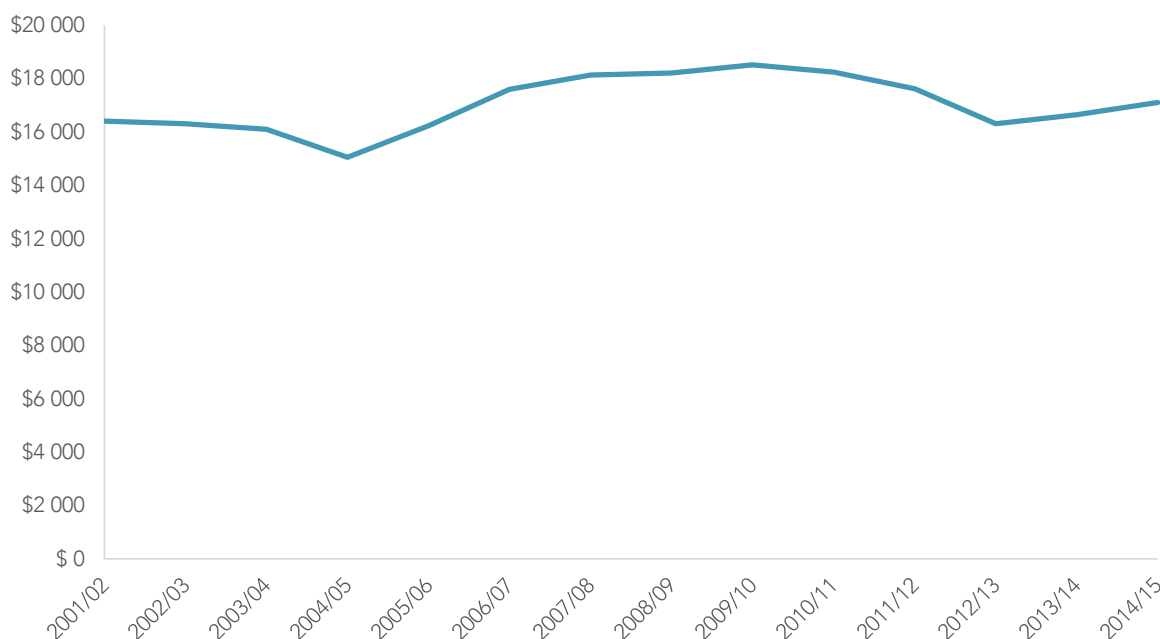
The arrangements for funding tertiary education are relatively complex and include student support, tuition fees paid by students, and tuition subsidies (Chapter 5). Particular trends vary across different types of fees and costs, as discussed below; but the overall pattern is one of increasing (and interrelated) cost pressures for governments and students.

Costs faced by one party may be revenue to another. Further, the government regulates both prices and quantities of tertiary education for domestic students. Consequently, observable trends are not a true reflection of the interaction of supply and demand.

Total government expenditure

In 2014/15, government's total expenditure on tertiary education was \$4.18 billion – this includes tuition funding, research funding, student allowance, costs of administering the system, and lending under the student loan system (less repayments received). On a per EFTS basis, the total spend on tertiary education has remained relatively constant since 2001/02 (Figure 10.3).

Figure 10.3 Total government expenditure on tertiary education per EFTS, 2001/02–2014/15 (2014/15 dollars)



Source: MoE, 2016a.

Notes:

1. Industry trainees, and funding for industry training are both excluded.
2. Adjusted using CPI to show constant 2014/15 dollars.
3. EFTS data is for the calendar year (starting in 2002).

Costs to students

Students pay fees to receive tertiary education. The average tuition fees for each EFTS enrolled at a tertiary education institute (TEI) in 2014 were:

- ITP: \$3 936
- Wānanga: \$505
- University: \$6 334.

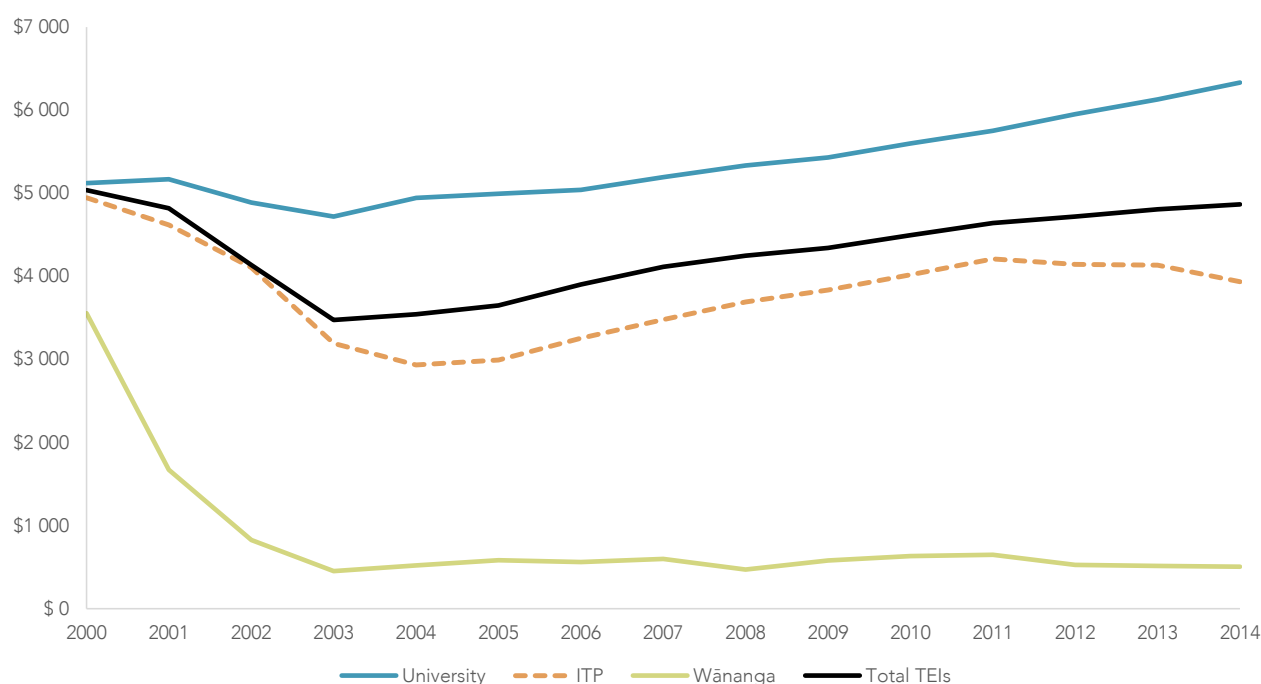
These averages hide significant variability in terms of the fees charged for different programmes – particularly in the ITP and wānanga subsectors. For example, the fees for programmes offered at Te Whare Wānanga o Awanuiārangi range from zero (fee-free programmes) to more than \$6 000 for a Bachelor of Health Sciences Māori (Nursing).

Government policy settings have significantly influenced recent trends in tuition fees. In 2001, government introduced a “fee stabilisation” policy where it provided extra funding to tertiary education providers in exchange for an undertaking to hold fees constant (Crawford, 2016). From 2004, fee increases of up to 5% were permitted provided that fees remained below an absolute limit (the fee and course cost maxima policy). From 2010, absolute limits were removed, and an annual maximum fee movement policy was introduced. Initially, annual fee increases were capped at 4%, but this was lowered to 3% in 2016.

Figure 10.4 shows the average fee per EFTS in the ITP, wānanga and university subsectors, in constant 2014 dollars over a 15-year period (data are not available for the PTE subsector). During this time period average tuition fee for each EFTS at universities has increased in real terms by 24%. Average fees in the ITP subsector dropped significantly between 2000 and 2004, climbed between 2004 and 2011, and then levelled off. Average fee revenue at wānanga dropped significantly between 2000 and 2003, reflecting the introduction of large numbers of fees-free programmes.

The average fee is calculated by dividing total domestic fees revenue by the total number of domestic EFTS. This means the average fee can be influenced by a change in the proportion of enrolments into higher or lower cost courses as well as changes in the actual fee charged to individual students.

Figure 10.4 Real average tuition fees per EFTS by subsector, 2000–2014

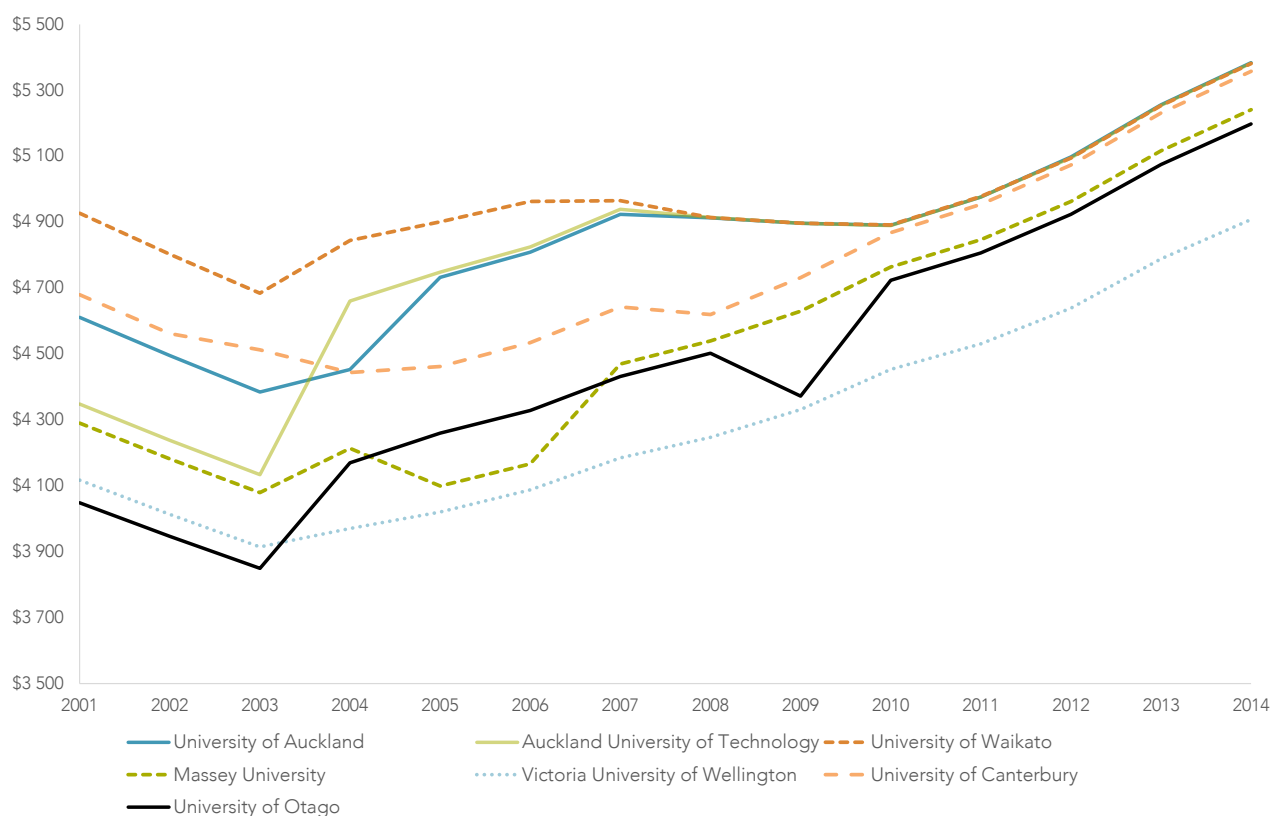


Source: MoE, 2016a.

Notes:

1. Adjusted using CPI to show constant 2014 dollars.

UNZ keeps a record of the indicative fees charged by universities by subject. Figure 10.5 shows the steady climb in Bachelor of Arts tuition fees (adjusted for inflation) after the removal of fees stabilisation in 2004. In real terms, tuition fees increased by between 16% and 30%. Tuition fees also converged. In 2001 the most expensive tuition fees for a Bachelor of Arts was 22% higher than the lowest; in 2014 this gap had dropped to 10%. The effect of the introduction of the Annual Maximum Fee Movement in 2010 is clearly visible.

Figure 10.5 Real tuition fees for a Bachelor of Arts at New Zealand universities, 2001–2014

Source: UNZ, 2016.

Notes:

1. Tuition fee data for Lincoln University was not available in a comparable format.
2. All figures are adjusted using CPI to show constant 2014 dollars.
3. The source notes that "This is not an official statement of fees. Indicative only."
4. In some cases students are charged additional levies and course costs.

F10.1

University tuition fees have increased significantly in real terms over the past ten years. Average tuition fees in the ITP and wānanga subsectors have fallen.

The Student Loan Scheme (SLS)

The SLS reduces the effective cost to students. Contingent repayment and a zero nominal interest rate mean that students face a negative real interest rate and strong incentives to repay loans as slowly as possible.⁶² The combination of these features means that the Treasury writes off a significant share of the total amount loaned each year. In the 2014/15 financial year, borrowers took up \$1 529 million in loans and \$602 million was written off – an average of 39.35 cents for each dollar lent (MoE, 2015c).

Based on lending in 2011, Baxter (2011) found that about 45% of the government write-down is attributable to the interest-free nature of the SLS. The remaining 55% is attributable to non-repayments due to bankruptcy, death, failure to meet the income threshold for repayments, or failing to repay while overseas. Since 2007, the amount written off each year has ranged between 36.19 cents and 47.39 cents for each dollar lent (MoE, 2015c). This is a reasonable estimate of the implicit government subsidy offered by the SLS.

Trends in government funding for tertiary providers

Government makes a significant financial contribution to the tertiary education system – this includes the costs of administering the system, student support, research funding, and tuition subsidies allocated to tertiary providers.

⁶² Students who move overseas are required to pay interest.

Several inquiry participants suggested that the government contribution to tertiary education has fallen in real terms.

[T]he tertiary education budget has flat-lined, while the costs of running our institutions have increased at an average of six percent each year since 1994. (TEU, sub. 83, p. 27)

There has been no increase to SAC funding for a few years therefore providers are having to make cuts in essential services and raise student fees by the maximum allowed to ensure they can remain financially viable. (OMEP Aotearoa New Zealand, sub. 24, p. 12)

Neil Quigley, Vice-Chancellor of the University of Waikato, suggested that

for many of the disciplines taught at the university [of Waikato], the real income per student provided by government has fallen every year for 15 years. (Quigley; cited in Cann, 2016)

The University of Auckland (sub. 85, p. 8) suggests that “real income per student is falling” – without specifying whether this is a result of falling tuition fees or falling contributions from government.

This is a longstanding complaint. The following extracts from university Annual Reports are years apart, but both report strong performance in spite of reported insufficient funds:

I am concerned that there is insufficient focus on the major issue which the whole tertiary education system faces, that of inadequate funding... this University cannot possibly sustain its activities at the present level of quality unless substantially increased funding is put into the sector... However, I am pleased to report that despite funding difficulties and some political uncertainties, this was a year of achievement and progress for the University of Otago. (University of Otago, 2000, p. 8)

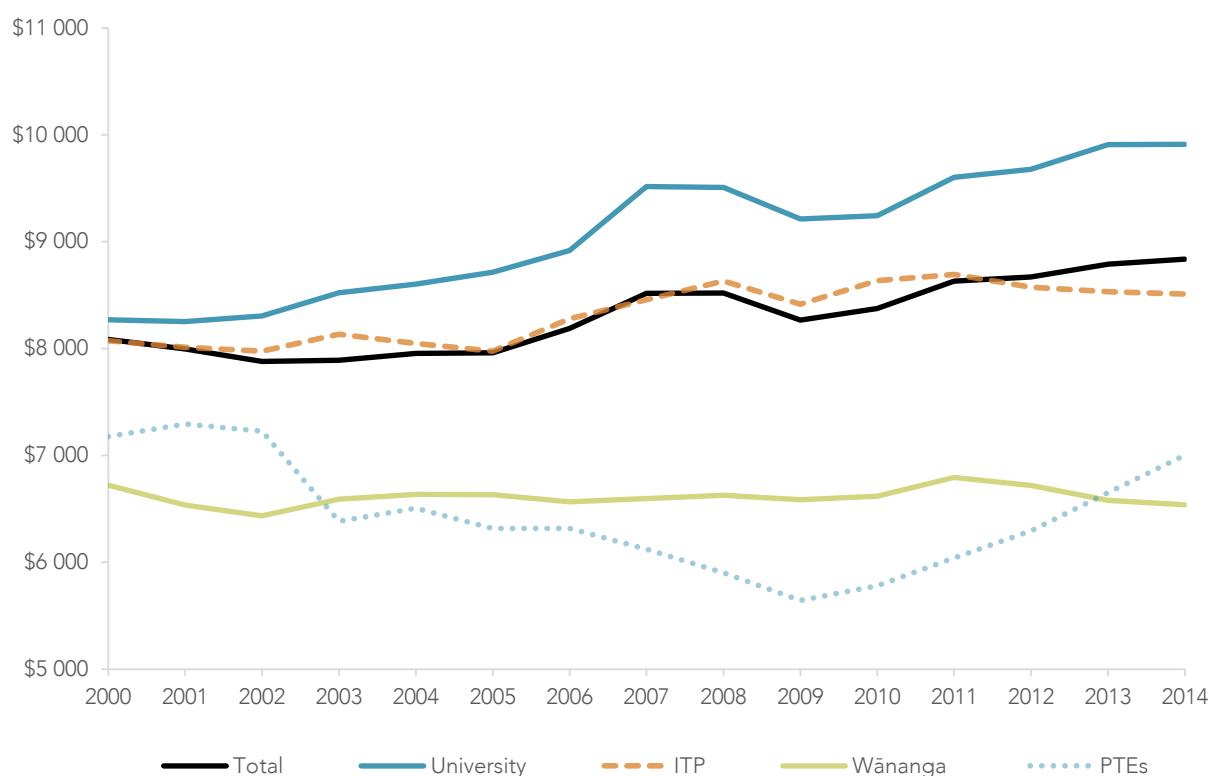
Thus, while we can celebrate the many achievements of the University of Auckland there is also a sense of “lost opportunity”. This will not be resolved until there is a willingness to address the highly constrained funding environment within which we are forced to operate.

I do however want to acknowledge, on behalf of Council, the many staff, students and supporters of the University who have contributed to another year of outstanding achievements and helped make this such a prestigious university. (University of Auckland, 2014, p. 5)

However the available data for the SAC fund (which accounted for 84% of total tuition funding in 2015) shows that average government funding per delivered EFTS across the tertiary sector as a whole has increased in real terms by 9% since 2000 (Figure 10.6).

The increase in the overall SAC funding rate is driven primarily by increases in SAC funding in the university and ITP subsectors. The average SAC funding per EFTS at wānanga has fluctuated slightly, but in real terms is largely unchanged over the past 15 years. Average SAC funding for PTEs declined in real terms between 2001 and 2009, and has subsequently risen.

Funding rates for industry training have also increased. Between 2004 and 2013 the amount of funding per delivered standard training measure (the industry training equivalent of an EFTS) increased by 5% in real terms (MoE, 2015d).

Figure 10.6 Student Achievement Component funding per EFTS, 2000–2014 (2014 dollars)

Source: MoE, 2016a.

Notes:

2. Adjusted using CPI to show constant 2014 dollars.
3. PTEs includes Other Tertiary Education Providers.

F10.2

At the aggregate level, tuition fees and government tuition subsidies per EFTS have increased faster than the rate of inflation over the past 15 years.

Other inquiry participants, particularly from the university subsector, acknowledged that government funding and student fees have increased, but suggested that these increases are failing to keep pace with rising operational costs. For example, Massey University noted that “Universities are facing increasing financial pressures as costs continue to outgrow revenue” (sub. 82, p. 23).

Comparing 2005 with 2014, UNZ (sub. 17) suggests that

university sector operating costs have increased by just over 50% on a per-student basis – mostly driven by rising salary costs, compliance costs, building maintenance costs, rising utilities costs, the cost of purchasing ICT equipment and licences from overseas and increasing costs of libraries as a consequence of subscriptions to online electronic resources.

CPI has risen by 25.5% over the same period, but none of the operating costs listed above are included in CPI. (pp. 16–17)

The Commission is interested in further information about trends in provider operating costs and their underlying causes.

Q10.1

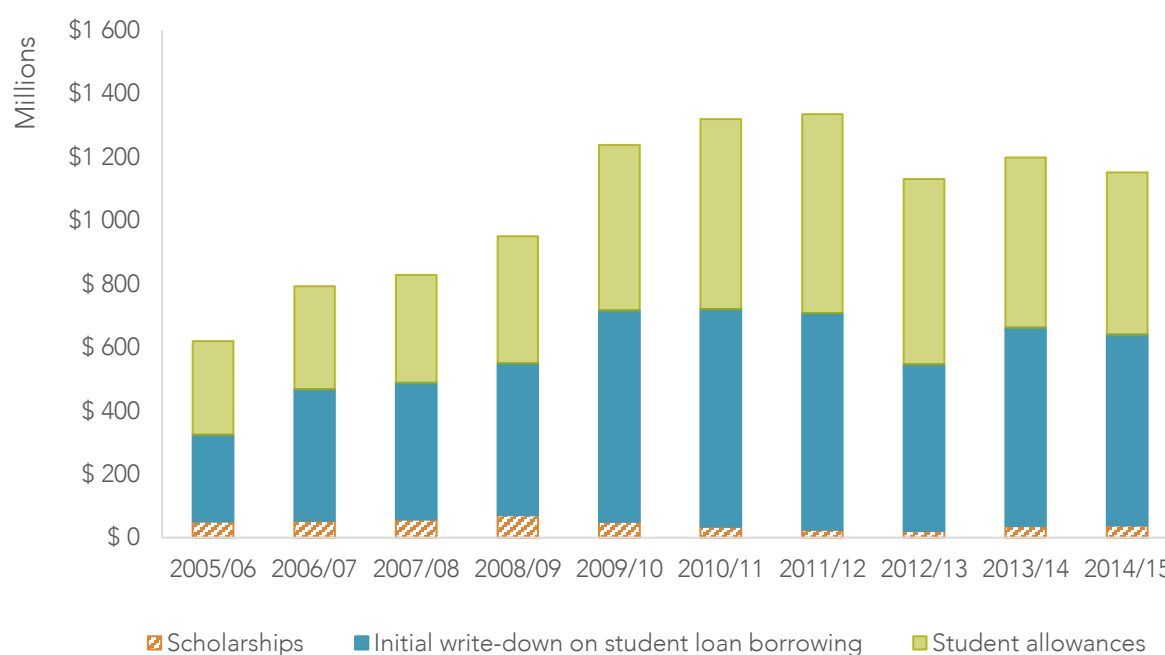
Are the operating costs of tertiary providers per EFTS increasing in real terms? If so, what factors are driving this trend?

Trends in government funding for student support

Along with tuition subsidies paid to tertiary providers, government also contributes to the student support system. That contribution is comprised primarily of the SLS, student allowances and scholarships (the student support system is described in Chapter 5).

Figure 10.7 shows the trends in the real costs of the student support system over the past ten years, based on spending on allowances and scholarships, and the costs of the SLS (the amount of lending written off each year due to the interest-free nature of loans, and anticipated non-repayments). Expenditure increased sharply between 2005/06 and 2009/11, before falling to around \$1 150 million from 2012/13.

Figure 10.7 Government expenditure on student support, 2005/06–2014/15 (2014/15 dollars)



Source: MoE, 2016a.

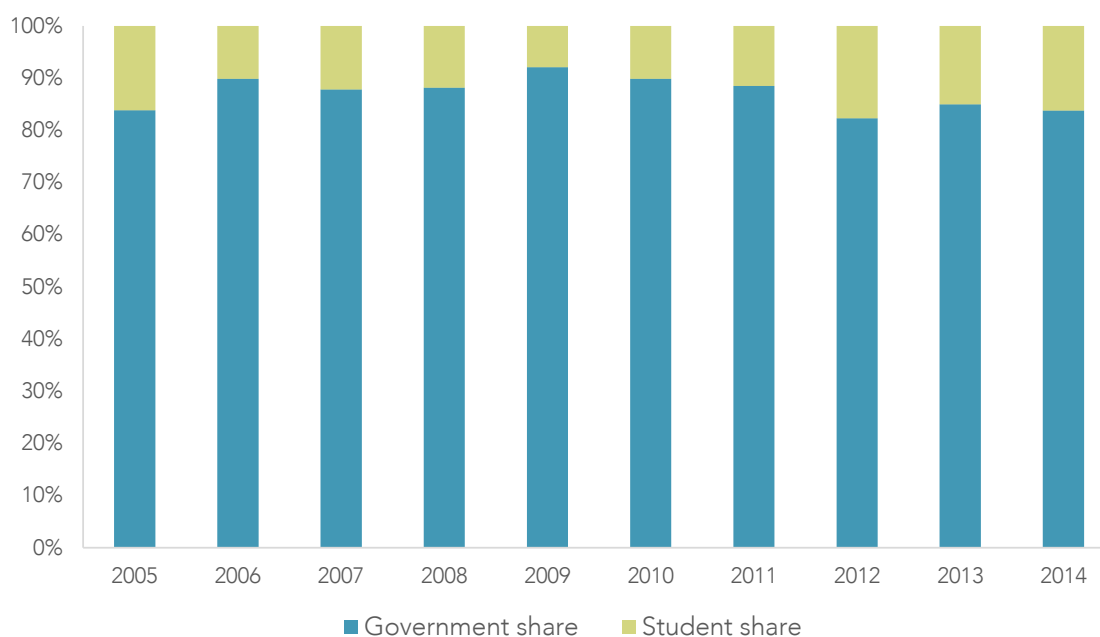
Notes:

1. Adjusted using CPI to show constant 2014/15 dollars.

Trends in relative contributions of government and students

Figure 10.8 shows the trend in how costs are shared between students and government over the past ten years. The student share comprises tuition fees at TEIs less the approximate amount of student loan lending that the government writes off each year for students studying at TEIs.⁶³ The government share comprises total SAC funding for TEIs, plus the write-down on student loan lending for students studying at TEIs. The student share of costs reached its lowest point in 2009, when the government write-down on student loans was very large. Since then the student share has increased, and in the last three years for which data is available was around 16%.

⁶³ The write-down on student loan lending is only available at the aggregate level (not by the subsector of borrowers). An approximate write-down for students at TEIs was calculated based on the number of EFTS studying at TEIs.

Figure 10.8 Share of tertiary education costs at TEIs, 2005–2014

Source: MoE, 2016a.

Notes:

1. The write-down on student loan borrowings is based on financial years (starting in 2005/06). Other figures are for the calendar year.

Trends in technology

Recent decades have seen the emergence of new technologies that have made existing skills obsolete. This is a continuation of a long-running trend. Examples from recent history include low-skilled roles such as lift operators, to highly skilled roles associated with industries that no longer exist at scale, such as developers or colourists of camera film. More recently, sectors including publishing, music, media, and travel industries have all been disrupted by digital technologies. This has resulted in a complete overhaul of their products and services (European Commission, 2014).

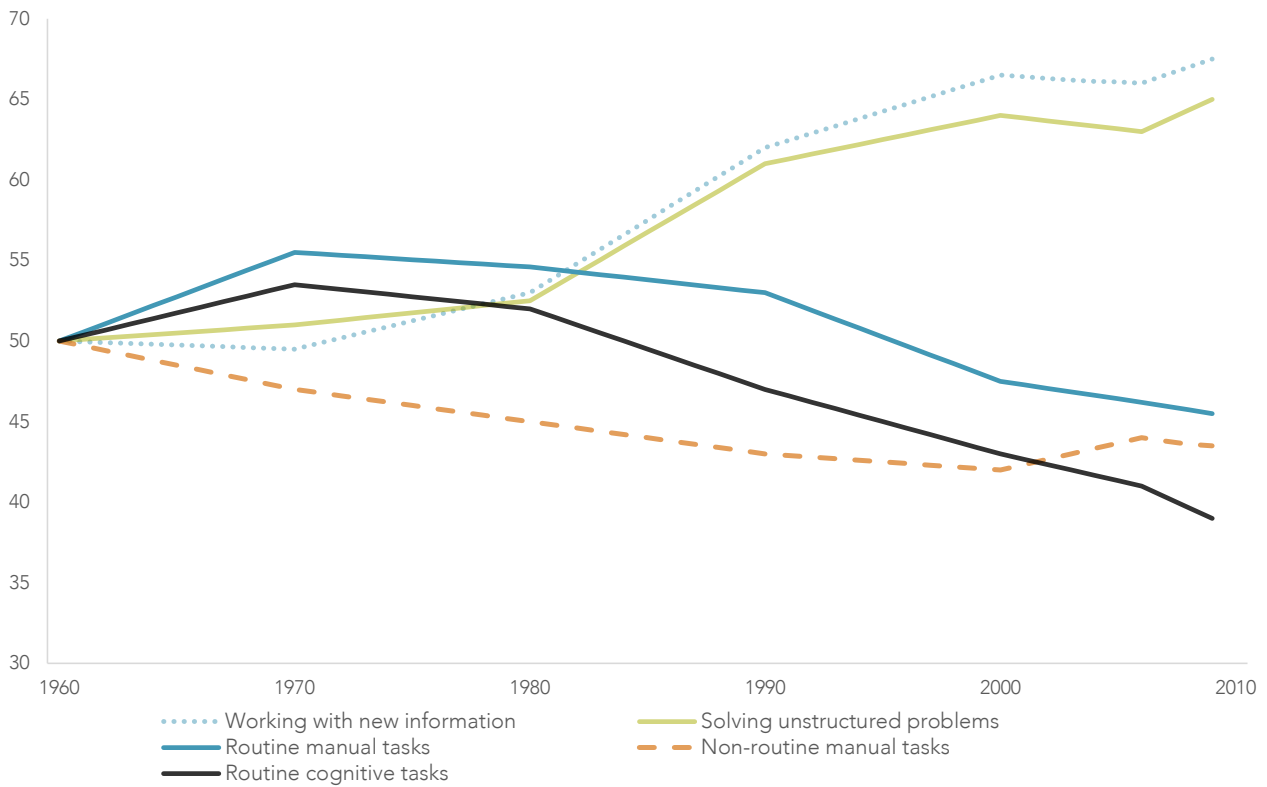
The Flexible Learning Association of New Zealand suggests that the pace of change has accelerated and that, in response, industry is seeking workers that can adapt:

Workplace requirements have changed over the last decade. Accountability and compliance requirements have increased. The rate of change in required skills has increased. The importance of digital literacy and communication skills has increased. We live in an increasingly changeable and connected world. In response, industry is seeking workers that the workplace can develop over time. (sub. 98, p. 5)

The tendency of technology to influence the relative demand for skilled versus unskilled labour in favour of skilled labour is known as “skills-biased technological change”.

Figure 10.9 shows routine jobs (which tend to be low-wage and low-skilled, and which a machine can more readily undertake) declining compared to non-routine or interpersonal roles that require the kind of contextual judgement and emotional input currently beyond the ability of computers. For example, occupational categories such as Machine Operators and Office and Administrative have both declined as a share of total employment in the United States since 1979. By contrast, the employment share of Technicians and Professional and Managerial Occupations has increased. These occupations typically “involve abstract, unstructured cognitive work that is hard to computerize” (Levy & Murnane, 2013, p. 14).

Recent employment patterns in New Zealand reveal a similar trend. For example, the share of the total workforce employed as machine operators and drivers or clerical and administrative workers declined from 20% in 2003 to 18% at the start of 2016. By contrast, the share of employed people working in more highly skilled occupations (managers or professionals) increased from 35% in 2003 to over 40% at the start of 2016 (Statistics New Zealand, 2016a).

Figure 10.9 Index of changing work tasks in the United States, 1960–2009

Source: Levy & Murnane, 2013.

Trends in internationalisation









Staff, students, teaching materials, qualifications and research can all move across borders and these factors have become more mobile over time. Between 1990 and 2011 the global number of students enrolled in a tertiary education provider outside their country of citizenship increased from 1.3 million to nearly 4.3 million (OECD, 2013).

In 2011, international students from Asia represented 53% of the global international student population, with the largest numbers coming from China, India and Korea. The largest recipient of international students is the United States, with 17% of all foreign students worldwide, followed by the United Kingdom (13%), Australia (6%), Germany (6%) and France (6%) (OECD, 2013).

Trade in tertiary education services

The General Agreement on Trade in Services classifies international services trade into four different modes. These apply to both the import and export of educational services, creating eight combinations (Table 10.2).

Table 10.2 Cross-border trade in education

Mode		Import example		Export example
1: Direct trade		A New Zealand student accesses a US-based MOOC		A New Zealand provider sells course materials to an overseas educational institution
2: Consumer travel		A New Zealander travels to study at an Australian university		An Indian student travels to study at a New Zealand polytechnic
3: Commercial presence		A foreign provider opens a campus in New Zealand		A New Zealand provider opens a campus in Vietnam
4: Supplier travel		A British consultant travels to New Zealand to assess a provider's performance towards an international accreditation		A New Zealander travels to Hong Kong to deliver a paid lecture

Mode 2, where international students travel to New Zealand for study, is a significant industry for New Zealand. It receives the majority of public and policy attention. However, all combinations are potentially influential in shaping the tertiary education system. The sections that follow discuss this and some other specific combinations.

Inbound international students

The number of international students enrolled in New Zealand tertiary providers has fluctuated over the past 16 years; however, growth in the number of international students has been strong since 2008 (Figure 10.10). In 2015, more than 61 500 international students were enrolled at tertiary providers, representing just under 15% of total enrolments.

Figure 10.10 International student numbers and international students as a share of total students

Source: MoE, 2016a.

Many inquiry participants emphasised that growing numbers of international students have a wide range of benefits.

International education provides a stepping stone for strong international relations, access to the world's emerging markets, and exposure to new and innovative (and diverse) thinking. This paves the way for longer term cultural, social, and economic gains, for all New Zealanders. (Education New Zealand, sub. 52, p. 5)

The fact that 11% of students at New Zealand universities are international ... allows domestic students to mingle and work with students from other cultures. (UNZ, sub. 17, p. 76)

...our driver is about the diversification of experience for our learners, the sharing of cultures and perspectives, and ensuring our programmes are globally relevant and so therefore are our graduates. (WelTec & Whitireia, sub. 59, p. 13)

Members of the Victoria University Wellington Students' Association (sub. 80) were supportive of an increasingly diverse student population. But the association also voiced concerns that international students may divert focus away from under-represented groups of domestic students and that universities viewed international students "as an easy target for raising extra revenue rather than as actual students" (pp. 7–8).

The fees paid by international students are an important supplement to tertiary providers' core funding. Education New Zealand notes that this revenue allows providers to:

- provide resources that they may not otherwise be able to afford;
- offer programmes that may not otherwise be financially viable;
- provide staff and other students with the opportunity to develop cross-cultural competencies through working alongside an international cohort of peers;
- offer exchange programmes and joint research projects that increase knowledge and learning. (sub. 52, p. 5)

Since 2000, revenue from international students more than doubled at universities and ITPs (Table 10.3). Further data about international students studying in New Zealand are included in Chapter 3.

Table 10.3 International students in New Zealand TEIs

Subsector	Number of international students 2014	Revenue from international students 2014	Average revenue per international student 2014	International student revenue as a share of total operating revenue 2000	International student revenue as a share of total operating revenue 2014
Universities	24 956	\$343.4m	\$13 760	4.6%	9.8%
ITPs	14 151	\$117.8m	\$8 325	5.3%	10.9%
PTEs	15 364	\$124.1m	\$8 077	Data not available	Data not available

Source: MoE, n.d.a; n.d.b; n.d.c.

Notes:

1. Revenues are per student. The average revenue per EFTS would be larger.

Outbound domestic students

A trend of increasing student mobility also affects domestic students. As discussed in Chapter 3, there is some evidence that increasing numbers of young New Zealanders are choosing to study abroad. This has long been a feature of postgraduate education in New Zealand, and may be increasing at the undergraduate level.

Educational services and products

Education New Zealand (n.d.) reported that the 2012/13 export value of education services and products was \$103.9 million. It defines "education services and products" as "any activity that derives export revenue from educational services and products consumed outside New Zealand, including publications, consulting, software and distance education".

Offshore course delivery by New Zealand providers

Many New Zealand tertiary providers sell tertiary education products and services overseas, with about 3% of international students studying offshore (Education New Zealand, 2015). Such delivery is presently a small part of New Zealand's educational exports. But concerns about the future demand for onshore international education has caused providers to increasingly focus on the potential expansion of offshore delivery.⁶⁴

The offshore delivery of education can be by any of Mode 1 (distance education, including through massive open online courses or MOOCs), Mode 3 (through the establishment of a commercial presence in another country), and Mode 4 (through New Zealand staff delivering the education service in the foreign country). In recent years, trade agreements have expanded the access of New Zealand institutions to overseas education markets.

Data on programmes offered by New Zealand institutions offshore are sketchy, and there appears to be considerable "churn" in ventures. The year 2014 saw 1 843 offshore enrolments in the ITP subsector (up from 924 in 2005), and 1 222 enrolments in the university subsector (up from 203 in 2005) (MoE, n.d. a; MoE, n.d. c). That year also saw a small, yet growing, number of offshore enrolments in PTEs. Compared with Australia and the United Kingdom, the volume of offshore delivery by New Zealand providers is very small.

- In 2014, 85 873 students were enrolled at offshore campuses of Australian higher education providers, and a further 25 531 offshore students were enrolled in distance education programmes (Australian Government Department of Education and Training, 2015).
- In 2014/15, 99 of 134 United Kingdom higher education institutions provided offshore education to a total of 665 995 students. Of this offshore education, 40% was delivered in cooperation with a local partner, 52% via distance education, and 8% through the provider having a physical presence (UK Higher Education International Unit, 2016).

10.3 Future trends in tertiary education

The following section sets out the views of submitters, and other commentators, about how trends in tertiary education might play out in the coming years. Section 10.4 discusses the extent to which predictions of future trends should be relied on.

Future trends in student and employer demand

A large number of inquiry participants put forward ideas about what student and employer demand for skills might look like in the future.

Many submitters suggested that as a result of ongoing rapid technological changes, people will need to upskill and re-train with greater frequency in the future.

Given the changing nature of work, the disappearance and the emergence of new jobs, alongside the recalibration of existing jobs, the future demands on workers will continually change. (Massey University Business School, sub. 96, p. 3)

As routine tasks are automated and work becomes more flexible and dynamic, the importance of creativity, soft skills and cross-cultural competencies grows. Even if these changes are half as radical and widespread as some experts predict, large numbers of people could need to refresh their skills frequently to remain employable. (TEC, sub. 2, p. 3)

People will have to expect to upskill more regularly than they had in the past... (Independent Tertiary Institutions, sub. 81, p. 14)

Two main responses to changing skill requirements were put forward. Some submitters pointed toward a growing need for tertiary education to deliver new types of skills – particularly transferable skills that can be applied in a range of contexts.

⁶⁴ There is uncertainty about the degree to which inbound international students and offshore delivery can be considered substitutes or considered distinct markets (Tsiligiris, 2014).

Preparing students so that they can anticipate and navigate a rapidly changing labour market is critical. Core skills and competencies such as critical thinking, resilience, and agility are more necessary as students graduating today are likely to have many jobs and more than one career throughout their working life. These skills are vital for change and transition. (Massey University, sub. 82, p. 13)

The lesson of history is that radical shifts in technology make tasks redundant, but not people... The implication (by induction) is that we will need more people who can do the things that machines and algorithms won't do: 'working with new information' and 'solving unstructured problems' and (I add) 'sustaining positive relationships with other people or communities' (Duncan, sub. 18, p. 13)

Others suggested that new technologies and the need to develop new skills will result in students interacting with the tertiary system in different ways, including a significant increase in the number of students seeking tertiary education for mid-career re-training or upskilling.

Our tertiary education system needs to be much more flexible to accommodate the need for continual learning and allow people, currently in the workforce, to build on their existing qualifications. This "flexi-learning" is essential for those with qualifications who need to maintain their current competency or upskill in new and emerging technology and innovation... it is imperative to see learning as part of a continuum that can be developed and enhanced during an individual's lifetime. (Competenz, sub. 45, p. 5)

Adequately preparing new entrants for the labour market is an important job for tertiary education, but it is not the only job. Changing demographics, technological developments, and the realities of modern careers and employment structures mean there is a need to look at how our systems for developing and deploying skills and knowledge support people throughout their working lives. (Industry Training Federation, sub. 54, p. 2)

The changing nature of the labour market will require workers to refresh skills or retrain more often. There will also be an increase in demand for learning from the increasing number of older people in our population. (Massey University, sub. 82, p. 12)

We have an aging population with a growing proportion of people staying in the workforce for longer. This will likely place new demands on our education and training products and services as people seek out upskilling and retooling opportunities multiple times across their lifetimes. (BusinessNZ, sub. 77, p. 3)

Future demographic trends

Modelling by the Ministry of Education (MoE) has found that the two biggest drivers of short-term student demand for tertiary education are the number of people aged 18 to 25, and the unemployment rate (MoE, 2015e).

Student demand in the last half-decade has been strong, due in part to a "baby blip" around 1990, and in part to the global financial crisis of 2008, which caused an increase in unemployment that disproportionately affected young people and encouraged them into further study. Now that the baby blip has moved through the system and the economy is again growing, the Ministry's forecast predicts that student enrolments for provider-based training at levels 3 and above will fall by around 7 800 full-time student places between 2014 and 2018 before starting to rise again from 2019. This forecast measures the number of students likely to enrol given currently policy settings, rather than an assessment of national "need".

The decline to 2018 is predicted to have the biggest impact on universities (losing about 5 000 EFTS) and ITPs (losing around 3 750 EFTS).

Table 10.4 Forecast EFTS at level 3 and above, by subsector

Institution type	2014	2015	2016	2017	2018	2019
Universities	115 587	116 230	113 780	111 580	110 620	111 380
ITPs	54 749	54 610	52 980	51 720	51 000	51 430
Wānanga	18 280	18 370	19 170	19 670	19 880	19 760
PTEs	24 993	23 380	23 440	24 050	24 300	24 150
Total	213 609	212 590	209 370	207 020	205 800	206 720

Source: MoE, 2015e.

The forecast enrolments for tertiary study in Table 10.4 were calculated at the aggregate level, and so may hide important changes in the composition and distribution of demand. For example, despite the reduction in the overall population aged 18 to 25, the Māori and Pasifika populations have a younger age structure overall, and their youth populations are forecast to grow slightly to 2019. Possibly reflecting this, in contrast to the overall trend, wānanga – whose student population contains a much higher proportion of Māori students than other subsectors – are forecast to be allowed to grow between 2014 and 2018 by around 1 600 EFTS. Inquiry participants anticipated changes in the composition of the student body:

There will be a higher proportion of young people and of students who are Maori, Pasifika and Asian... Also older adults will make up an increasing proportion of the population and will be working longer, and will need to have first-time access to tertiary education. (University of Auckland Society, sub. 38, p. 21)

Similarly, trends in the demand for tertiary education are unlikely to be uniform across the country. Between 2013 and 2018, the number of young people aged 15 to 24 is forecast to grow by 5.8% and 4% in Auckland and Canterbury. In contrast, the number of young people in Marlborough and the West Coast is projected to decline by between 8.4% and 9% respectively (Statistics New Zealand, 2015b). BusinessNZ notes that the demographic trend of increasing urbanisation may affect the viability of tertiary providers in some regions and that new models of “tertiary education design and delivery have a role to play in geographical regions where there are too few tertiary organisations to provide genuine competition or too little demand for tertiary education to make tertiary organisations profitable” (sub. 77, p. 4).

Future trends in costs

Few inquiry participants offered suggestions about likely future trends in costs. UNZ (sub. 17) noted that “costs are likely to increase faster than funding from government and tuition fees” (p 82) and that

unless the current government funding environment changes radically, the already extreme tension between a need to cut costs while maintaining curriculum quality will hit a crisis point in at least a part of the sector. (p. 97)

Independent Tertiary Institutions (a peak body for part of the PTE subsector) noted that funding is tied to student numbers, and voiced concern about the potential for funding decisions to become unduly politicised:

The fundamental challenge is declining student numbers which means, on the current model, declining funding. On the predictions, PTEs hold up relatively well but the main challenge for us is probably going to be political. Public institutions and teacher unions, facing declining rolls, will pressure the Government of the Day to divert money from “for-profit private companies” to “struggling under-funded public providers.” (sub. 81, p. 14)

Future technological change

UNZ noted the importance of technology in all aspects of university operations, but did not see technology as a replacement for campus-based learning in the near future:

Technology will play an even greater part in every aspect of university activities and student life. Anything that helps maintain quality while reducing cost will be prioritised for adoption. Similarly, universities will continue adopting and extending technology where it enhances and enriches teaching

and research. Technology is likely to add new channels and options for teaching and research, but is unlikely to significantly supplant any existing ones in the coming decade. (UNZ, sub. 17, p. 83)

The University of Otago expressed similar sentiments regarding MOOCs noting that “although there may be a handful of opportunities in this space, the concept of the MOOC will not displace the traditional university experience” (sub. 37, p. 48).

The view that technology will complement more traditional forms of tertiary education is also found in international literature. A recent report to the European Commission about new models of learning and teaching in higher education projected a 15-fold increase in e-learning, but suggested that conventional aspects of tertiary education will remain.

We are witnessing changes in the way higher education is taught and in the way students learn. While the conventional setting of the lecture hall will continue to form the bedrock of higher education systems, it will be enhanced by the integration of new tools and pedagogies, and it will be complemented by many more online learning opportunities and a greater variety of providers in higher education. (European Commission, 2014, p. 10)

Writing about the Australian University sector, Ernst & Young (2012) suggest that technological advancements will play a more disruptive role, but not to the extent that campus-based universities disappear (Box 10.1).

Box 10.1 **Forecast technological disruption in Australian universities**

Digital technologies and innovation have disrupted all manner of established industries — media, retail, entertainment and many others. While online education has been around since the 1990s, it has been in the last 2–3 years where the pace and disruptiveness of change has really accelerated.

Digital technologies will not cause the disappearance of the campus-based university. Campuses will still exist as places of teaching and learning, research, community engagement, and varied forms of student experience — assuming universities can deliver a rich, on-campus experience. But digital technologies will transform the way education is delivered and supported, for example through applications that enable real-time student feedback, and the way education is accessed in remote and regional areas — both in the developed and developing world.

Digital technologies will also fundamentally transform the way value is created within higher education and related industries. For example, new technologies will enable public and private providers to specialise in parts of the value chain — content generation, content aggregation, mass distribution, certification, commercialisation and so on.

New technologies will enable media companies to enter the university sector, either in partnership with incumbents, or potentially in their own right. The so-called Massive Open Online Courses (MOOCs) are an early stage example of the search for new models. Some of these models will decline and fail, others will create very substantial economic value. Winners are likely to be a mix of new, pure play online businesses and traditional businesses with powerful online models and capability.

Source: Ernst & Young, 2012, p. 9.

The 2016 NMC Technology Outlook for Australian Tertiary Education identifies 12 developments in educational technology that they anticipate to be very important for Australian tertiary education over the next 1–5 years. These were generated by a large panel of New Zealand and Australian experts (Marshall, sub. 73). A selection of the findings from this report are set out in Table 10.5.

Table 10.5 Predicted developments in educational technology**Time to adoption: One year or less**

- Bring Your Own Device – the practice of people bringing their own laptops, tablets, smartphones, or other portable devices with them to the learning environment.
- Flipped Classroom – a learning model where class time is devoted to higher cognitive, more active, project-based learning. Other learning, such as readings and video lectures, is undertaken by students outside class time.
- Learning Analytics – a process of gathering and analysing data about individual student learning that aims to build better pedagogies, empower students to take an active part in their learning, target at-risk student populations, and assess factors affecting completion and student success.

Time to adoption: Two to three years

- Adaptive Learning Technologies – software and online platforms that adjust to an individual student's needs as they learn.
- Location Intelligence – resources such as GIS can be used to provide information about how people are interacting with various applications and services based on their location. This information can be used to provide location-based services that provide content that is dynamically customised according to the user's location.
- Makerspaces – Makerspaces refer to the physical learning environments that are equipped with the tools and resources needed to help people carry out their ideas. Proponents of makerspaces for education highlight the benefit of engaging learners in creative, higher-order problem solving through hands-on design, construction, and iteration.

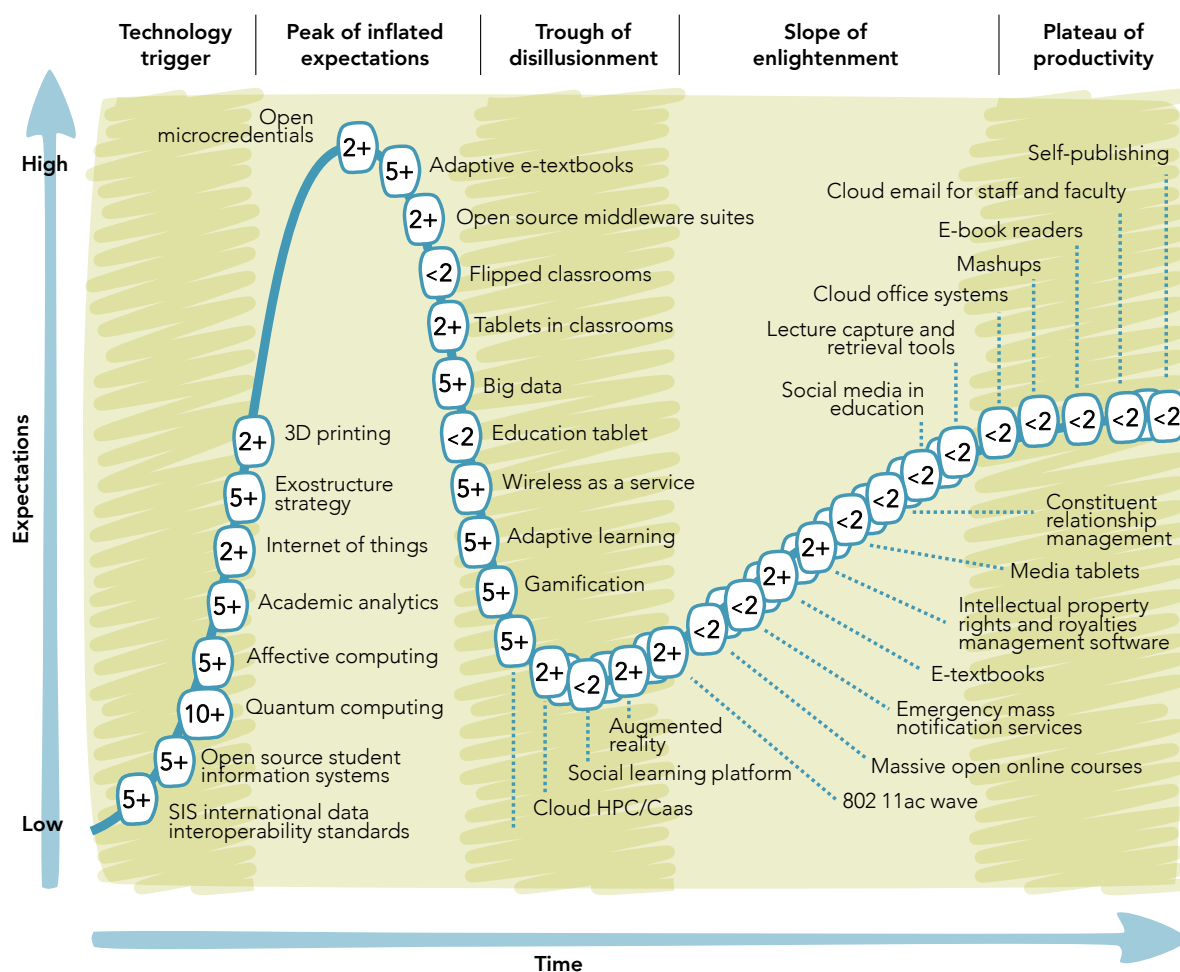
Time to adoption: Four to five years

- Affective Computing – the programming of machines to recognise, interpret, process and simulate the range of human emotions. A potential application of affective computing is in online learning situations where a computerised tutor reacts to students' facial cues.
- Augmented Reality – a view of a physical, real-world environment whose elements are augmented by computer-generated sensory input such as sound, video, graphics or GPS data. Augmented Reality provides for contextual, in situ learning experiences that foster exploration of real-world data in virtual surroundings and simulations.
- Machine Learning – computers that are able to act and react without being explicitly programmed to do so. Machine learning models can potentially sort through learner-contributed observations about the world around them and create visualisations that identify crucial patterns. Machine learning could detect patterns in written work, speech, and other actions could better adapt to students' learning styles and needs.

Source: Adams Becker et al., 2016.

The University of Minnesota's *Hype Cycle for Education* is another projection of the educational technologies that may become influential in the near-future (Figure 10.11). The projection is based on the Gartner Group's "hype cycle" that describes how new technologies move through five phases.

Figure 10.11 The hype cycle for educational technologies



Source: Adapted from University of Minnesota, 2016.

Notes:

1. The numbers (eg, "5+") are an estimate of the number of years before the technology is widely adopted.

Inquiry participants agreed with the hype cycle in that new technologies are often subject to considerable hype early in their development. Dodgson noted that not all technologies reach the plateau of productivity: "some things go into the 'trough of disillusionment' and do not come out of it" (sub. 28, p. 7). Several inquiry participants suggested that MOOCs were one example of an educational technology that would be unlikely to become productive and sustainable:

Attention-spans and completion rates are extremely low in this model, and so it has limited value for higher learning, which requires concentrated intellectual effort. (Duncan, sub. 18, p. 2)

MOOCs are a distraction – a *really annoying* distraction – from the true opportunities online education provides. (Nichols, sub. 6, pp. 10–11)

MOOCs are at best irrelevant, at worst they represent a substantial wastage of cost and loss of educational capital to international interests. (Marshall, sub. 73, p. 13)

MOOCs and other recent approaches to online learning are discussed in Chapter 11.

Future trends in internationalisation

Education New Zealand (ENZ) noted that the number of international students globally is forecast to grow rapidly:

ENZ is seeing an increased global mobility of students, with more (and younger) students studying offshore. The number of *mobile* tertiary students is forecast to grow from 5 million students now, to about 8 million by 2025. (sub. 52, p. 5)

The Government's 2011 *Leadership Statement for International Education* sets ambitious objectives for the international education sector including:

- doubling the annual economic value of international education services to \$5 billion over the next 15 years;
- increasing annual revenues from providing education services offshore to at least \$0.5 billion;
- increasing the number of international students enrolled in providers offshore, from 3 000 to 10 000; and
- doubling the number of international postgraduate students (particularly in programmes in addition to those at doctoral level), from 10 000 to 20 000 (New Zealand Government, 2011, p. 7).

However, commentators have identified a number of risks that New Zealand providers face in serving the international student market.

- The rapid rise in the availability and quality of education in the home countries of international students could make domestic study more attractive. Marginson (2011) argued that "[o]n present trends the level of education and research infrastructure across the whole of East Asia ... will reach that of Western Europe within a generation" (p. 609).
- The size of younger age cohorts across East Asia is declining. China's college-aged cohort will decline from 137 million in 2010 to 109 million in 2020. However, the size of this age cohort will continue to grow in South Asia (Sharma, 2012).
- There is a risk of decline in the international ranking of New Zealand universities. An MoE (2014c) report analysing trends in international university rankings found a mixed picture, concluding that "the rise in rankings of universities from Asia appears to be having a displacement effect on the Australasian universities" (p. 37).
- Successful online distance education models may reduce the desirability of travelling for education.
- Competition from providers in other countries could erode the market share of New Zealand providers. As discussed in Chapter 5, other English-speaking countries with developed international education systems (including Australia, Canada and the United Kingdom) also aspire to increase their numbers of incoming international students.

Several inquiry participants also noted that future revenue from the international student market is far from assured.

Clearly the New Zealand government sees international revenue as an important component in the funding of universities but there is no evidence they have considered how to respond to the risks that arise from using this revenue to sustain the system. There are several examples of this market declining rapidly in the face of unpredictable events such as the NZ experience with China and the Australian with Indian students. New Zealand universities losing 20% of their revenue from such events will struggle to cope with the budgetary consequences, potentially disrupting the education of domestic students. (Marshall, sub. 73, p. 9)

The international student market is mobile and quite volatile. New Zealand, with its high level of exposure to natural hazards, is particularly at risk of international student flight in case of an event (as evidenced after the Christchurch earthquake). Given that international student fees are now an integral and critical part of a university budget (rather than an extra) this is a substantial financial risk. (Higher Education Research and Development Society of Australasia (HERDSA), New Zealand branch, sub. 72, p. 5)

Others anticipated growing international competition for both academic staff and students.

We expect the leading New Zealand universities to continue to recruit staff internationally, as the top academics required in strong research-led universities are in demand on the world stage. If anything, staff recruitment will become more rather than less competitive internationally due to factors such as the

aging academic workforce in many established universities, and emerging Asian universities seeking to build their reputations through staff recruitment. (University of Otago, sub. 37, p. 35)

New Zealand's key international student markets are all moving from being exporters of students to being importers. They are increasingly looking for relationships built upon the principle of reciprocity. This means two way student-flows, research collaborations and matched-research funding, and institutional partnerships that help both countries play the international rankings game. New Zealand does not currently have a clear system-wide strategy around how to respond to this trend. (UNZ, sub. 17, p. 76)

Altbach, Reisberg and Rumbley (2009, p. 171) suggest that in response to ongoing globalisation, tertiary education providers will need to "prepare an increasingly diverse cohort of students with skills and knowledge that will support their insertion into an increasingly borderless economy". Several submissions from tertiary providers also identified this trend and noted that they are changing the content of their programmes in response to a growing demand for graduates with an understanding of other cultures and an awareness of international issues.

There is little doubt that over the coming decades, universities will continue to engage in fostering greater global awareness and internationalisation of the student community. UC [University of Canterbury] now makes the commitment that by 2018, our graduating students will leave university with a greater global awareness, as part of the suite of attributes that underpin the UC graduate profile. UC makes the commitment to graduates that they "will comprehend the influence of global conditions on their discipline and will be competent in engaging with global and multicultural contexts". Alongside this we have further committed to developing biculturally confident citizens that are able to function effectively in a multicultural world. (Sampson et al., sub. 14, p. 3)

The impacts of a global economy, coupled with exciting advances in technology, are leading to fundamental changes in the way many businesses and organisations are run, and the very nature and shape of businesses in the future. This has profound implications for the priorities in training and education, and ITPs are very well placed to respond to these drivers. (Waikato Institute of Technology, sub. 46, p. 2)

10.4 Prediction is very difficult, especially about the future

The previous two sections discussed some trends that were apparent over the past two decades, and set out the views of inquiry participants and other commentators as to what trends might emerge in the future. These can be summarised as follows:

- flat or declining demand in terms of student numbers;
- a more diverse student population;
- increasing demand for mid-career upskilling or re-training, and for qualifications that can be applied in a range of settings;
- increasing costs;
- increasing competition for international students and staff, and the growing importance of internationally relevant course content; and
- continuing advances in technology that will affect tertiary education, but views differ about whether the impact of technology will be incremental or disruptive.

However, as noted in several submissions, it is risky to make predictions based on trends. Victoria University of Wellington notes that "while the disruptive aspects of the current period are now clear, the new modes of organisation, infrastructure and delivery that will become dominant in universities are not" (sub. 71, p. 1).

Predictions about the future are often wrong

The TEU suggested that predictions are difficult and have frequently proven incorrect:

The difficulty for any government and the public is predicting the future direction needed in a policy realm. It is worth noting that future trends (other than perhaps demographic change), whether these pertain to tertiary education, the labour market or other sectors are notoriously difficult to predict. Coats

(n.d:2) notes, “A healthy degree of scepticism is needed when considering the future of work. Many predictions in the past have proven to be wrong.” In New Zealand there are countless examples of the failure of such attempts in the tertiary education sector. (sub. 83, p. 33)

Even making predictions in the short term can be difficult. Table 10.6 shows the MoE’s forecast EFTS demand for 2014 and 2015, alongside actual delivery. At the aggregate level, the projections are reasonably accurate, but in the ITP and PTE subsectors the actual EFTS delivery exceeded projections by at least 6.4% in both years.

Table 10.6 Predicted and actual EFTS delivery, 2014 and 2015

Provider type	2014	2015	2014	2015	2014	2015
	Projected delivery		Actual delivery		% difference	
Universities	115 587	116 230	112 790	111 985	-2.4%	-3.7%
ITPs	54 749	54 610	58 705	58 105	7.2%	6.4%
Wānanga	18 280	18 370	18 335	17 315	0.3%	-5.7%
PTEs	24 993	23 380	27 330	25 300	9.4%	8.2%
Total	213 609	212 590	217 170	212 700	1.7%	0.1%

Source: MoE, 2015e; 2016a.

Predictions about future enrolment trends in tertiary education in other jurisdictions have also proven inaccurate (Box 10.2).

Box 10.2 Predictions about the higher education sector in the United States and Australia

In the United States in the 1970s and early 1980s “the standard prediction was an enrolment decline of 20–25% paralleling the decline in the number of young people of college-going age. Some estimates went as high as 40%” (Kerr, 1997, p. 346). In reality, enrolments in degree-granting post-secondary institutions increased steadily from around 9 million in the early 1970s to around 14 million in the early 1990s (National Center for Education Statistics, 2016).

Howard Bowen (1974) was one of a few scholars who went against the popular opinion that enrolments would decline, instead suggesting that higher education was a growth industry. His ability to accurately predict the continued growth of higher education led Kerr (1997) to suggest that Bowen had the best record when it came to thinking about the future of higher education. However, in his book *American Professors: A National Resource Imperiled* (Bowen & Schuster, 1986) Bowen anticipated a major exodus of academics from the profession – which Kerr noted in 1997 had not yet materialised.

Predictions about student demand in Australia also have a mixed history. In the late 1980s it was suggested that the annual output of graduates might increase from around 88 000 at that time to about 125 000 by the end of the century. As it turned out, that figure was attained by 1994 and the actual number of domestic students completing in 2000 was more than 10% higher, rising to over 150 000 by 2002. Much of this growth was driven by more students staying on until the end of secondary schooling, which added to a demographic spike in school leavers. It was also contributed to by strong demand fuelled by continuing economic problems and the evident financial returns achieved by university graduates compared to those with lower-level qualifications (Coaldrake & Stedman, 2013).

Predicting labour force needs

Accurately predicting the types of skills needed in the workforce is also very difficult.

It is extremely difficult, in both theory and practice, to forecast how the demand for labour is going to evolve—beyond a few years into the future. Economies are complex and dynamic and are affected by many forces that cannot be predicted with any confidence. (Richardson & Tan, 2007, p. 9)

For example, Richardson and Tan (2007) found that the projections of the most widely used model for skills forecasting in Australia diverged substantially from the actual outcomes for a number of occupations over a nine-year period.

Norton (2009) provides an example of the risks associated with allocating student places on the basis of labour-force forecasts (Box 10.3).

Box 10.3 Predicting the needs of the medical workforce in Australia

In the 1990s, the number of Commonwealth-funded places for medical students in Australia was decreased on the assumption that doctors were generating their own demand for government-funded medical services.

As full-fee places for Australian students were not available in any of the institutions offering medical courses, this meant a decline in the number of places for medical students. Australian graduations from medical schools went into a slump from which they only recovered in the mid-2000s, after government officials realised around the turn of the century that a major error had been made. If it had not been for significant migration of doctors to Australia, the decision to reduce medical student numbers could have had catastrophic consequences for the health of many Australians.

This situation emerged despite the fact that drivers of demand for medical skills are relatively well understood.

It is worth noting too that predicting the medical workforce needs is relatively—and that ‘relatively’ should be stressed—easy. Demand for medical services is not highly sensitive to fluctuating local business conditions. Demographic factors known to affect demand for medical services, such as population ageing, are known well in advance. Most people with medical qualifications work as medical practitioners. Yet the Commonwealth’s attempt to manage this workforce went spectacularly wrong.

Source: Norton, 2009, p. 23.

The pace of technological change makes predictions particularly difficult

Changes in technology are also difficult to accurately predict. Brynjolfsson and McAfee (2014) note that the work of respected researchers in 2004 had concluded that driving in traffic would remain a human task for the foreseeable future. However

[s]elf-driving cars went from being the stuff of science fiction to on-the-road reality in a few short years. Cutting-edge research explaining why they were not coming anytime soon was outpaced by cutting-edge science and engineering that brought them into existence, again in the space of a few short years. (Brynjolfsson & McAfee, 2014, p. 14)

Independent Tertiary Institutions (sub. 81, p. 16) note that the pace of change in educational technology is also rapid and that specific technologies

will probably be getting out of date by the time the final report is released... For example, in the year it will take this inquiry we may see the continued drop of Facebook, the near death of Twitter, the continued rise of Instagram and the explosion of something that has not even been thought of yet. MOOCs are currently sexy but they could well be the next MySpace (remember that?)

Indeed, past attempts to predict how technology will impact on tertiary education have mixed results. Each year the New Media Corporation and the EDUCAUSE Learning Initiative produce a *Horizon Report* that identifies six emerging technologies that are likely to have a large impact on teaching, learning, or creative expression within higher education over the next 1–5 years. Table 10.7 shows the emerging technologies in the past ten editions of the *Horizon Report*.

Table 10.7 Past predictions of emerging educational technology

	One year or less		Two to three years		Four to five years	
2007	User-created content	Social networking	Mobile phones	Virtual worlds	New scholarship & emerging forms of publication	Massively multiplayer educational gaming
2008	Grassroots video	Collaboration webs	Mobile broadband	Data mashups	Collective intelligence	Social operating systems
2009	Mobiles	Cloud computing	Geo-everything	The personal web	Semantic-aware applications	Smart objects
2010	Mobile computing	Open content	Electronic books	Simple augmented reality	Gesture-based computing	Visual data analysis
2011	Electronic books	Mobiles	Augmented reality	Game-based learning	Gesture-based computing	Learning analytics
2012	Mobile apps	Tablet computing	Game-based learning	Learning analytics	Gesture-based computing	Internet of things
2013	MOOCs	Tablet computing	Games and gamification	Learning analytics	3D printing	Wearable technology
2014	Flipped classroom	Learning analytics	3D printing	Games and gamification	Quantified self	Virtual assistants
2015	Bring your own device	Flipped classroom	Makerspaces	Wearable technology	Adaptive learning technologies	Internet of things
2016	Bring your own device	Learning analytics & adaptive learning	Augmented virtual reality	Makerspaces	Affective computing	Robotics

Source: New Media Consortium & EDUCAUSE Learning Initiative, 2007; 2008; 2009; 2010; 2011; 2012; 2013; 2014; 2015; 2016.

The patterns visible in Table 10.7 suggest that it is difficult to anticipate how technology will affect education. For example, of the six technologies in the one year or less category between 2012 and 2016, only “learning analytics” was predicted in earlier years. This suggests that the development of influential educational technologies is often not well signposted in advance.

Similarly, many of the technologies shown in the four to five years category between 2007 and 2011 do not progress into the shorter timeframes in later years. For example, “gesture-based computing” appears in the four to five years category in 2010, 2011 and 2012, and is not seen in any category in later years. This indicates that some technologies do not develop in the way that observers anticipate – or that educators were unable to find a meaningful application for the technologies. Another explanation for this pattern is that some technologies may have an impact much more rapidly than expected – jumping from the 4–5 year horizon to widespread adoption within a single year.

Trends and their impacts are affected by government policy settings

A further complication in seeking to anticipate trends about the future of New Zealand’s tertiary system is the pervasive role that government funding and policy settings play in shaping the system. For example, the cost of tertiary education faced by students (ie, tuition fees) is regulated by the Minister for Tertiary Education Skills and Employment (this process is described in Chapter 5).

The importance of government settings in shaping the future direction of tertiary education is noted by UNZ. Its submission sets out likely future trends, but notes that three of these trends are dependent on government funding rates and regulatory settings.

The following trends are likely in future:

- further creation of new courses and qualifications where there is an opportunity to attract students and *where courses and qualifications can be offered on a sustainable basis given government tuition subsidies and permitted domestic student tuition fee limits*
- further growth of pathway and bridging programmes at sub-degree levels to assist people into university who would otherwise lack the necessary academic skills
- innovation in qualification design and programme delivery around adult education as more people seek re-skilling or up-skilling mid-career. *The degree of innovation and the extent to which new delivery channels are developed to support this will be subject to funding settings*
- more pressure to offer smaller programmes targeted and customised to particular segments of the student population (e.g., Agri-business for Iwi) but *the degree of customisation and ability to serve more specialist market segments will also be constrained by government funding settings and the ability to at least cover costs*
- further collaboration with overseas jurisdictions and qualification frameworks on recognition of New Zealand qualifications, increasing student mobility and the international standing of New Zealand university qualifications. (UNZ, sub. 17, p. 92, emphasis added)

10.5 Conclusion

Past trends (section 10.2) and predicted future trends (section 10.3) provide at best a rough guide as to the likely future of New Zealand's tertiary education system.

The implication of this uncertainty is that the tertiary system should be responsive and flexible:

The effectiveness of a tertiary education system may be measured by its ability to meet and resolve rapidly, and constantly changing, economic and demographic drivers. This requires a system that is agile and responsive, and high professional standards and ethical dispositions from those operating within it. (WelTec & Whitireia, sub. 59, p. 2)

But at the moment the system is tightly constrained by government policy and funding settings. As such, under current settings it falls to the government to accurately predict these trends so that it can adjust its purchasing correctly and ensure its rigid regulatory controls are appropriate for changing times. It is unlikely to be able to do so effectively.

An alternative approach would be to free up the system and to allow providers to pursue a more diverse range of models. In addition to improving the diversity of offerings available to students, this approach would make the system more flexible, responsive, and resilient in the face of exogenous change.

11 Innovative activity

Key points

- Much of the innovation in New Zealand tertiary education providers is “sustaining innovation” – innovation to improve the existing approaches to delivering teaching and learning.
- People in established, successful organisations tend to internalise their established ways of doing things as defining quality in their field. The regulation and funding of tertiary education in New Zealand reinforces these biases towards existing ways of doing things.
- Technology, including online learning, offers a significant potential to improve the personalisation of learning and assessment, and to reduce barriers to access. Better use of data offers great potential to improve the way learning and pastoral support is targeted to students.
- Disruptive innovations that combine technology with new ways of delivering value are more likely to come from new entrants than established organisations. These organisations often begin by radically expanding the market for a product or service; however, they are often subject to criticism as offering an inferior product.
- There is some evidence of a greater appetite for innovation below the top tier of New Zealand universities, and from providers in other subsectors. The wānanga model itself was an important innovation in the tertiary education system, which radically expanded access to education for groups who were not previously participating in it.
- Regulatory settings do not easily allow innovative new models of delivering tertiary education to emerge from existing government-funded providers. There are also few rewards in terms of ability to grow market share. New models either arise outside of the government-funded system (for example, the Dev Academy) or are only enabled to operate or scale through government support (for example wānanga or secondary-tertiary partnerships).
- There are many individual educators adopting technology to aid their teaching in New Zealand providers. However, providers generally lack the institutional capability to systematically trial and evaluate new approaches, and cultural resistance to doing things differently is a significant barrier to innovation.

11.1 What does the Commission mean by innovation?

This chapter canvasses some innovations in tertiary education in New Zealand and elsewhere, and discusses different types of innovation and their application to the delivery of tertiary education.

In its Issues Paper, the Commission defined innovation as “the process of translating an idea or invention into a good or service that has value” (2016, p. xi). Some submitters chose to interpret “value” narrowly as meaning economic or financial value; one research note produced by the Tertiary Education Union (TEU) as an input to the inquiry inaccurately added the word “commercial” to the quoted definition (McGovern, 2016). The Commission has a broad conception of value. In its Issues Paper, the Commission quoted Christensen et al. who stated “the goal of policy should be to unleash innovation by setting the conditions for good actors that improve access, quality, and value – be they for-profit, non-profit, or public – to succeed” (2011, p. 50). For example, innovations that improve access to education; lift the quality of teaching and learning; improve research; better meet the needs of students, society or the economy; reduce costs to students or government; or improve the satisfaction and engagement of students and staff are all valuable. Value is an improvement in wellbeing above and beyond the costs of that improvement.

11.2 Innovation in tertiary education in New Zealand

Chapter 8 found, in line with the inquiry's terms of reference, there is "considerable inertia" in tertiary education, and specifically that this was an emergent property of the tertiary education system as a whole. There are also barriers within tertiary providers, including issues of culture and capability.

Some submitters considered providers or staff were very innovative:

The level of adaption and change [at universities] over the past 10 years and currently underway is extraordinary. ... The New Zealand university system has innovated and adapted extensively over the past decade in response to opportunities, signals and challenges. (UNZ, sub. 17, p. 12, p. 16)

TEU members provided countless examples of the innovative and creative ways in which they adapted their teaching practices daily. ... Staff in the sector continually innovate in order to meet the ever-changing demands of industry, government, students, funding and resource constraints, and much more. (TEU, sub. 83, p. 14, p. 22)

However, other submitters considered there was a lack of innovation in the sector:

The current system has taught [providers] to be risk averse and relatively conservative. (Independent Tertiary Institutions, sub. 81, p. 21)

The Tertiary system has not changed for centuries and has only made continuous improvements to an outdated education model in order to keep pace with technology and student needs. It is slow and unresponsive. (Creative HQ, sub. 75, p. 1)

One of the barriers to innovation [in tertiary education] lies in the tremendous pressure to avoid public failure – whether real or perceived. ... This creates an environment that is extremely risk-averse and really only supports incremental change. (Ed.Collective, sub. 89, p. 52)

Overall the auditing culture leads institutions to avoid risk. This means staff are reluctant to try new teaching ideas as these may receive poor student evaluations, instead favouring approaches to research and teaching which are safe. (TEU, sub. 83, p. 25)

Senior staff and divisional heads actively clamp down on staff initiative, and do not let us lower creatures do anything without checking with them a million times. (Bentley, McLeod and Teo 2014:14; quoted in TEU, sub. 83, p. 26).

Over the course of the inquiry, the Commission saw numerous innovations and new models of delivery in the tertiary education sector. Many are impressive. This section of the report describes a small number of the innovations the Commission has been made aware of. It cannot be comprehensive, and so the following are presented as some noteworthy examples.

MIT Tertiary High School and Secondary Tertiary Partnerships

Tertiary High School (or the School of Secondary Tertiary Studies) at the Manukau Institute of Technology (MIT) was established in 2010 to provide a vocationally-focused pathway for students who struggle in mainstream secondary school environments. At the Tertiary High School, students study towards NCEA while collecting tertiary credits that provide a pathway to further education, as an alternative to their likely disengagement from the education system altogether.

Students are enrolled from Year 11 in Tertiary High School. In the first year, there is an emphasis on delivering essential skills for tertiary learning, and providing taster courses in a variety of vocational fields. The aim is at the end of four years for students to have NCEA level 2 and a diploma level vocational qualification. There is a strong emphasis on pastoral care and supporting students' individual learning needs. A critical success factor is good relationships with participating schools.

Tertiary High School was driven by Dr Stuart Middleton of MIT, and required legislative changes to overcome a range of legal impediments such as allowing for dual enrolments and clarifying pastoral care responsibilities. The Education (Polytechnics) Amendment Act 2009 had a section headed "Enabling school students to attend tertiary high school at Manukau Institute of Technology".

Early results are promising; one evaluation found the students outperformed their counterparts in a control group during the first two years (Young, 2013).

Since the establishment of Tertiary High School, a range of similar programmes have been established around New Zealand as Secondary Tertiary Partnerships (STPs) or Trades Academies. An Education Review Office (ERO) review of STPs found that:

...the curriculum of the STPs was relevant to most students and its delivery engaged and motivated them. This was instrumental in changing their attitudes to learning and enabled them to see themselves as capable learners. Students developed key skills and competencies in the programmes offered by the STPs and gained an appreciation of the expectations relating to tertiary study and the requirements of a workplace. They understood the value of the theory behind their practical work and that qualifications provided them with opportunities for the future. Students were well supported by teachers at school and the tutors at the tertiary organisations. ...

ERO is confident that STPs will continue to meet the educational needs of a significant number of young people who are at risk of disengaging from education or not achieving NCEA Level 2. (ERO, 2015b, pp. 2-3)

Wānanga

The establishment, recognition and growth of wānanga as a subsector represents an indigenous innovation in tertiary education. Chapter 3 describes the characteristics of students at wānanga, which vary markedly for the average student in other subsectors. Chapter 6 elaborates on the mission of wānanga in more detail.

Te Wānanga o Raukawa was established in Ōtaki in 1981 by Te Āti Awa, Ngāti Raukawa and Ngāti Toarangatira. The Waipā Kōkiri Arts Centre (later Te Wānanga o Aotearoa) was established in Te Awamutu in 1984 by Rongo Wetere and Iwi Kohuru (Boy) Mangu. Lastly, Te Whare Wānanga o Awanuiārangi was established in Whakatane in 1992 by Ngāti Awa. Spurred by Dr Buck Nin and Rongo Wetere, statutory recognition of wānanga as a class came in 1990, and in turn each of the wānanga was statutorily “established” in 1993 or 1997.

Wānanga are the result of Māori initiative and, in different ways, use Kaupapa Māori to maintain and advance Mātauranga Māori and help learners to, in the words of Sir Mason Durie (2001), “live as Māori; actively participate as citizens of the world; and enjoy a high standard of living and good health”.

...the task of a wānanga is to teach by Māori methods and in a Māori way all those who wish to learn by those methods and in that way. Rather than defining a closed – or any – set of subjects, or a closed – or any – set of targeted learners, āhuetanga Māori describes a Māori method of teaching that facilitates a community to give expression to its values and principles. (Waitangi Tribunal, 2005, p. 18)

As such, the delivery of tertiary education by Māori methods was a “new model”, at least within the formal education system. The explosive growth of wānanga enrolments, particularly in the early 2000s, shows there was a significant under-served market for this model of tertiary education. Some wānanga used technologies like CD-ROMs to deliver education to a wide group of learners in novel ways. By 2003, there were almost 50 students per academic staff member at wānanga, more than double the ratio of universities or Institutes of Technology and Polytechnic (ITPs). In the mid-2000s, problems with governance, management and processes surrounding the expenditure of public money were revealed at Te Wānanga o Aotearoa, which resulted in the imposition of Crown managers for a period.

Wānanga continue to innovate. Examples of innovation include offering considerable flexibility around the time and location of study including during evenings and weekends to better meet the needs of learners; blended models of online, Marae-based and campus-based delivery; and the centralised curriculum arrangements discussed in Chapter 6.

University of Otago’s Māori Health Workforce Development Unit

The University of Otago’s Māori Health Workforce Development Unit (the Unit) aims to increase Māori recruitment, retention and achievement in Health Sciences study, and thereby increase the number of Māori in the health workforce. It coordinates a number of programmes:

- Te Ara Hauora is an outreach programme to increase the engagement of Māori secondary school students in science study, and encourage recruitment into Health Science study. This programme involves residential visits by Māori students in Years 10-13 to the University’s Marine Studies Centre, its

research vessel *RV Polaris II*, or the Dunedin campus including attending lectures and meeting students. Of the 105 Year 13 students who visited the University through Te Ara Hauora between 2012 and 2015, 72% enrolled at the University of Otago. Of those students, 85% enrolled in health sciences. Te Ara Hauora costs about \$70 000 annually.

- Tū Kahika Scholarships provide Māori students access to a foundation programme that prepares them for their first year of tertiary study and a future career in health. It is a two-semester programme. Students receive guaranteed accommodation at a residential college, and financial assistance towards tuition fees and accommodation costs. Approximately 18 Māori students participate each year, with 97% completing the foundation programme and 81% progressing into tertiary education in the following year. Of those who progress, 95% enrol in Health Sciences. The programme costs around \$280 000 annually, and attracts Student Achievement Component funding from the Tertiary Education Commission.
- Te Whakapuāwai is a programme to provide academic and peer support for Māori students enrolled in the HSFY programmes (Health Sciences First Year – a foundation programme providing access to dentistry, medical lab science, medicine, pharmacy and physiotherapy degrees). The University reports significant increases in the number of Māori students progressing from HSFY to professional programmes. However, outcomes vary markedly depending on the school decile of the Māori student in HSFY, with fewer than half of students from decile 1 – 5 schools passing four HSFY courses in the first semester.

Since the establishment of the Unit in 2010, the number of Māori in health professional programmes at the University of Otago has more than doubled to 310, with increased passing rates and average grades for Māori students, and increased number of Māori graduates in Health Sciences.

The Unit is funded \$450 000 per year by the Ministry of Health to run these programmes. The University of Otago pays for accommodation overheads for the Unit, as well as between \$50 000 and \$75 000 of additional funding each year (University of Otago, pers. comms., 13 & 15 June 2016).

Other universities run similar programmes, such as Te Rau Puawai at Massey University for health studies.

Engineering E2E

In 2010, a group representing tertiary providers offering engineering qualifications, industry training organisations (ITOs), the Institute of Professional Engineers, and employers developed a National Engineering Education Plan. The goal of the plan was to increase the number of engineering graduates at all levels of the profession. In response, the government provided additional funding to engineering education, and in 2014 launched the Engineering Education-to-Employment (E2E) programme.

E2E is a collection of initiatives about the engineering education pipeline, overseen by a steering group made up of tertiary education organisations (TEOs), the engineering profession, employers, and government. E2E has undertaken research on pathways to engineering study, with a particular focus on study at levels 6 and 7. Research undertaken by E2E indicates that a shortage of engineering graduates extends back to low numbers of school students studying maths and physics in secondary school and, in turn, to poor quality of science and maths teaching in primary schools.

Other E2E initiatives underway include:

- a secondary-tertiary pathways project where schools and TEOs deliver programmes to prepare students – particularly women, Māori and Pasifika – for tertiary engineering study;
- work to improve graduate profiles for engineering programmes;
- a public relations campaign to promote engineering study; and
- funding research about, and getting government to fund a pilot of, an engineering degree apprenticeship (also known as a Sponsored Degree) (E2E, 2016).

E2E commissioned a report on degree apprenticeships in engineering, which recommended the Bachelor of Engineering Technology be delivered exclusively via an apprenticeship model, and recommended that government fund these apprenticeships by giving money directly to employers (Goodyer & Frater, 2015). Degree apprenticeships are further discussed below.

The E2E steering group told the Commission there are still barriers to overcome, including changing public perceptions about engineering, developing clearer pathways from diploma to degree study, and better operation of credit transfer by tertiary providers. The E2E steering group receives \$400 000 in funding annually to operate, in addition to money made available by government to fund additional engineering places.

The Dev Academy

BusinessNZ submitted that:

The Dev Academy is a New Zealand example of disruptive innovation in education (app development) and financing student learning (via micro financing). Learning is project-based and hands on under the guidance of a mentor and expert teacher, coaches, and experts from industry. By the time students graduate they have a body of work (or portfolio of evidence) to show to potential employers, together with the skills and experience to do the job. Dev Academy graduates can demonstrate that they have acquired a custom-focused set of competencies and capabilities as an alternative to a traditional credential. (sub. 77, p. 12)

The Dev Academy is not registered with the New Zealand Qualifications Authority (NZQA), and so students are not eligible for student loans. It is highly focused on providing technical and employability skills that can lead students into a career in coding. It offers an 18-week intensive “immersive boot camp” programme. Students enter in cohorts every three to six weeks. The Dev Academy reviews the curriculum after each cohort, and can rapidly adjust it in response to employer demand for particular technical skills.

Ed.Collective spoke to a number of employees in preparing their submission to the inquiry, and said

a number of technology companies have remarked that university computer science graduates are not really employable as computer programmers because they have been taught using obsolete technology. One put it bluntly, “we would hire someone out of Enspiral’s Dev Academy before we took a uni grad”. Enspiral’s Dev Academy is a course that runs for 18 weeks and costs the learner around \$10,000. Internationally, companies have also been able to take people from ‘zero’ to employable computer programmers in 6 months. Why, then, do we send the message that aspirant computer programmers need to spend a full 3 years getting a computer science degree? Worse still, we are now encouraging them to spend even longer and take on even more debt studying in graduate ICT schools. One reason is that the system is set up in such a way that institutions are incentivised to make the learning last as long as possible. The justification is that the longer they study, the more prepared they are for work. Is that really true? (sub. 89, pp. 25-26)

Unitec

Unitec is New Zealand’s largest institute of technology, with more than 20 000 students. It has two Auckland campuses at Mt Albert and Henderson, having recently closed a third campus at Albany. Unitec is currently undergoing a strategic transformation.

The rationale for Unitec’s transformation is its recognition that the tertiary education sector is ripe for disruption. Unitec is expecting the appearance of “new players”, many of whom will fail or morph rapidly, and the shrinkage of established players. It recognises that incumbent providers are privileged but only if they possess real competitive advantages. An important step in Unitec’s transformation is recognising that its current model is no longer fit for purpose (Box 11.1).

Box 11.1 A model more suited to the past than to the future

Unitec today has a business model, learning model, property, technology and staffing structure designed to be successful in an environment that existed in the past and is challenged to afford the investments that the looming future requires.

- Education models and practices are outdated, reducing programme and qualification relevance;
- Staff capability and organisation culture relevant to past needs and expectations prevents Unitec from responding effectively to the changing environment;
- Technology, systems, and processes do not meet future business needs, reducing the ability to drive performance improvement;
- The physical asset-base is inefficient and poorly aligned with future requirements, compromising financial viability and the ability to meet learning needs.

Source: Unitec Investment Plan 2015-2016

Unitec believes a whole-of-organisation shift is necessary to be “a leader in the new reality” (Unitec Investment Plan 2015-2016, p. 5). Its programme includes reviewing learner pathways, delivery structures and curriculum design, progressing e-learning and work-integrated pedagogies, and developing new teaching capability integrated with industry and outsourcing its student services.

Unitec is fortunate in that its Mt Albert campus is one of the most significant brownfields sites in Auckland and can financially support Unitec’s transformation. Nevertheless, change is challenging. Unitec’s Investment Plan (2015-2016) notes that:

External analysis has identified the need to reduce the fixed costs of staff and is now working to ascertain staff costs and revenue. Capability modelling has been conducted to assess what staff require in the future state. Considerable gaps have been identified, such as up-skilling staff in digital literacy, work-based learning, research and enterprise, and cultural responsiveness. Work is underway to establish contact and non-contact hours attributable to courses and programmes (p. 6).

Job loss and job respecification is extremely difficult for organisations and staff. A report on staff morale at Unitec has found that only 10% of staff would recommend working there, and many employees were worn out by change they say feels constant, chaotic and stressful. The report found a lack of trust between regular staff and managers, and some staff said the reputation of New Zealand’s biggest polytechnic had suffered (Radio New Zealand, 30 August 2016).

The Mind Lab by Unitec

The Mind Lab by Unitec is a joint venture between the Mind Lab, a “specialist education lab” business founded by Frances Valentine, and Unitec. From six locations around New Zealand, it provides professional development for teachers in digital capability and collaborative teaching methods. Mind Labs are built to allow students and teachers to explore and learn about a range of technologies, including robotics, coding and animation in open learning environments.

The Postgraduate Certificate in Applied Practice (Digital & Collaborative Learning) is delivered through a blended programme in the Mind Labs and via online study, over 32 weeks. By September 2016, 40 000 students had experienced the Mind Lab, and 2 000 teachers had studied through the Mind Lab (Spark, 2016).

Otago Polytechnic’s Capable NZ

Capable NZ is an Otago Polytechnic subsidiary that concentrates on assessment of prior learning (APL) and work-based learning (WBL). APL and WBL can suit people who might have years of skill, knowledge and experience but not always the qualification, or their learning needs are quite specific or focused on their own practice. Both APL and WBL are assessed orally in front of a panel, and the candidate is required to produce a portfolio of evidence to demonstrate they have the skills and knowledge that meet the requirements of the qualification.

Otago Polytechnic through Capable NZ offers a Master of Professional Practice and a Graduate Diploma of Professional Practice. Degrees in professional practice are becoming common overseas. They offer the opportunity to attain academic recognition for skills, knowledge and experience developed in the workplace. These degrees typically focus on a specific area of practice relevant to the student's work, build on their work experience and offer a qualification to enhance their career progression. Students are mentored to explore their profession further, and consider the professional challenges associated within their specific area of practice. A student's reflection on their expertise and experience with a mentor or learning facilitator is an act of learning itself. Some programmes are designed to help the student critically analyse current debates relevant to the professional context in which they are working.

The Master and Diploma of Professional Practice at Otago Polytechnic are based on the Middlesex University model in London. Capable NZ screens applicants, identifies those whose experience represents at least two years' worth of a degree, assists them to consciously recognise their existing knowledge, and then delivers additional learning as required to complete the degree.

Open Polytechnic's iQualify platform

iQualify is a proprietary learning management system developed in-house by the Open Polytechnic, launched in 2015. The Open Polytechnic had been the first tertiary provider to use Moodle (an open source learning management system) in 2004. But, a decade later, the Polytechnic could not find a product that met its needs. So its Chief Technology Officer began coding iQualify "after hours as a skunkworks project" (Muskovitz, 2015).

iQualify was intended to allow "courseware designers to author compelling online interactive content with author-centric tools designed with usability in mind, and deliver personalised learning experiences that are tailored to specific user needs" (Muskovitz, 2015). It was designed to be accessible on phone, tablet and computers, to integrate multimedia content, and have inbuilt interactive quizzes and assessment tools. Instructors have a Facilitator Dashboard that can track the activity and progress of students.

iQualify has the potential to change the Open Polytechnic to a more student-centred experience, allowing students to enrol and be assessed at a time of their choosing, rather than enrolling in cohorts of students. The Open Polytechnic is also selling iQualify as a Software as a Service⁶⁵ platform for other businesses or education providers to deliver their own branded content.

Extracurricular and co-curricular activities

Many providers offer extracurricular and co-curricular programmes as part of their tertiary experience. These activities are valued by students both as recreation, and as ways to develop and, to an extent, certify "transferable" or "soft" skills. Two examples are presented from Victoria University of Wellington (Box 11.2) and the University of Auckland (Box 11.3).

Box 11.2 The Victoria International Leadership programme (VILP)

VILP is a free, self-paced extracurricular programme aimed at making participants more globally aware. It is designed to develop the leadership potential of students, and encourage them to think critically about the leadership challenges in world affairs. It also creates opportunities for international experiences and global connections. Upon completion of VILP, the student's participation is noted on their academic transcript alongside their formal qualifications, and a final certificate is awarded.

To complete a VILP, students are required to attend 12 seminars and five speaker events, submit reflective feedback for each, and undertake a range of "experiential activities" that are international in nature.

Source: Victoria University of Wellington, n.d.

⁶⁵ Software as a Service is a model of distributing software where the product is centrally hosted. Users generally subscribe to access the software.

Box 11.3 Make a Difference with Economics (MADE)

MADE is a club at the University of Auckland, enabling students to gain experience in taking theoretical economics knowledge learned in the classroom, and apply it to practical real world situations. MADE offers competitions and events designed to interest and engage students and develop their skills. The “Real World Economics” competition has students working in teams to solve a problem or issue in New Zealand using their economics training.

The Commission was asked to provide a topic for one event. It asked the competing teams to provide advice about the bundling of research and teaching at universities in New Zealand, looking at the advantages and disadvantages. The Commission judged the four entries based on whether the teams could provide a good explanation of the economics of the issue.

Source: NZPC, 2016.

The University of Auckland’s Business School (the Business School) places a large emphasis on co-curricular activities. Students undertake these non-compulsory, non-assessed activities via a well-established and well-maintained network of Business School-endorsed student clubs. The co-curricular activities were described to the Commission as “professional development for students” and included business case assessment competitions, industry problem-solving activities, and “*Dragon’s Den*”-style investment opportunities. These activities reinforce the core curriculum, as well as providing socially and professionally rewarding experiences. Some clubs are very influential in the Business School student body and have great reach. For example, 1 400 out of a total of 1 700 students participated in some way in the Management Consulting Club’s business case competition.

The Business School supports the clubs by investing in high-quality student leadership and governance training, to ensure the clubs’ continuity and sustainability. The Business School also has protocols for clubs’ direct engagement with industry, and standards that clubs must meet regarding their management and governance practices in order to maintain “registration” as formal Business School clubs. Clubs still seem to have a lot of autonomy in how they run themselves and what they do.

This co-curricular programme is funded almost wholly via industry sponsorship and philanthropy. These external sources also fund some staff at the school. External sources of revenue provide the Business School with a relative degree of independence from the university, such as allowing it to maintain its own careers centre.

11.3 Innovation in tertiary education around the world

This section discusses some noteworthy innovations in tertiary education in other countries.

Georgia State University

Georgia State University (GSU) in Atlanta, Georgia, is a public research university with 40 000 students, including 32 000 undergraduates. Anderson (2015) described it as “a perpetual laboratory for new ideas on using ‘big data’ to improve public education”. GSU serves a high proportion of ethnic minorities who are underrepresented in higher education, and a majority of its students receive Pell Grants (that is, receive federal assistance to pay for education because of their socioeconomic situation).

GSU has a database of 2.5 million student grades that it uses to provide individualised advice about which course or major a student is most likely to succeed in, given their past academic performance. It also suggests majors in which a student is most likely to succeed. It also tracks 800 different risk factors for each student on a daily basis:

When a problem is detected, the university deploys proactive advising and timely interventions to provide the support that students need. At times the interventions are as simple—and essential—as ensuring the student has registered for the right courses; at other times, the system uses predictive analytics to make sure that the student’s performance in a prerequisite course makes success likely at

the next level. Since the GPS Advising initiative began in 2013, there have been nearly 100,000 proactive interventions with Georgia State students based on the analytics-based alerts coming from the system. (Executive Office of the President, 2016)

For example, the data revealed the stark difference between completing a course, and being on track to succeed. For example, 12.5% of students who received a C grade in their introductory music class ended up graduating compared to 55.5% percent of students who received a B. For political science, 25% of students who received a C grade and 73.9% of students who received a B grade ended up graduating. Students who receive a C now are contacted by a student advisor (Tim Renick, pers. comm., 11 December 2015).

GSU has a commitment to experimenting with initiatives to improve retention and graduation rates, measuring results, and scaling up those that succeed. For example, analysis of the university's data revealed that students who lost a state scholarship because of academic underperformance graduated at half the rate of students who never received the scholarship at all. In response, GSU trialled offering a \$500 grant to students who lost the scholarship, providing they attend academic skills workshops and individual advising sessions. These students now graduate at twice the rates of other students (Bill and Melinda Gates Foundation, 2015).

Between 2003 and 2014, GSU increased its six-year graduation rate from 32% to 54%, and more than doubled graduation rates for African American and Hispanic students. In 2016, first-generation students, African American students, Latino students and students receiving Pell Grants all graduate at higher rates than the overall student body.

Swinburne Online

Swinburne Online is a joint venture launched in 2012 between Swinburne University in Melbourne and a private firm, Seek. The online university now has more than 7 000 students enrolled in one of 12 Bachelor's degrees across five disciplines: business, communication, design, education and social science. Swinburne Online was deliberately set up at a distance from the main university, physically and administratively.

The Commission was told that Swinburne Online's students are predominantly women aged 25-40, who find it difficult to access a campus for work or family reasons. Swinburne University would not have tried to reach out to this unserved market until Australia moved to an uncapped, demand-driven higher education funding system in 2009:

Swinburne could not have created Swinburne Online under the old system of Commonwealth-supported places allocated by government. They would have needed to go through a slow political process to get new places, with no recent precedent for such a large number of new students at a single institution. Bureaucrats and politicians would have agonised over a joint venture with a for-profit company. Redistributing large numbers of places from within Swinburne's pre-2012 allocation would also have been politically difficult. Staff and student constituencies would (understandably) have resisted undermining viable courses for a venture that may not succeed. As it has turned out, Swinburne Online offers an innovative form of online education for which there is strong market demand. (Norton, 2013, p. 20)

Swinburne Online is able to generate large amounts of data about how students use it. Gamification approaches are used to drive engagement – with students collecting points, badges and ladders. Nudge approaches are used, such as: "You use the site an average of 7.2 hours this week. Did you know that the average student who gets a distinction uses it for 8.7 hours a week?"

Using the data about engagement, students who become disengaged receive proactive support through emails, calls or texts: Do they need help with citations? Do they need help accessing the library? Do they need some counselling? This service is provided by a third party company, and is also available for students at the main university. Where the data shows that students are at higher risk of dropping out (for example, students who are from a regional centre or who live more than 30km away from campus, or women studying in IT), they are automatically engaged in this programme.

Swinburne Online is a direct challenge to the traditional academic balance between teaching, research and service to the community. In designing courses, the traditional teaching role is disaggregated into separate roles for curriculum design, learning design, and student support.

Western Governors University

Western Governors University (WGU) is a private, non-profit online university based in Salt Lake City, Utah. The governors of 19 US states founded it in 1997. It offers competency-based programmes that allow students to demonstrate they have acquired skills required for particular Bachelor's or Master's degrees or certificates. WGU only offers four subjects: teaching, nursing, business and information technology.

At the beginning of a course, students take an assessment, and then discuss with an advisor which concepts in the course they already grasp, and which they still need to learn. A programme of learning materials is then built for the student to fill skill gaps.

Students pay a flat rate for tuition in a six-month period, regardless of the number of courses taken or credits achieved – an “all you can eat” model. The cost is around two-thirds that of public four-year colleges, and less than half that of for-profit colleges. It has 60 000 students from across the United States.

WGU does not develop its own courses, but licenses modules from commercial curriculum providers. Four regional accreditation boards and the national accreditation boards for teaching, nursing and health information management accredit its programmes.

Students are assessed through essays, and through closed-book exams that are taken online and monitored via webcam. WGU does not offer grades, only passes or fails; it says its pass is calibrated at a level equivalent to B-grade at other providers. Like other online universities, it predominantly serves non-traditional students with other commitments. It has low completion rates: around 40% percent of students complete their degree within six years, around two-thirds the rate of regular four-year colleges in the United States (Cook, 2015).

Degree Apprenticeships

In a number of countries, full-time employees can work toward a degree through a mix of academic study and workplace learning. In 2015, the UK government announced the degree apprenticeship model would be extended to 13 fields of study – from public relations to aerospace engineering. In practice, an employee works for about 30 hours a week, studying part-time, and is paid for both. The cost of the education component is shared between the government and employer. Co-design of the apprenticeship by providers and employers/industry is a key feature of the model. A report from Universities UK (2016) has found the following.

- Degree apprenticeships can be particularly attractive to non-traditional students, thus providing an opportunity for degree apprenticeships to support widening participation goals.
- They offer a way for providers to diversity their offer and develop alternatives to traditional full-time, on campus-study (such as online, distance, weekend and blended learning).
- Degree apprentices are likely to be highly employable, with the student having benefitted from studying a course tailored to sector needs, and several years of workplace experience.
- They can help develop employer relationships by offering an opportunity for providers to establish new and long-lasting relationships with employers.

In May 2016, the Government of Singapore announced a degree apprenticeship model would be trialled, with the Acting Minister for Education, Ong Ye Kung, saying it would be a “different kind of university programme suited to this century, where businesses do not just offer internships, but step into the university to shape the curriculum” (Davie, 2016).

University of Waterloo

The University of Waterloo is a university of 36 000 students in Ontario, Canada. Since 1956, it has developed what it calls a “co-op programme”, a plan originally opposed by the Canadian engineers' professional body, and other Canadian universities. Students in the co-op programme study towards a five-year degree, which involves about 24 months of work experience broken up into four-month blocks. All undergraduates in the Faculty of Engineering, and many at the Faculties of Arts and Mathematics, require co-op placements, with

around 19 000 students enrolled in co-op programmes. The University of Waterloo is particularly renowned for its mathematics, computer science and engineering studies.

Waterloo is a small city, but many high-tech firms have grown around the university. Other foreign high-tech firms have chosen to locate research and development centres in Waterloo because of the university, including Google, Oracle, Intel, EA, and Blackberry. Scientific and mathematics think-tanks have also developed around the university. Many of these firms provide placements for the co-op students, although students can work in firms around the world as part of the co-op programme.

In a report into Waterloo's co-operative model and other local examples of work-integrated learning, the Higher Education Quality Council of Ontario identifies a range of benefits to participants.

- Students benefit from:
 - career exploration, and improved employment prospects;
 - the opportunity to apply theory to practice in real workplace and community settings;
 - work experience and the development of marketable workplace skills;
 - increased self-confidence, personal growth and civic engagement; and
 - financial compensation.
- Employers benefit from:
 - improved productivity and enhancements to service delivery;
 - streamlined recruitment and screening processes, and reduced training costs for new staff;
 - better connections between employers and education providers; and
 - enhanced staff capacity and improved employee morale.
- Providers benefit from:
 - stronger partnerships with employers and the community;
 - positive impacts on student recruitment, alumni relations, and reputation; and
 - the opportunity to use employer feedback to make programme enhancements (Sattler, 2011).

Other universities that offer substantial co-op education programmes include Drexel University in Philadelphia and Purdue University in Indiana, United States.

Southern New Hampshire University

Southern New Hampshire University (SNHU) is a private, non-profit university in the United States. In 2009, it had 2 000 students and was struggling with declining rolls and rising fees. The university made a strategic decision to focus on non-traditional learners and invest in online provision. Today there are 4 000 students on campus, and 60 000 students enrolled in online degrees.

SNHU has a predictive analytics programme that alerts instructors when a student has not logged on recently, or has spent too much time on a module. Online students communicate via discussion boards and email. Programme instructors can be based anywhere.

SNHU recently launched "College for America", an online competency-based associate degree programme. Like WGU, it is a subscription model: students pay to enrol for six months and get as many credits assessed as they wish in that time. There are no courses, no credit hours, no grades, and no traditional faculty. Students develop an Academic Plan that outlines the key competencies they will master. Students provide evidence of competence by completing projects assessed by reviewers using analytic rubrics. Once

competencies are mastered, students can have their LinkedIn profiles automatically updated. (EDUCAUSE, 2015).

College for America is aimed at non-traditional learners, including adults who missed out on tertiary education. SNHU President Paul LeBlanc contrasts competency-based models, where students provide evidence that they have mastered competencies, with what he describes as a “faith-based” model of traditional education:

If you think about higher education as being a faith-based initiative for the last 600 years... the notion was that if you had enough volumes in your library, and enough PhDs on your faculty, and enough students with high SAT scores, what came out of the other end was going to be fine. It's going to be great, actually. What happens if we could reverse that? What if we were really clear about the claims we make for our learning and how we know? Those are the two fundamental questions at the heart of competency-based education. (Corcoran & McNeal, 2016)

Arizona State University

Arizona State University – Tempe Campus (ASU) has the title of “most innovative school” from the United States college rankers *U.S. News & World Report* for 2016.

ASU offers students the opportunity to complete their first year online through massive open online courses (MOOCs), without going through an application process. Students enrolled in ASU's Global Freshman Academy do not have to pay for the credit until they know they have passed. More than 12 500 people from 163 countries have signed up.

In the area of student support, ASU has started using web-based software to gauge which mathematics concepts individual students struggle to understand, and suggest additional study materials. It has also developed an eAdvisor system that monitors progress toward graduation and intervenes when students get off track, similar to that of GSU's, discussed above. For example, if a student does not perform well in statistics courses for two semesters in a row, the student may trade their major for something else. The eAdvisor will then show them which of the courses they have taken will match the new degree requirements. ASU has also developed an app that mines students' Facebook data, and helps connect them with friends who have common interests.

ASU has streamlined the traditional four-year Bachelor's degree, so ambitious students can graduate and get onto the job market in as little as two and a half years. The university continually monitors the job landscape, anticipating market needs and creating new majors. It was among the first in the United States to launch a Master's of Science in Business Analytics, which teaches students how to harness the power of “big data”. In its first two years, the programme has tripled in size.

Olin College of Engineering

The Franklin W Olin College of Engineering (Olin College) is a small (around 350 students) private, non-profit college in Massachusetts. It was founded from an endowment by the F.W. Olin Foundation, because the Foundation had become dissatisfied with the nature of engineering education in the United States. In particular, the Foundation saw engineering education as conceptualising of engineering as a body of knowledge rather than a process, and thought most engineering schools prioritised research over teaching, and produced academics rather than practical engineers. Olin College admits students without regard for their grades, based on a weekend project-based “audition”. The first students were admitted in 2001. There are no academic departments and no tenured faculty members.

Olin College's approach to engineering education is based on an interdisciplinary curriculum, and project-based, hands-on learning. Students who enrol in Olin College also enrol in the nearby Babson College, Wellesley College and Brandeis University where they take papers in business and liberal arts. The aim is for graduates to have robust technical skills, design experience, and the ability to apply engineering concepts to real problems in an interdisciplinary way.

The curriculum's focus on experiential learning requires students to work on projects where they apply mathematics, science and engineering principles to real problems, rather than learn via lectures. Students are engaged in hands-on design work from the start of their programmes and, in their final year, teams of

five to seven students carry out a project to solve a real-world problem for a corporate sponsor. Olin College believes that engineering evolves so rapidly that the specific content that future engineers will need to know is impossible to predict.

Instead of exams, students are evaluated during a week-long, institution-wide assessment called “gates” at the end of each year.

Assessments include written examinations, oral examinations, and team exercises, and are aimed at assessing each student’s mastery of institutionally defined learning objectives as opposed to the objectives of each individual course. It is thought that gates force students to synthesise material among classes and across terms. A student’s performance on his/her gate is used to identify areas in which he/she requires additional strengthening. (Brennan et al., 2014, p. 149)

US News & World Report ranked Olin College as the third best undergraduate engineering programme in the United States among institutions that do not offer doctorates.

UK’s Open University

The Open University, based in Milton Keynes, England, has embraced learning analytics – matching student data and background information with performance. Learning analytics helps a tertiary institution understand how its students interact with the institution’s resources given students’ different student learning styles, their likely performance and how likely they are to complete their studies.

The Open University has piloted a dashboard of indicators to highlight “at-risk” students and overall class engagement. With this information, lecturers can focus on students who are struggling and amend course material that has proven ineffective. This can be done in real-time, without the delay associated with student feedback and outcomes. A preliminary evaluation of the pilot has shown retention rates at the Open University increased by 2.1% on average compared with the previous year. While students have a natural interest in course completion, it is also important for universities as retaining a student takes significantly less resources than recruiting a new one. The higher retention rates generated an estimated £1.8 million in additional income for the Open University (Sundorff & Mosseri-Marlio, 2016).

11.4 What enables innovation?

Disruptive and sustaining innovations

Bower and Christensen (1995) coined the terms “disruptive innovation” and “sustaining innovation” to explain the different ways institutions or firms innovate depending on their position in the market.

Established institutions with market share tend to innovate in order to enhance the products or services they offer. They can hold on to their existing sophisticated and high-value market by continuing to improve the value of the products or services – described as “sustaining innovation”.

In doing so, institutions can leave room for disruptive innovations at the bottom of the market, to offer often simpler versions of the product or service to new, previously unserved markets using radically different business models, often leveraging technological innovation. Early product versions may be low-quality and considered little threat to an established firm, but, as they develop and improve their offering, they can upturn existing markets.

For example, *Encyclopædia Britannica* came to dominate its market in the early 20th century with its reputation for quality, and through the introduction of direct marketing and door-to-door sales. By the mid-20th century, it had the ambition of systematising all human knowledge. In the early digital age, digital editions were published on CD-ROM to compete with new entrants like Microsoft’s Encarta product. However, both encyclopaedias were disrupted by Wikipedia, a product far cheaper to produce and use, despite early scepticism about the latter’s quality and reliability. Christensen offers other examples:

Disruption is the process by which Toyota overtook General Motors, Cisco felled Lucent and Nortel, WalMart and Target tolled the department stores, and Apple seized music distribution⁶⁶. Disruption is

⁶⁶ In turn, models of music distribution like Spotify, where users stream rather than own music, are challenging Apple.

how Charles Schwab and online brokers unseated Merrill Lynch, and how Google pre-empted newspaper advertising. (Christensen et al., 2011, p. 18)

Once disruptive firms succeed, they frequently consolidate their victory by moving to a model of sustaining innovation, in time putting them at risk of being disrupted. Examples of firms able to continue to produce disruptive innovation are rare; they have a tendency to become sustaining innovators. For example, Netflix sought to challenge video rental stores in 1998 by distributing DVDs by mail, and without return times, on a subscription basis. Netflix offered to purchase Blockbuster Video for \$50 million in 2000, but was turned down. By 2007, Netflix had distributed a billion DVDs. It then introduced a further disruptive innovation – online video-on-demand. It now has more than 75 million subscribers, and Blockbuster filed for bankruptcy in 2010. From 2011, Netflix became a major producer of new shows or digital content, such as a remake of *House of Cards*. This is arguably a sustaining innovation – adding value to its core product in order to maintain or grow its established market.

Armstrong (2014) argued that many of the most widely discussed disruptive changes proposed in higher education involve significant changes to which functions are performed – often to focus on the learning function by doing away with other functions, like research. He also finds that, in general, “people in very successful organizations often internalize key aspects of their business model as defining quality in their field; changes in these key aspects consequently imply lower quality” (2014, p. 1), and that, specifically in the case of educational providers, the culture, internal management and important role of faculty means that:

bringing disruptive change to an existing educational institution will be even more difficult than bringing such change to a typical corporation – where it is almost impossible. (p. 7)

The idea that successful organisations internalise their existing ways of doing things into their definitions of quality is evident in the submission from Quality Public Education Coalition, which emphasises stability, continuity, respect for long service and institutional knowledge in its definition of a “healthy” tertiary provider.

In healthy tertiary institutions, there are internal cultures of collegiality and trust, demonstrating a sharing of resources, specialisation and knowledge. Institutional practices and structures exhibit recourse to peers, colleagues and professional organisations, including in decision-making and committees. Such institutions make long-term academic staff appointments, honouring tenure, thereby maintaining and strengthening institutional knowledge and continuity, and creating stable conditions for the growth of scholarship. (sub. 48, p. 13)

Frances Valentine, founder of the Mind Lab, has spoken of cultural barriers to new models of education, saying, “when you raise your head above standard practice, everybody has a point of view, and many will argue purely on the basis of tradition and legacy” (Spark, 2016).

The existing quality assurances mechanisms of New Zealand universities and NZQA (discussed in Chapter 5) provide a lot of opportunity for these ideas of quality to be defined by existing ways of doing things. Armstrong (2014) writes of the US system that

...accreditation as currently carried out by its members is structured reasonably effectively to encourage and manage sustaining innovations, and to exclude disruptive innovations. Real disruptive change in higher education will probably have to wait for an alternative system of accreditation, one that is focused on evaluating new models using standards of quality that appropriately reflect the different value propositions they offer. (p. 9)

Accreditation is a form of “self-governance” whereby institutions are subject to periodic review by their peers. Because the accreditation process is run by higher education institutions themselves, *accreditation rewards congruence with the traditional model*. Institutions are judged by a panel of faculty and administrators from similar institutions through a process that emphasizes inputs and processes in accord with conventional norms. (Kelly & Hess, 2013, pp. 25-26, emphasis in original)

The same appears true of the New Zealand system. Committee on University Academic Programmes (CUAP) and NZQA processes tend to stifle innovation, because they grant incumbents within the system the power to veto proposals that do not accord with existing ways of doing things. These processes also stifle innovation by denying an innovating institution rewards. Proposals for new programmes are subject to the approval of other institutions who may stand to lose; and, if a programme is eventually approved, any first-

mover advantage is lost because other institutions have had time to develop their own versions of the programme.

Similarly, regulations that control the inputs of tertiary education will tend to constrain innovations that seek to achieve the same outputs or outcomes through a different mix of inputs. For example, the funding of education based on credit hours is a barrier to innovations in delivery that allow individuals to move at their own pace (Chapter 7). Despite the fact that different students learn at different paces, regulation of credit hours measures exposure to learning, rather than mastery of it.

Incumbents often disparage disruptive innovations as being inferior products – and frequently they are, at least at first. However, these innovations can also dramatically increase access to a product that people want, but cannot access. Disruptive models of education can do the same thing: online providers, competency-based assessment, teaching-only universities, and wānanga have all had their critics, but they have also shown the potential to expand access to education, catering to those who would not otherwise access tertiary education, or who would prefer a different type or mode of education.

Disrupting innovators are more likely to be new entrants

One feature of disruptive innovation is that it is more likely to be pursued by new entrants, or smaller, less prestigious firms serving a “lower value” part of the market. Writing of innovation in higher education, Kelly and Hess said:

Game-changing innovation is likely to come not from well-intentioned chancellors at prestigious institutions, who are hampered by routine and beset by competing constituencies, but from challengers free to build new models and cost structures from the ground up. (2013, p. 2)

Marcus (2011) shows that many now-traditional elements of higher education in the United States were actually resisted by established providers focused on classics and philosophy. The expansion of higher education to modern languages or the natural sciences occurred when “reformers, frustrated by the slow pace of change at existing universities, opened new ones” (cited in Kelly & Hess, 2013, p. 9).

The Commission has observed this in higher education as well. In Australia, while all universities are innovative to a degree, some of the most innovative come from outside the group of prestigious G8 universities. Deakin, Curtin, Torrens and Swinburne Universities have been the most ambitious in embracing online education models. Charles Sturt University in New South Wales has gone further than other universities in integrating with vocational education providers and recognising prior learning of students.

Many of the innovations from New Zealand universities outlined above might fairly be described as sustaining innovations. Auckland University of Technology (AUT) is New Zealand's youngest university and, apart from Lincoln University, the lowest ranked. However, AUT also struck the Commission as the most ambitious in terms of thinking about how technology could fundamentally reshape higher education. In its submission to this inquiry, AUT also expressed frustration at policy and regulatory settings that inhibit its ability to innovate.

AUT sees itself – is seen – as a vanguard of innovation and believes the concerns raised in the Issues Paper are unfounded.

However, this is in spite of changes to the policy and funding settings that appear to have been designed to prioritise government control over spending and to generate a greater return on investment, thereby supporting the existing and proven at the expense of innovative educational delivery models. This has resulted in an increase in central prescription with a commensurate reduction in organisational autonomy. The result, perhaps unintended, has been increasing levels of conformity to what government stipulates it wants and this, in the end, will dampen the innovative spirit that currently exists in New Zealand's universities. (sub. 64, p. 7)

For example, AUT recommends considering:

- allowing a proportion of SAC funding to be directed to programmes and courses not yet approved through the external system;
- limiting the control of professional registration authorities over degree contents;

- allowing SAC funding to be fully available for any form of compressed programme; and
- allowing SAC funding to be allocated to composite schools or entities (sub. 64).

The regulatory environment AUT operates in, where its core operations are subject to the approval of its peer universities through CUAP processes, will generally compel AUT to operate in a manner similar to other New Zealand universities, rather than striking out on a different path.

The Dev Academy model could not operate within an existing university or ITP. Its key innovations mean it has to operate outside of the current regulatory government framework for tertiary education.

Some successful examples of innovation are where a quasi-autonomous unit is established operating outside of the typical rules and constraints of the parent organisation. These internal incubators are sometimes called “skunk works”, named after Lockheed Martin’s pioneering R&D Lab.

Because established providers find disruptive innovation difficult, they can often spark innovation by establishing an incubator for new ideas at arms’ length from the parent organisation. This was the model adopted by Swinburne Online. In New Zealand, ventures such as Capable NZ and Tech Futures Lab were established along similar lines.

Technology is an enabler of innovation

Technology is an important enabler of innovation, but the application of technology is not inherently innovative. Kelly and Hess (2013) describe applying new technology to traditional models of delivery as “faux innovation”.

[I]n both K-12 [schooling] and higher education, the preferred course has been to add technology atop existing arrangements. Rather than use technology to reengineer core functions and business models, institutions tend to graft modestly pleasing new capabilities onto their established operation, which allows them to make their familiar offerings somewhat more accessible. Hence the explosion in specialized online certificate programmes, course and content management systems like Blackboard, and technology-enhanced marketing and enrolment management. (p. 11)

The authors argue this tendency to faux innovation is particularly prevalent where, as in New Zealand, providers are largely publicly-subsidised, and cannot grow their student base.

Most established institutions are publicly operated or are non-profits that draw heavily on public funds. Consequently, they are focused less on expanding market share and satisfying customers and more on satisfying policymakers and their own employees. (p. 11)

In markets where new entry is controlled and incumbent institutions are subsidized, there is a temptation to simply graft technology onto existing routines while leaving cost structures intact. Such retrofitting may be better than nothing – and it may look like transformation to optimistic observers, story-seeking journalists, and fretful academics – but it often amounts to little more than repackaging a largely familiar product at a familiar price. (p. 3)

The College of Humanities and Social Sciences at Massey University submitted that when the university first adopted WebCT as a Learning Management System in 1997, “many humanities and social sciences staff were quick to see the opportunities for using tools such as discussion boards and chat rooms as a way of both developing peer-to-peer and student-teacher relationships, and for delivering real-time tutorial opportunities for distance students” (sub. 27, p. 7). Yet its submission also recorded that, as recently as 2011, half of all distance courses still only used online technologies for distributing administration material (such as the Paper Guide), with core study resources supplied directly to students; 5% of courses had no online components; 45% of courses were partially taught online; and no courses were fully taught online. Only from 2012 did a majority of distance courses use online technology for more than distributing administrative material. The College is now designing (rather than adapting) courses specifically for online delivery in innovative ways but, for a long time, online technology seemed predominantly for routine tasks like distributing course guides.

In some respects, teachers in the compulsory education sector appear to use technology to plan their teaching more effectively than in the tertiary sector (Box 11.4).

Box 11.4 Formative assessment

“Assessment for learning” or formative assessment is a core feature of education in New Zealand schools. The goal of formative assessment is to identify learning needs and plan future learning activities. This contrasts with summative assessment where the goal is to evaluate and measure learning that has already occurred.

Through formative assessment, students can learn about their strengths and weaknesses, and teachers can work out which students are mastering the material and which are struggling. Formative assessments take place through everyday student-teacher interactions, but also through more formal tests. In New Zealand, e-asTTle is a leading technology that assesses students’ achievement and progress in reading, maths and writing, and in pānui, pāngarau and tuhituhi, and provides rich information about this to the teacher. Formative assessment allows better, more personalised teaching and learning.

Even though ideas of formative assessment are fundamental to school education, they are not prominent in tertiary education. One 2008 benchmarking of ITP performance found little evidence of the use of structured assessment tasks to build student capability progressively, little evidence of capability around assessment, and that ITPs do not appear to evaluate the impact of particular assessment strategies on student learning (Neal & Marshall, 2008).

The Khan Academy, a well-known provider of short online video lecture, began as a few YouTube videos designed to assist a single student. Now, there are 9 000 videos that software recommends to learners based on their past activity, and learners solve computer-generated problems tailored specifically for them based on their earlier responses.

The Open Polytechnic’s iQualify online platform provides for engaging, interactive features like quizzes to assess whether learners have mastered certain concepts. However, it is not genuinely adaptive software – the outcomes of these quizzes do not influence what information is subsequently presented to the learner. If a student’s online experience were shaped by their past interaction with the software, this would offer the opportunity to challenge and accelerate students who were learning fast, and give extra support to students who are struggling.

Technology offers enormous potential for the better integration of formative assessment and personalised learning experiences. Yet there are few reasons for tertiary providers to pursue these innovations while contact hours are the only things measured and rewarded. *Prima facie*, the focus on credit hours in the funding and regulation of tertiary education is a barrier to any model that delivers learning faster than previously, because a shorter programme of learning would be either not allowed or commensurately less funded based on contact hours.

Online education

Online education offers significant potential to reduce barriers to access, and improve the personalisation of learning experiences. A research note produced for the TEU concluded:

ICT and online learning provide innumerable opportunities to enhance both learning and teaching and improve the accessibility of education. Using integrated curriculums, informed and purposeful instructional technologies, and by fostering innovation in the use of ICTs; tertiary education providers can create the knowledge and skills needed to prepare learners to work in future markets. Meaningful integration of new technologies and ICTs, however, requires the careful and informed selection of quality educational tools, which take into account best-researched instructional practice, the course and discipline in question, and the heterogeneity of students. The utility of innovative teaching and learning practices is therefore best realised through a combination of new technologies and traditional modes of delivery. (Neilson, 2016, p. 6)

The note argues that sustaining technologies, which enhance established models of teaching and learning, rather than disruptive technologies, hold the greatest promise in addressing the diverse needs of students

into the future. Such sustaining innovations are good at servicing and improving the value received by an existing customer base. On the other hand, disruptive innovations are good at delivering a service to a new, currently unserved customer base.

Some providers the Commission spoke to emphasised that online learning was not inevitably a cheaper mode of delivery than face-to-face learning. These providers mention, in particular, high start-up costs, and key skills shortages such as instructional designers. Neilson (2016) cautions against pursuing disruptive technologies in the aim of cost-saving. However, there are other advantages to these technologies.

For some learners, there are advantages to on-campus, traditional modes of education. Many students prefer this form of study. Many submitters to this inquiry have emphasised the advantages and desirability of campus-based learning, but many others have noted the advantages of distance learning in terms of its accessibility and convenience. Not all learners do best in traditional campus-based settings. One Ministry of Education review of study modes found:

In nearly all cases, extramural completion rates were lower than intramural. However, there were some exceptions. Students in the 40+ age group, those from non-working backgrounds, and wānanga had a higher extramural completion rate than intramural in traditional delivery courses [ie not e-learning]. Agriculture, Environmental and Related Studies had a higher extramural completion rate than intramural in e-learning courses, and Mixed Field Programmes had a higher extramural completion rate than intramural, regardless of delivery mode [ie regardless of whether the extramural study was based on e-learning or not]. (MoE, 2014a, p. 37)

The same review found people aged over 40 had a higher completion rate through extramural study than those aged under 25. The house-person/retired group had the highest completion rate in traditional delivery (non e-learning) courses. Some students do not want, and will not do better in, a campus-based environment. In particular, given declining rates of tertiary participation by older people and the declining share of part-time study, there are clear opportunities for online learning to expand access to tertiary education, supplementing rather than supplanting traditional modes of delivery.

In any case, a comparison between traditional on campus, lecture-based delivery and MOOCs may be a false dichotomy. There are a small number of promising experiments with other forms of online delivery, as well as blended approaches and flipped classroom models in New Zealand and in other countries. A 2016 report finds evidence of increasing use of different types of e-learning, and improvements in the performance of these models.

Box 11.5 Participation and performance in distance learning and e-learning

A 2016 Ministry of Education report on e-learning in tertiary education found e-learning was becoming more widespread. The report divided delivery into four categories.

- No Access / No ICT, where no part of the course is accessible online.
- Web-Supported, where a course provides students with limited access to online materials and resources.
- Web-Enhanced, where a course expects students to access online materials and resources.
- Web-Based, where a course requires students to access the accompanying online materials and resources.

The analysis compared e-learning delivery in these four categories across two five-year periods (2005-2009, and 2010-2014) and found:

[O]verall, the proportion of equivalent full-time students (EFTS) in courses delivered by No ICT dropped from 53 percent to 43 percent between the 2005-2009 period and the 2010-2014 time period.

At non-degree level, the majority of EFTS were still in courses delivered without internet access during the 2010 to 2014 time period. However, compared with the 2005-2009 time period, a larger

proportion of non-degree EFTS were in courses delivered by blended methods. At higher levels, the majority of EFTS had been in courses that had had an e-learning element in the 2005-2009 period; the proportion with e-learning increased further over the 2010-2014 period. (Guiney, 2016, p. 2)

The report also found the “performance gap” between e-learning and other forms of delivery was closing:

Disparities in course completion rates between e-learning courses and courses without e-learning have reduced markedly. In the 2005-2009 time period, completion rates for some student groups, providers and fields of study enrolled in Web-Based courses (and to a lesser extent, Web-Supported or Web-Enhanced courses) were lower than the corresponding rates in courses delivered with No ICT. However, by the 2010-2014 time period, this had changed; there was either no discernible difference in the completion rates of courses delivered by e-learning and others or else, the gap between them had been significantly reduced. (Ibid)

Students as co-producers

The importance of student participation in effective learning is grounded in constructivist theories of education – that people form knowledge by interpreting and reflecting on their own experiences, rather than receipt of information.

Brennan et al. (2014) find as a major outcome of their review of innovation in higher education that “new technologies support a major shift in higher education that is now increasingly salient around the world, i.e. the transition towards a more student-centred vision of education” (p. 88). The authors highlight the opportunity of new technology to improve students’ learning experience, provide greater choice and flexibility to students, and improve the way in which student experiences and feedback influence course design.

Hattie’s synthesis of 800 meta-analyses about what works in education emphasised interactivity and co-production in summarising the evidence about what works in education:

Visible teaching and learning occurs when learning is the explicit goal, when it is appropriately challenging, when the teacher and student both (in their various ways) seek to ascertain whether and to what degree the challenging goal is attained, when there is deliberate practice aimed at attaining mastery of the goal, when there is feedback given and sought, and when there are active, passionate, and engaging people (teacher, students, peers and so on) participating in the act of learning. (2009, p. 22)

Formative assessment, discussed earlier, is a critical component of this. Innovative approaches to education go further, allowing learners to be involved in the design of learning experiences.

The case of the Olin College of Engineering shows how new ways of teaching and learning that move away from the traditional role of students as ‘recipients’ of knowledge into pro-active contributors to curriculum design and the learning process appear to have been beneficial in meeting employers’ needs in a specific field – engineering – where graduates’ lack of central skills was a recurrent problem. (Brennan et al., 2014, p. 80)

Innovation theory has traditionally struggled to deal with services where the consumer is so essential to the production of the good. Joseph Schumpeter, who focused on commercial value, characterised innovation as entrepreneurs combining factors of production in novel ways, with little room for consumers. However, Hawkins and Davis (2012) describe how in the case of experience goods, “innovators can use the human capacity to have, evaluate and learn from experiences as a resource – a factor of production – which can be combined with other factors and transformed into new and/or improved goods” (p. 267).

This suggests that some of the most promising areas for innovation in tertiary education are likely to be student-centred approaches that change the way students, teachers and providers interact in designing and delivering learning and assessment.

11.5 Creating an internal environment that supports innovation

Innovation entails risk-taking, with rewards for those who succeed. There is too little scope for trying new things in the New Zealand tertiary education system, and few rewards for providers who do. Equally, those who do not adopt successful innovations should not be protected where there are other models that would serve students better.

There are impressive innovators in the tertiary education sector – but too many innovations in the New Zealand tertiary education system do not scale. Too many of the educators most open to change are innovating in isolated pockets. Providers need to get better at trialling, recognising and scaling successful innovations. One survey of New Zealand and Australian university managers provided information on innovation in those organisations (Box 11.6).

Box 11.6 Management and Service Innovations in Australian and New Zealand Universities

Researchers surveyed all senior and departmental managers, except for members of the senior management team and Vice-Chancellor, in 39 Australian universities and six New Zealand universities. The response rate was 37.8%. The questionnaire asked about new or improved services, processes for providing services, organisational methods, marketing methods and systems innovations over the previous two years. The focus was on innovations in the supporting operations of university management, rather than innovation in teaching and research.

A high percentage of respondents, 91%, reported at least one of seven types of innovation in the previous two years. Respondents from “First Tier” universities⁶⁷ are less likely to report that their “senior executive is willing to take risks to innovate”, less likely to use methods reported to develop innovations, less likely to collaborate on innovation with sources outside the university (including with other universities), invest less in innovation, and are more likely to give a “high” importance to “resistance by academic staff” as an obstacle to innovation.

Some 46% of respondents agreed that competition with other universities increased the need to innovate, while 26% disagreed. Functions engaged in the university’s reputation were more likely to agree.

When asked about the purpose of their university’s most important innovation, 72% said it was to “replace or improve a previous service, process or product”, rather than “provide an entirely new service, process or product”, which the authors said indicated “that most of these innovations are likely to be incremental improvements” (p. 25).

Source: Arundel et al., 2016

This study provides some support for the ideas that New Zealand’s universities are more likely to engage in sustaining innovation, and that a culture of innovation is less prevalent in more established providers.

Cultures and capabilities that support innovation

Business schools are among the most innovative parts of New Zealand’s universities. The University of Auckland Business School emphasises providing co-curricular opportunities that allow students to develop and, to an extent, certify some of the “soft” or employability skills that are often of concern to employers (see Chapter 4). The Business School also hosts initiatives such as Velocity (an entrepreneurship development programme run by students and supported by the school). Business School staff reported there was a more entrepreneurial and risk-taking culture, in comparison to the rest of the university.⁶⁸

⁶⁷ Those ranked above 301 in 2015 Shanghai Academic Ranking of World Universities, including the University of Auckland and the University of Otago.

⁶⁸ The Academic Quality Agency for New Zealand Universities (AQA) wrote of Auckland University that “While the Panel heard of staff learning from peer example, it also heard of instances where a particular culture within a department or school effectively discouraged new staff from using or experimenting with new developments or using alternative technologies, such as Twitter.” (AQA, sub. 29, attachment 5, p. 11).

Brennan et al., reviewing innovation in higher education around the world, identified “resistance to change and lack of institutional support” (2014, p. 89) as the major blockage for innovation at the institutional level. They also found that:

...as innovation diffuses within the higher education system and touches every element of a higher education institution, the transition to an innovative system needs to be better managed. Many universities have strong business schools that teach these methodologies, but university management is not trained for this: in most cases university managers are promoted academics (2014, p. 87)

In New Zealand, a number of participants at a 2016 TEU symposium (“Voices from Tertiary Education”) expressed concern at a growing number of professional managers replacing academics in tertiary education institution (TEI) management roles (Chapter 6).

Many submitters considered there are cultural barriers to risk-taking, innovation and the successful diffusion of innovations in TEIs.

The ability to sustain improvements once made is largely dependent on the nature of an organisation’s culture and receptivity to change. (Feeney, sub. 4, attachment 2, p. 17)

There is no doubt that staff in sector want organisational cultures that develop and maintain diverse teaching spaces, styles, programmes, and staff, thus ensuring that they can meet diverse learner needs. ... Overall the auditing culture leads institutions to avoid risk. (TEU, sub. 83, p. 17)

Changing the culture of universities may be difficult but it is possible, as Āwhina, UMBC [University of Maryland, Baltimore County], and others have shown. The fundamental issues are (i) leadership, both of the initiative and university, and (ii) robust evidence. Get both right, and everything else follows. (Te Rōpū Āwhina Whānau, sub. 12, p. 4)

An insular culture with a limited range of communication means few opportunities for serendipitous encounters that lead to new ways of thinking and potential innovations. (Kennedy, sub. 23, p. 7)

One of the goals of Waikato [University] is to “Embed a culture of innovation, entrepreneurship and leadership across the university”. (cited in Academic Quality Agency, sub. 29, attachment 8, p. 3)

Marshall submitted to the inquiry that a cultural resistance to change fed risk-averse approaches from leaders, and precluded them encouraging smaller risk-taking within an institution-wide innovation framework.

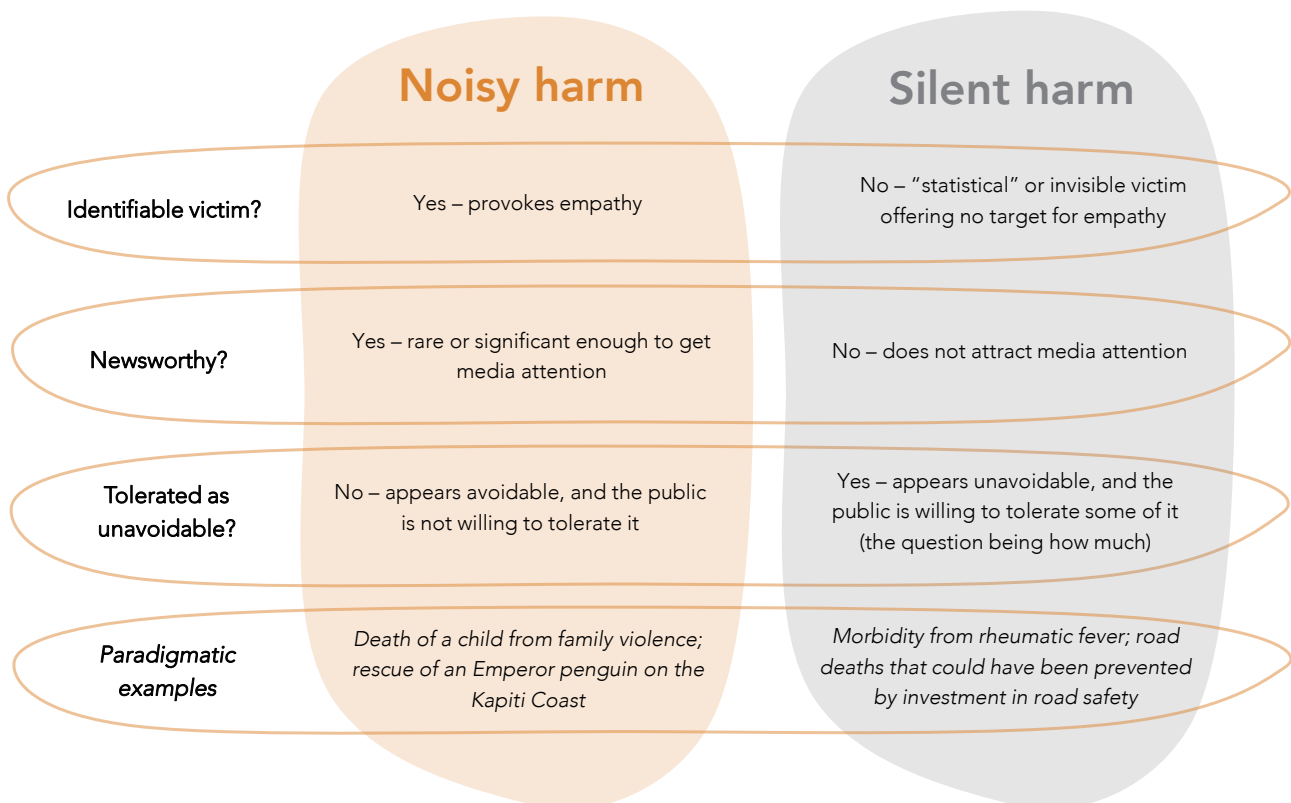
The problem with innovation language, including the other words commonly used with it (transformation, disruption, even excellence) is that they establish an expectation for dramatic change that can discourage attempts to create a culture within educational organizations that is open to exploration of new ideas and encouraging to staff attempting to build their understanding of the implications of new ideas or tools. A particular issue is that this leads to a culture of rewards and incentives only being used with substantial successes, rather than recognising the systematic leadership needed to encourage smaller changes and to be supportive of those prepared to try and fail in interesting ways. (sub. 73, p. 21)

Shugart (2013) noted that cultural change in tertiary education is slow and hard, but necessary:

[C]ulture trumps strategy, every time... The culture of the organization will determine the limits and possibilities of our strategies. (p. 8)

Noisy versus silent harm

Tertiary providers’ internal cultural resistance increases the likelihood that tertiary leaders will encounter loud complaints from staff (and sometimes students) when they propose change – an example of “noisy harm”. Unless the change is needed to prevent an even noisier harm, leaders have strong disincentives to act. Figure 11.1 illustrates the concepts of noisy and silent harm.

Figure 11.1 Noisy harm and silent harm

People commonly value the prevention of noisy harm more than the prevention of silent harm (and more willing to tolerate silent than noisy harm). As Schelling (1968) explained, people value the “identified lives” of individuals much more highly than the “statistical lives” of unidentifiable people. Frank (2006) noted that Schelling:

...observed the apparent paradox that communities often spend millions of dollars to save the life of a known victim – someone trapped in a mine, for example – yet are often unwilling to spend even \$200,000 on a highway guardrail that would save an average of one life each year.

These differences are important for tertiary leaders managing change within their organisations; for example, to business models or internal resource allocations. Changes that generate costs to identifiable people (such as existing individual students and staff) in order to deliver benefits for unidentifiable people (such as prospective future students or staff) are likely to be “noisy”. The noise is likely to be especially loud if:

- the costs of the change fall on a small number of people, who each lose a lot, while the benefits are spread over a large number, who each gain a little; or
- the costs are felt immediately, while the benefits are felt in the future – or dispersed in time so they are hardly felt at all except when consciously comparing the present to the past; or
- the costs are borne by people who have political power or a public “voice” or platform from which to speak, and the benefits accrue to people who do not.

Changes in tertiary education organisations that might have one or more of these features include (for example) disestablishment of teaching positions in low-demand subjects to increase funding levels for scholarships, or sale of a physical asset to fund investment in improved ICT.

Tertiary leaders (and indeed leaders of any kind) have strong incentives not to ignore noisy harm. It can, especially where it gains media attention, cause significant damage to an organisation’s reputation and staff morale, and consequently its performance and success. In contrast, leaders often have incentives to ignore silent harm, as long as it is likely to stay silent. It is by definition quite well tolerated, and there are usually costs – often *noisy* costs – involved in reducing it. As Ed.Collective submitted:

One of the barriers to innovation lies in the tremendous pressure to avoid public failure – whether real or perceived. The irony is that it seems to be perfectly fine to fail at the same rate, as long as you don't change anything and everyone else is failing with you. (sub. 89, p. 52)

Similarly, the OECD describes a “negativity bias” whereby people punish failure more than they reward success. It describes how the bias affects elected politicians:

[P]olitically elected decision-makers have clear disincentives to avoid being blamed for risk and failure. This contributes to risk-avoidant decisions (e.g. choosing to remain with a minimally disruptive status quo if the results are not too dire rather than seek to improve, which would require some risk and thus potential failure). This is an extremely strong pressure: scholars in social psychology and political science have focused on the “negativity bias”, in which individuals have a preference for or bias to remember negative effects and results over positive ones (see, for example, Kanouse and Hanson, 1972; Lau, 1985; Weaver, 1988). ... Weaver (1986/8), for example, has argued that American politicians are motivated more by the desire to avoid blame for negative outcomes than by the desire to claim credit for positive ones. This is clearly not just an American phenomenon, and in today's non-stop mediatised climate, seeking to avoid blame is likely to be an essential political strategy (OECD, 2016e, p. 210).

The same effect plausibly influences the choices of leaders of tertiary organisations, adding to their incentives not to act to reduce the silent harm of (for example) those who are missing out on, or poorly served by, the tertiary education system. System-wide levers to address this silent harm are a focus of Chapter 12.

Tertiary leaders may be able to increase the acceptance of changes that create noisy harm, and address silent harm, by:

- being explicit about who is benefiting and who is losing, acknowledging the losses as well as the gains;
- appealing to the organisation's moral purpose and the importance of not continuing to tolerate silent harm; and
- sharing stories about identifiable individuals who will benefit or have benefitted from the changes, to raise the profile of silent beneficiaries.

The need for institutional support of change

Learner analytics offers significant potential to tertiary providers to monitor their students' performance at a fine-grained level. By comparing information about students to historical data, providers can gauge who is at risk of failing or dropping out. In online settings, data about the frequency and timing of log-ins can predict with a high degree of accuracy which students may be unsuccessful. GSU, Swinburne University and the Open University, discussed above, are examples of how learner analytics can be applied in both campus-based and online settings.

However, in their review of innovation in higher education, Brennan et al. say the benefits:

...will not be achieved simply by investing in the appropriate technology, rather a strong institutional commitment to implement processes and systems that will enable the institution to provide appropriate and effective support based on learning analytic insights is required. (2014, p. 61)

The authors say the introduction of a learner analytics system in the various case studies they examined were often driven by an early adopter among the faculty, who managed to get buy-in from the university's internal institutional structures. In practice, it involved:

...major restructuring at all levels of the university, implying that:

- Teachers need to allow others to intervene in 'their' course design;
- IT departments need to convince staff and institutional policy officials to cooperate to build a comprehensive data system;
- Student administrations need to make student data accessible, through with privacy safeguards. (Brennan et al., 2014, p. 69)

Writing of the US system, Thille highlighted the haphazard approach to trialling and evaluating innovations, and pointed to a need for a systematic approach.

Our institutions of higher education spend few resources on providing students and faculty data that would tell them whether the new technologies or the traditional individual and collective processes for learning and teaching are effective. ... In lieu of data we depend on faculty intuitions about what works and what doesn't. While those institutions are certainly sometimes right, it is unlikely that intuition alone is sufficient as a means to improve instruction. This approach is thoroughly unscientific and incapable of producing the persistence, spread of adoption and iterative improvement that is required to bring about transformative change. (2012, p. 4)

Capability gaps

Yet there is evidence of capability barriers in New Zealand providers. Marshall (2010) and Neal and Marshall (2008) find that management systems, self-awareness and agility are lacking in both universities and ITPs. Using a quality improvement framework that assesses and benchmarks providers' capability to sustainably develop, deploy and support e-learning (the e-Learning Maturity Model), the authors find:

...very little evidence of a culture of critical self-reflection within the organizational assessments, and this is shown in the almost complete absence of capability in the Optimization dimension of most institutions. This is possibly linked to the weak Evaluation process and Management dimension capability... but also probably reflects the lack of attention by university leaders to these areas. (2010, p. 29)

In its submission, the Tertiary e-Learning Reference Group notes that awareness of e-learning has increased senior managers' awareness of related issues, and that it may be timely to repeat the benchmarking exercise. Yet the concern about management capability is consistent with the findings of the Academic Quality Agency for New Zealand University's (AQA) Cycle 4 review of universities, which made the most recommendations in the areas of management and governance, and teaching and learning:

This updated analysis confirmed that incorporating and responding to student feedback remained the highest recurring theme of recommendations in the area of teaching and learning. While plans for improvement in this area emerged during Cycle 4 and were affirmed by audit panels, recommendations for further improvement were received by many universities.

However, looking across all themes, and now incorporating the remaining Cycle 4 audits conducted in 2011 and 2012, institutional quality assurance policies, processes and systems received the single most recommendations in Cycle 4. A number of universities received recommendations that they ensure that they have a coherent quality assurance framework with elements that can promote planning, monitoring, review and improvement for the benefit of high quality teaching and learning. Risk management also emerged as an area in which audit panels suggested improvements could be made.

While the strategic planning of universities received many commendations in Cycle 4 (above), this area also received recommendations in particular for how strategies for teaching and learning are established, communicated and monitored. (AQA, sub. 29, attachment 3, p. 13)

AQA also noted that "commitment to Māori students and staff" was an area with room for improvement, and was a "major area of recommendations" (sub. 29, attachment 3, p. 13).

The Commission detected little sense that most New Zealand TEIs had an organisation-wide strategy to innovate significantly in delivering tertiary education.

F11.1

The internal culture and management capability of a tertiary education provider is a major influence on its ability and wish to innovate.

11.6 Conclusion

This inquiry's terms of reference invite the Commission to consider how trends in technology, tuition costs, skills demand, demography and internationalisation will influence new models of delivering tertiary education, identify barriers to innovation, and consider what success factors are associated with innovation.

This inquiry has identified external (funding and regulatory) and internal (culture and capability) barriers to innovation in tertiary education. The Deputy Vice-Chancellor of ANU cites both in describing how real tertiary education innovations arise outside the mainstream, but then are incorporated by providers into their existing ways of doing things, rather than changing the providers' business models.

The combination of regulation and custom slows us down, but it also means that our voyages into what are called brand extensions—new categories of product—are almost unheard of. Our most recent examples globally—which you can count on one hand—are badges, micromasters, MOOCs and fully online courses. Most of these have launched from subsidiaries or spinoffs, and we are now in the predictable phase of framing them within the mainstream, not framing the mainstream around these disruptions. Our assimilation of the small suite of radical innovations throws any of our complaints about companies like Microsoft being eldertech assimilators in the shade. (Hughes-Warrington, 2016)

Both are also evident in one study about perceived barriers to innovation in American universities (Box 11.7).

Box 11.7 Perceived barriers to innovation in the United States

In a 2000 study, 47 college presidents and chief academic officers at American universities were interviewed on perceived barriers to innovation in higher education.

Four fifths cited "tradition, institutional culture, or institutional inertia" as a significant barrier to innovation, with one saying, "inertia is a villain in the marketplace but is worshipped in higher education because we relish tradition." A majority of providers working under faculty governance believed tighter management would promote innovation. One quarter cited state government oversight as a barrier to innovation; a quarter said that costs, funding or other resource issues was a barrier; and one fifth said internal processes and bureaucracy were a barrier.

Public providers were more likely to perceive institutional decision-making processes as a barrier to innovation, with one saying, "systems never foster distinctiveness – they always homogenize."

External accreditation bodies were also cited as a barrier to innovation, with one interviewee saying, "specialised accreditation is used by the disciplines to block innovation. The faculty say we can't do something because it doesn't meet our accreditation restrictions. Often that isn't true but it is used to block innovation."

When asked about what institutionalised beliefs they would change to foster more innovation, two fifths talked about faculty beliefs about their roles: "We need to change the attitude of traditional faculty that the only way to learn is direct student-to-faculty interaction in a classroom".

Source: Palmer-Noone, 2000.

Significant innovations are not created by providers within the prevailing policy settings

Chapter 8 notes that many initiatives in the tertiary education system, such as Māori and Pasifika Trades Training, Engineering E2E, and the ICT Graduate Schools, are effectively created by government. Chapters 5-8 discuss how the funding and regulatory system is so locked-down with government controlling the allocation, volume, and price for EFTS; the result is that there is little scope, and few rewards, for such innovations to be generated from within the system. Other significantly new models of delivery either require special legislation to enable them within the existing government-funded system (in the case of wānanga or secondary-tertiary partnerships), or exist outside the system (in the case of the Dev Academy).

F11.2

Providers in New Zealand tend to adopt sustaining innovations that improve the value of their existing way of delivering education. Often, this means technology is grafted on to old ways of doing things.

F11.3

Regulatory settings do not allow innovative new models of tertiary education to emerge from existing government-funded providers. New models either arise outside of the government-funded system, or are enabled by legislative change on a case-by-case basis.

Innovation in small pockets, often led by individuals

There are scores of individual teachers in New Zealand innovating in how they integrate technology into their teaching. The Commission heard about examples of this at the TEU's symposium "Voices from Tertiary Education". In a personal submission, Dr Mark Nichols, director of Technology Enhanced Learning at the Open University UK, and a past executive at the New Zealand Open Polytechnic, said:

I consider the New Zealand system is innovative in parts; the difficulty here seems to be encouraging systematic innovation rather than in pockets of practice. In education innovations are typically limited to keen individuals, or a VC or CEO with limited tenure often facing an institution change-weary from having its inertia constantly tinkered with. Funding systems are also such that planning must take place with relatively short horizons. I'm not certain that this issue is limited to New Zealand. Inertia is driven in part by the lecture-based and resource-based distinction and limited by the cap-based approach toward business as usual-oriented funding. (sub. 6, pp. 12-13)

The use of technology to innovate in the delivery of tertiary education is mainly happening at the margins within providers.

F11.4

Some frontline educators adopt technology to aid their teaching in innovative ways, but there is little institutional capability to scale this activity.

In a paper on productivity in New Zealand, the Commission (forthcoming) identifies features hindering productivity in New Zealand. These features are also evident in the tertiary education sector (Box 11.8).

Box 11.8 The tertiary education sector: the New Zealand economy's challenges in microcosm

In a forthcoming paper, the Commission identifies some of the underlying drivers of New Zealand's poor productivity performance. They include:

- poor technological diffusion (the pace at which new technology and ideas spread), exacerbated by weak international connections;
- small insular domestic markets that suffer from a lack of competitive intensity;
- relatively low levels of innovation and poor management capability, caused by weak investment in this type of knowledge based capital; and
- a lack of first class policy and regulatory settings.

Source: NZPC, forthcoming.

The Commission has found evidence for each of these points in examining the tertiary education sector over the course of this inquiry:

- technological innovation by individual teachers that does not scale and diffuse within an organisation;
- the use of technology as a sustaining innovation at the provider level, with much less application of technology to significantly reshape operating models;
- policy settings that inhibit providers from gaining or losing market share and, in some cases, lock in local or regional monopolies;

- internal cultures that reinforce established ways of doing things, and a lack of management capability and commitment to provider level innovation; and
- regulatory settings that undermine attempts to deliver education in significantly different ways from the status quo.

In response to a question in the Commission's Issues Paper asking what specific technologies the inquiry should investigate, Independent Tertiary Institutions was emphatic: "Whichever ones the Commission chooses will probably be getting out of date by the time the final report is released" (sub. 81, p. 16). This is undoubtedly good advice; the system will not become more innovative through either the Commission or government more generally picking technology winners, or mandating particular models of delivery.

What is needed instead are policy, funding and regulatory settings that allow providers to try new models and rewards them for success, rather than requiring or rewarding delivery through the same old approaches. Technology by itself does not drive innovation, although it can create threats and opportunities for institutions to innovate where they have culture, capability and flexibility to respond. Incentives on providers to better meet the needs of both current and prospective students will also spur innovation.

All the technology in the world will not drive innovation if the political economy of the sector discourages it. If regulatory policies impede the emergence of new models of service provision, incumbents will feel little pressure to change. Even dynamic leaders with ideas for unbundling their product will be forced to conform to the prevailing regulatory framework. And if consumers have no way to measure quality among providers of very different stripes, they may feel even greater cause to stick with familiar models. (Kelly & Hess, 2013, p. 22)

It will be difficult for providers to overcome the internal barriers to innovation in a policy environment that has as many external barriers as has been identified in this inquiry. The next chapter discusses options to improve the tertiary education system's ability to innovate.

Part III: *A system that supports new models*

12 A system that supports new models

Key points

- New Zealand's tertiary education system serves some students well. But its design and operation constrain innovation, promote homogeneity of provision and exacerbate inequalities. This is risky in the face of at best partially predictable trends, and unpredictable shocks; and it has high opportunity costs for individuals and for New Zealand.
- Government designs its controls on the system to manage its fiscal and political risks. Continual changes – accumulated over time – and inter-dependencies result in a “Gordian knot” of rules and regulation. A responsive, innovative system requires loosening of the knot so that providers have freedom and incentives to try new things. Yet such loosening increases the risk of poor quality provision; regulation needs to strike a careful balance between freedom and control.
- The Commission's recommendations would loosen the knot and improve the current system. These include:
 - changes to ensure quality via better regulation, including enforcing minimum standards, enabling student demand to drive quality (with improved performance information and labour market signalling), allowing competent providers to self-accredit, repealing the statutory functions of the Vice-Chancellors Committee, speeding up New Zealand Qualifications Authority (NZQA) processes for those without self-accrediting status, better assessing and rewarding teaching quality, and changing statutory requirements for research-led teaching;
 - a redesign of the Student Loan Scheme (SLS) to focus it on ensuring students can access borrowing to fund their tertiary education (removing the implicit and regressive subsidy created by the current SLS);
 - changes to the subsidy regime to make it more transparent and improve its administration;
 - changes to protect the interests of students and to encourage innovation, by facilitating diverse organisational forms and market entry, giving tertiary education institutions (TEIs) more responsibility and autonomy, doing away with University Entrance, removing arbitrary constraints on where and what providers can deliver, and improving the ability of students to transition between providers; and
 - a revision of the purchasing and regulatory architecture so that agency form follows function.
- These recommendations would improve the system and its openness to new models. However, they are insufficient to address the major structural deficiencies identified by the inquiry. Also, there is a risk that relaxation of constraints in the current system will struggle to be durable. The political economy leads towards over-specification and over-regulation, and constrains innovation.
- To really promote new models, it is necessary to cut through the Gordian knot. The Commission is considering a proposal that shifts education funding, in the first instance, from providers to students. Education agencies have long aspired to a student-centred system, yet such a system appears incompatible with one that directly funds providers. A system that directly funds students to purchase education from licensed providers would permit and encourage such providers to explore and adopt new models that better served current and potential students. Such a system could better match student diversity and reduce inequities inherent in the current funding regime.
- The Commission presents a high-level design of such a proposal – a “Student Education Account” – and seeks feedback.

Parts I and II describe a tertiary education system that, despite areas of excellence, is not performing as well as it could. Government tightly manages the quantity and nature of education delivered, creating largely homogenous provision and a system that constrains innovation, adaptation and diversification. While this protects students, providers and government from some problems, it creates others.

The system is risky for New Zealand in two main ways.

- The system is vulnerable to external trends or events that might change the nature of demand or the costs of supply, such as those outlined in the inquiry's terms of reference (Chapters 10 and 11).
- There are high opportunity costs in not having tertiary education that is attractive to and successful for New Zealand's increasingly diverse population. Because tertiary education is co-produced, the "match" between the student and educational delivery matters for their engagement and outcomes (Chapter 2). Current provision suits many students well, but persistently under-delivers for some (Chapter 9). Others, who might benefit from tertiary education, choose not to participate.

This chapter explores ways to free up the tertiary education system to enable innovation and new models to occur at scale, making the system more resilient to shocks and better at meeting diverse needs. It makes recommendations for improvements to the current system, but explains why these may not prove durable or be sufficient to enable the system to fulfil its potential. The chapter proposes an alternative approach on which the Commission seeks feedback.

12.1 A tertiary education system that needs to change

The inquiry finds a system with tight government control in which innovation is constrained...

Chapters 5, 6, 7 and 8 describe a tightly controlled tertiary education system. Government applies extensive licensing controls, and purchases most education from public tertiary education institutions (TEIs).

Purchasing decisions do not respond directly to student demand. The number and form of public providers are relatively static. Government controls entry to the tertiary education market, and some fields of study are limited to particular TEIs or subsectors.

Chapter 11 shows sufficient examples of innovative projects to give the impression of a flexible system open to new models. However, this impression is misleading.

- Providers are very responsive to incentives from government, but most incentives are to maintain the status quo (with only small shifts in emphasis between different groups of students, or fields of study).
- Innovation happens chiefly where there is a meaningful prospect of a net reward through improved revenue or reputation. The current system provides few such prospects.
- Much of what is occurring is "sustaining innovation" – that is, improvements that enhance existing providers' business models. The current system works against differentiation of business models. Disruptive innovation is more likely to come from new entrants; but the system has high entry barriers.
- Existing providers – especially TEIs – have relative certainty over their revenue streams and quota allocations. This reduces the imperative to innovate and the rewards on offer from successful innovation.
- Rather than enabling successful bottom-up innovations to spread through the system, the government designs "innovative" programmes and then procures them directly from providers, typically through complex and prescriptive contracts. Such contracts lock in the programme design, rather than allowing adaptation in the light of experience or reflecting providers' different circumstances. The flow of information from implementation into the next round of programme design is slow and unreliable.
- Provider-generated proposals for substantially new models of tertiary education require multiple government approvals. These can involve statutory instruments (eg, Funding Mechanisms under s 159L of the Education Act 1989), amendments to legislation (eg, for the Manukau Institute of Technology Tertiary High School) and revised government purchasing decisions.

Chapter 8 finds considerable inertia in the New Zealand tertiary education system. This inertia is an emergent property of the system, rather than a characteristic of providers.⁶⁹

...and which does not allocate resources equitably

It is common for governments to describe tertiary education as a means of combating income inequality and promoting social mobility. For example, New Zealand's *Tertiary Education Strategy 2014–2019* states that tertiary education has a role in supporting “all New Zealanders from all backgrounds to live in a prosperous, safe, and equal society” (Ministry of Education & Ministry of Business, Innovation and Employment, 2014, p. 7).

However, various features of the New Zealand system mean that overall the system exacerbates rather than ameliorates initial inequalities.

First, the system rations access to tertiary education. Providers have incentives to select those who start out with more financial and other resources (including prior educational achievement) over those who do not (Chapter 8).

Second, through tuition subsidies and subsidised student loans, government spends more on those students who stay longer in the system (eg, those studying to postgraduate level, or undertaking long courses such as medicine). These same students, once graduated, generally receive higher incomes. Overall, government spends most on those who gain the most from tertiary education.

Third, full-year full-time study delivered on campus to school leavers increasingly dominates delivery at higher levels of study; and the pathways from lower to higher levels of study are seldom clear (Chapter 3). This serves those already advantaged. Kleiman (2015) commented on the same trend in the United Kingdom:

[E]ducational discourses continue to privilege a middle-class way of being a student in which an 18 year-old, gaining [senior secondary] A-level qualifications and studying a three-year full-time undergraduate degree at a Russell Group university is normalised, with a funding model to support it. (p. 57)

Student allowances and “equity funding” are features of the New Zealand system that attempt to ameliorate inequality. However, government spending on these is small by comparison with student achievement component (SAC) funding (which is per student, per year of study) or the implicit subsidy in the SLS.

Government targets additional subsidies at particular groups via specific programmes. Examples include the University of Otago's Māori Health Workforce Development Unit (Chapter 11), and Māori and Pasifika Trades Training programmes. Students in these programmes receive additional support. Such programmes are the exception, not the rule. Outcomes for Māori and Pasifika students have improved in recent years, but they remain substantially disadvantaged (Chapter 9).

F12.1

The tertiary education system allocates more resources to those who spend more time in education, especially at higher levels. These people also gain the largest private rewards from their education. The system therefore extends and exacerbates the inequality that emerges in the schooling system, rather than ameliorating it.

12.2 The challenge for government

Government is involved in tertiary education because of the special characteristics of tertiary education as a good and because of the particular characteristics of the tertiary education market (Chapter 2). To summarise, government has responsibilities in:

- **ensuring the quality of tertiary education** (section 12.3). The special characteristics of education mean that students benefit from third-party verification of quality. Government licensing and quality control is

⁶⁹ An *emergent property* is a characteristic of a system that arises from the interaction of participants rather than from planning or design.

one means to do this. In the absence of reliable signals of quality, students might use other proxies or signals for quality such as price, the experience of family and friends, institutional longevity or rankings.

- **protecting the interests of students and encouraging innovation** (section 12.4). Government has an important role in regulating markets. Measures include informing and protecting consumers, limiting the accumulation of market power and sanctioning anti-competitive behaviour. Limiting the market power of incumbents and allowing the entry of new providers are important for innovation to occur.
- **providing students with access to finance** (section 12.5). Government has a role in providing students with to finance because private lending markets are not an efficient solution to borrowing against future earning capacity.⁷⁰
- **providing subsidies to participate in tertiary education** (section 12.6). Government subsidises tertiary education because it is a merit good: there are public benefits from high levels of participation, and participation should not be limited by the ability of the student or their family to pay. Without a subsidy, tertiary education may be “under-consumed”.

Additionally, current and future taxpayers have a stake in the financial health of TEIs, and a government has a responsibility to protect this stake.

The challenge for government is how best to fulfil – and balance – these roles in a very complex system.

Government’s roles have become entangled

These different roles of government are entangled in the current system. For example, Performance-Linked Funding uses the subsidy regime to ensure quality, and the allocation of equivalent full-time students (EFTS) can be used to protect government’s interests in TEIs.

The allocation of roles across agencies reflects this entanglement (Table 12.1).

Table 12.1 Agency responsibility for different funding and regulatory functions in tertiary education

Function	Current responsibility
Ensuring quality	Ministry of Education (MoE); NZQA; TEC; Vice-Chancellors Committee
- Consumer information	NZQA; TEC; MoE; Ministry of Business, Innovation and Employment; Careers New Zealand; schools
Protecting students and encouraging innovation	Minister for Tertiary Education
- Regulating entry	Minister for Tertiary Education; NZQA; TEC
Access for students to finance	Ministry of Social Development (MSD); Inland Revenue Department
Providing subsidies	TEC, as specified by MoE
- Levels I and II	TEC; MSD; MoE
Managing residual risk ⁷¹	TEC; NZQA; MoE

Implementation of the Commission’s recommendations presents an opportunity for government to reassign responsibilities that could achieve more clarity of function and fewer internal conflicts of role and culture. Structural change is expensive, and governments should avoid change for change’s sake. However, government should weigh cost against the benefits that could come from a regulatory and funding system

⁷⁰ Private lenders face an adverse selection problem. The students most likely to default would borrow the most. Interest rates high enough to cover the expected cost of these defaults would deter many low-risk students from borrowing. Lenders – concerned about ending up with a customer base skewed to high-risk borrowers – would refuse to participate. A “universal” government scheme can partially mitigate this problem by cross-subsidising from low-risk students to high-risk students.

⁷¹ Residual risk covers the risks to government that it cannot contract away. This includes explicit liabilities to students and creditors under the Education Act, and implicit liabilities that might arise, for example, through the failure of a private training establishment (PTE).

where form follows function. These benefits can include less duplication, a reduced regulatory burden on providers, and the prospect of better quality decision making (NZPC, 2014a).

R12.1

Regulatory and purchasing functions in tertiary education appear to be a poor match to government agencies. In implementing this inquiry's recommendations, government should take the opportunity to design agency forms that provide clarity of function and reduce conflicts of role.

The system is inherently complex – and government has made it more so

The tertiary system involves very large numbers of autonomous and semi-autonomous agents making iterative and interactive decisions, often independently of one another. This complexity represents a challenge for government interventions. As Thomas observed:

When you are confronted by any complex social system ... with things about it that you are dissatisfied with and anxious to fix, you cannot just step in and set about fixing with much hope of helping. This realization is one of the sore discouragements of our century. You cannot meddle with one part of a complex system from the outside without the almost certain risk of setting off disastrous events that you hadn't counted on in other, remote parts. If you want to fix something you are first obliged to understand the whole system. Intervening is a way of causing trouble. (Thomas 1974; cited in Mansell, 2006, p. 78).

In making changes to the system, government faces incentives to choose options with the lowest short-term political costs. Providers have preferred responses that minimise their own costs, and lobbied – with some success – for arrangements more favourable to them. Policy and regulation have accumulated over time, adding to the complexity.

One consequence of this complexity is that government, by making changes to solve problems in one area of the tertiary system, has sometimes created problems in other areas, inviting or requiring further changes.⁷² Even well-intentioned and well-designed changes can give rise to undesirable and unpredictable side effects.

The impossibility of predicting all consequences of change gives weight to those arguing to preserve the status quo.

[T]he history of the New Zealand university sector shows that any significant change to role requirements, policy drivers, or funding incentives will drive significant changes to university outputs over time, but nearly always with unintended consequences and trade-offs. (UNZ, sub. 17, p. 21)

Moreover, loosened settings are likely transient. Previous experience leads providers and government agencies to believe that government will act quickly to re-tighten them once side effects become apparent. Minor changes at the margins are likely to be overwhelmed by the “inertial momentum” of the complex system.

The power of an existing [set of arrangements] to sustain itself and to increase its purview of influence or control is directly related to its inertial momentum, to the aggregate weight of the phenomena of which it is constituted. And this aggregate is the result of the number, scale and diversity of the elements and agents that constitute the social arrangement, and of the degree of complexity of the interactions among them. (OECD, 2016e, p. 46)

Government has tied a Gordian knot

The tertiary system now exhibits both desirable and undesirable properties. Some are particularly undesirable from the perspective of innovation and differentiation.

- The Government controls quality by licensing providers; but this confers market power on incumbents. Government also controls the quality of courses through NZQA and gives statutory power to the Committee on University Academic Programmes (CUAP) for the approval of university programmes. The

⁷² For example, the removal of interest on student loans has led to a series of subsequent changes aimed at reducing the cost to government of the Student Loan Scheme.

Commission has heard that anything “too new” presents a challenge for NZQA and CUAP. Incumbents define “quality” in a way that reinforces their position in the tertiary system.

- The Government subsidises the cost of tertiary education by providing the subsidy to the provider rather than the student. A subsidy, by its nature, increases demand. If that level of demand exceeds what the government can afford to pay, then government rations supply. For most funds it does so by rationing in the market for EFTS, prioritising the protection of existing allocations to incumbent providers. This has the effect of reinforcing the status quo (ie, product quality, product form and market structure).
- The Student Loan Scheme (SLS) conflates access to finance (which could be fiscally neutral to government) with a general subsidy arising from its interest-free nature. Because of the general subsidy inherent in the interest write-off, any increase in the number of EFTS increases the total cost of the SLS to government. This adds to government’s need to ration supply (in a way that a fiscally neutral scheme, focused solely on ensuring access to finance, would not).
- Government is fiscally and politically liable for poor TEI performance. It designs its subsidies in ways that protect its interests – quotas and market entry restrictions. Government also has a political interest in maintaining existing levels of regional provision, regardless of demand. It faces incentives to use its control over EFTS allocations to reduce the political and fiscal risks of provider failure, rather than to allow supply to match student demand. Government’s interest in the viability of providers can conflict with its role as a subsidiser of education and its quality assurance role.

These effects arise from system settings and dynamics that are complex, highly interactive, and very hard to change. The situation is reminiscent of the legendary Gordian knot – a knot reputedly impossible to untie. Alexander the Great overcame it by slicing through it with a sword. While the metaphor has limitations, it raises the question of whether system changes, without a fundamental change to the means by which government subsidises tertiary education, will create a flexible yet durable system that is open to new models.

This report deals with this question by separating its proposals into two parts.

- Sections 12.3 to 12.6 propose recommendations that are suitable for adoption within the current system. These recommendations, individually and collectively, would make the system more open to new models, especially in the EFTS-based parts of the system. Section 12.7 discusses their durability. Should the system’s inbuilt tendency to revert to form override or counteract the recommended changes, then the Gordian knot will remain tied and the adoption of new models may be short-lived.
- Section 12.8 outlines a proposal that would significantly alter the current system to support new models – cutting through the Gordian knot. The implications of the proposal are wide-ranging, so section 12.8 also covers the consequent changes required to the recommendations outlined in the earlier sections.

12.3 Ensuring quality

It is difficult for a student to evaluate the quality of their education prior to participating in it (ie, it is an experience good) or even after the education is completed (ie, a credence good). Provider claims are easily made and difficult to verify. Education is co-produced, and so requires an investment of time and energy from the student beyond the financial price paid. This creates high risks for students, who should be able to embark confidently on tertiary study knowing that New Zealand has an effective quality control regime.

Challenges for the quality control regime

A quality control regime must first recognise that different people can reasonably hold different views about what constitutes “good quality” tertiary education. A very good education for some students might be barely adequate for others or even damaging for some; the “match” matters to the quality of the experience and to the outcome.

This points toward a quality control regime that:

- Enforces **minimum standards** that matter to quality regardless of participants' needs and preferences, rather than regulating aspects of delivery where quality is in the eye of the beholder or is readily detectable. To give a restaurant analogy, it makes sense to regulate hygiene and basic food safety, because these are hard to detect and they matter to every diner, regardless of their food preferences. But it does not make sense to regulate how and what food should be served, because this is a matter of taste, and something that diners can control for themselves through choosing where to dine and what they wish to order. In tertiary education, an example of a minimum standard might be delivering content consistent with the qualification's level on the NZQF.
- Reduces the risk that providers will "internalise" the conception of quality to be "what we do around here" (Chapter 11).
- Sets clear rules about what information providers must give to prospective students prior to enrolment, and what (if any) responsibility providers have to help students make a good "match".

F12.2

Regulation should recognise that different people can reasonably hold different views about what constitutes "good quality" tertiary education. Regulation should focus on enforcing minimum standards.

Second, the regime must enable innovation and diversity in models of tertiary education, giving providers room to experiment and try new things rather than requiring everyone to follow the same path to the same goal.

Any regime that allows innovation and diversity inevitably increases the risk of some poor quality provision – not every experiment will be a success, and not every provider will be scrupulous. Regulators need to strike a careful balance between flexibility and control.

F12.3

A regulatory system that enables innovation and diversity also increases the risk of poor-quality provision. Opening the system to greater flexibility and innovation needs to be accompanied by carefully designed and effectively implemented regulatory processes.

Third, regulation in any environment (not just tertiary education) needs to be:

- aware of the changing market that regulated parties are operating in; and
- responsive to the motivations and behaviours of regulated parties.

These were core messages of the Commission's 2014 inquiry into *Regulatory Institutions and practices*.

Most regulatory regimes rely on a mix of ex ante controls and ex post monitoring. Both the mix and nature of the activities are important. In the current tertiary education system, NZQA and CUAP/Academic Quality Agency (AQA) have significant ex ante control over the approval of qualifications and courses. There is much less reliance on ex post monitoring, which many other service industries use very effectively to monitor and ensure their quality.

Ex post monitoring undertaken by AQA for universities is heavily weighted towards process measures (eg, institutional policies and reported practice) as proxies for quality, rather than direct measures of outputs or outcomes (many of which the university could measure internally, including value-add). NZQA's External Evaluation and Review for non-university providers uses both process and output measures (eg, course and qualification completion rates), but providers complain – with some reasonableness – that the non-value-added nature of output measures means they are not always meaningful indicators of performance.

One ex post tool is the use of trained individuals posing as students to assess aspects of the tertiary education experience such as enrolment processes, and advice and support services. Random inspections could gauge course material quality, and the relevance of feedback on assessed work. Such tools confirm delivery on promises made, and offer early opportunities to address inadequacies.

In moving to a system that seeks to encourage greater innovation, regulators should rely less on detailed input controls, as the specification of inputs stymies new models that use inputs differently. Ex post monitoring will become more important.

F12.4

The current regulatory system has the wrong mix and wrong type of ex ante controls and ex post monitoring. The system is ill-suited to an environment in which new models can emerge. Such an environment requires fewer input controls and better ex post monitoring of service quality and student outcomes.

R12.2

NZQA and providers should use ex post tools that assess the actual quality of the tertiary education experience. Such tools can ensure compliance with minimum standards and verify promises made by providers.

Importantly, achieving consistently high service quality often requires culture change. Quality is not a one-time activity to be undertaken by some staff – it has to become hard wired throughout the organisation through leadership and capability building (NZPC, 2014a).

Redesigning the regime

The Commission recommends a redesign of the tertiary education quality control system, to encourage innovation while maintaining minimum standards of quality.

R12.3

The Ministry of Education should design a new quality control regime for tertiary education that encourages innovation, takes a risk-based approach, and enforces minimum standards of quality.

Government could adopt the following additional recommendations in this section immediately to encourage innovation and improve regulation, either as part of a broader review or on their own.

Reliable and relevant provider performance data

The Tertiary Education Commission (TEC)'s current Educational Performance Indicators (EPIs) are blunt and do not acknowledge student heterogeneity. They are at best a crude measure of provider performance. They tend to reward providers who are able to attract better-prepared students, and penalise providers who enrol students who require significant additional support to succeed (Chapter 9). The performance data of industry training organisations (ITOs) also appears patchy.

Rectifying these problems is important. And it will be more so should provider-level outcome data become a significant input into ex post monitoring of performance.

By itself, better information about TEI performance and outcomes for the diverse population of tertiary students will not spur providers to innovate. For that, the system needs to be more flexible and offer increased potential rewards to innovators. However, it is even more important to measure and reward the right things in a flexible system to avoid "innovations" becoming more about gaming the system than improving value-add for students.

Measure and report provider value-add

The Government's monitoring and reporting of tertiary provider and ITO performance should include value-add measures that take account of students' prior academic achievement (Chapter 9). Good value-added information about student outcomes is critical to understanding provider and system performance. The

more granular the information, the more useful it is likely to be. Without such information, providers cannot really know how they are doing, and comparisons between providers may be misleading. Further, government and providers may pursue targets that are tangential to, or even undermine, value-add.

R12.4

The Ministry of Education and the Tertiary Education Commission should prioritise analysis of the value-add of tertiary education, including at provider level and by ITO. It should identify what kinds of study, at what providers, result in the best outcomes for different groups of students – including comparisons between provider-based and ITO-arranged training. It should publish this information for use by students, parents, providers, ITOs and purchasing agencies.

Measurement of completions should recognise successful student transfer and collaborative delivery arrangements

TEC's qualification completion measure is a poorly designed proxy of actual qualification completion. TEC has a process under way to redesign the measure, which aims to rectify these problems. An additional quirk of EPIs is that providers receive lower completion EPIs where a student transfers to continue learning at a different provider, or moves into employment. This discourages providers from making it easy for students to transfer (eg, through articulation agreements) or move into work. In some cases, a student may want to leave because of dissatisfaction with a provider; but in other cases, the provider may have caused a student to raise their sights and pursue a higher-level qualification at another provider, or helped the student to achieve an employment goal earlier than expected. The EPIs should encourage these latter cases, rather than discourage them.

R12.5

The Tertiary Education Commission should change the way it measures completions so that provider performance is not penalised if a student transfers to continue learning at a different provider or moves into work.

A further issue is that the EPI system assumes that a student is enrolled, and will pursue a qualification, with a single provider. This frustrates alternative collaborative models that involve more than one provider, either concurrently or in subsequent years.

For example, the five TANZ institutes of technology and polytechnic (ITPs) who collectively launched eCampus in 2016 would like to enrol students directly with eCampus, but instead each student has to enrol with a single ITP who then gets the "completion" in its EPIs. So the ITPs take the enrolments in turn. Phil Ker of Otago Polytechnic told the Commission that this workaround was clunky and inefficient, and it is only because the ITPs have been collaborating since 2008 and enjoy high levels of trust that they have been able to come to a workable arrangement.

Allowing New Zealand providers to collaborate with other organisations, including international education providers would be advantageous, as would allowing students to mix and match courses from different providers.

R12.6

Students should be able to mix and match courses from different providers. The funding and regulatory system should not penalise providers for participating in such arrangements.

Performance-Linked Funding is ineffective

Performance-Linked Funding (described in Chapter 5) was designed to encourage providers to reach an "acceptable standard of educational performance" as determined by EPI thresholds (TEC, 2015b). It is a baseline quality control mechanism rather than one that rewards performance.

However, Performance-Linked Funding provides insufficient sanction for below-threshold performance. Providers that fail to meet an acceptable standard of performance should lose their licence to operate. This is a licensing function, and NZQA rather than TEC should implement it.

Once performance is above the minimum thresholds, Performance-Linked Funding provides no incentives for further improvement. The reputational effects of the EPIs do provide such an incentive, but Performance-Linked Funding is unnecessary for this.

R12.7

Government should discontinue Performance-Linked Funding.

NZQA should also set the minimum performance thresholds, publicising any changes well in advance. It should concentrate the minimum performance standards on those parts of the educational process that are not easily observable by students. An analogy is that customers seek differentiation in restaurants. Customers are able to monitor meal quality and choice, but the government monitors food hygiene because customers lack sufficient information to do so. A failure to meet food hygiene standards can, and should, close down the restaurant. A tertiary education example of falling below minimum standards would be if a provider accepted bribes to award qualifications.

R12.8

NZQA should be responsible for defining minimum performance thresholds and monitoring provider performance against those standards. Providers that fail to meet minimum performance thresholds should lose their licence to operate. The thresholds should be clear and any changes publicised well in advance.

Harnessing student demand to drive quality

The most important stakeholders in the tertiary education system are its current and future students.

The arrangements for providing advice and information to students have weaknesses (Chapter 3). If students are equipped with appropriate career management skills, and have improved and more granular information and advice about providers' performance and career outcomes, the decisions they make about their future study can lead to improved outcomes for them and for society. Supporting students to make good decisions requires:

- providing granular and tailored information about provider performance and post-study outcomes;
- equipping students from their middle schooling years with career management skills and competencies to help them understand their options and form intentions about future life, study and employment goals; and
- strong wage signals from the labour market about employer demand for skills and qualifications.

Student demand is stifled where there are barriers to student mobility and to the portability of skills, knowledge and credits that students have already acquired (section 12.4).

Improving pre-enrolment information and careers advice for students

The agencies responsible for provider performance data should seek to improve the data's reliability and relevance. But good information only becomes valuable when accessed and used well. Provision of information to prospective tertiary students is fragmented, poorly coordinated, poorly targeted and often poorly delivered (Chapter 3). In particular, careers education and guidance in schools is highly variable, frequently delivered far too late, and at its worst appears not to reach some students. Schools tend to provide information to students, rather than ensuring that students develop the skills to manage their own career pathways.

There is a good body of evidence about what a better system for careers advice in schools would look like (Chapter 3). But the decision-making process for prospective students is complex, and not aided by a

confusing array of guidance from multiple agencies about study and career options. The transfer of Careers New Zealand's functions to TEC and the availability from 2017 of provider-level employment outcomes data provide an opportunity to consolidate and improve existing official sources of information.

R12.9

The Ministry of Education should reform its approach to school-based career education so that school students, from an early age, develop the skills and knowledge to make effective decisions about their study options and career pathways.

R12.10

Government should consolidate and improve the array of official information sources about study and career options aimed at prospective (and current) tertiary students.

Labour market signalling

Salary levels for different occupations reflect supply and demand for particular sets of skills. To the extent that these (or their relative positions) are stable over time, they inform students about the likely financial returns to different courses of study, and help to adjust the supply of skills to meet demand.

Signals from the labour market are diluted or distorted in various ways; for example, family and friends can offer students well-intentioned but misleading advice based on their own career experiences. But sometimes government and providers distort the signals, such as promoting education in sciences, technology, engineering, and mathematics (STEM) without clearly signalling the very different demand for – and returns to – such study.⁷³

Empowering student demand drives better employment market matching, according to recent Australian experience (Box 12.1). In Australia, much of the increase in participation was in fields with skills shortages (eg, health and engineering), or where students were receiving other signals from government. An example of the latter were government publicity campaigns encouraging young people to study science, despite relatively low labour market returns.

Box 12.1 Student demand drives better employment market matching in Australia

From 2009 the Australian Government progressively raised, and in 2012 removed entirely, previously imposed limits on domestic Bachelor's degree student numbers at public universities. The new "demand driven" system let universities respond to student demand by increasing the places they offered. It replaced a "supply driven" system, in which the government allocated student places to public universities.

One important goal of the demand-driven system was to help meet skills needs. A review in 2014 found that student demand for the relevant courses in most occupations with skills shortages had increased, and universities had responded to that demand (Kemp & Norton, 2014). The review concluded:

On the early evidence, the higher education system is more reliably adapting to skills shortages than it did before. (p. ix)

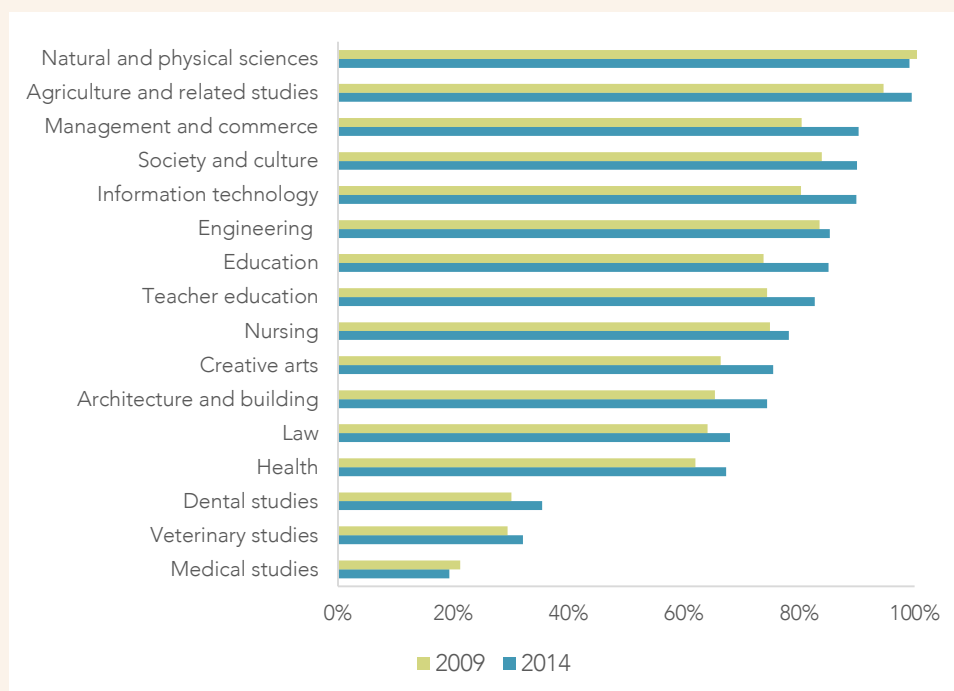
How does this work? The demand-driven system enabled and encouraged universities to offer the courses that students most wanted to take. Figure 12.1 shows that offer rates (the offers of study as a percentage of first-preference applications) improved in most disciplines between 2009 and 2014.

What students hear and observe influence their course choices (alongside their interests and aptitudes). According to Norton (2016), publicised skill shortages in the labour market flow through into

⁷³ Careers New Zealand's "Compare Study Options" tool shows that, two years after graduation, an employed graduate with a computer science degree is likely to earn about \$9 000 a year more than an employed graduate with a biological sciences degree. The respective employment rates are 75% and 37%. Differences can be large even within the sciences: an employed graduate with an earth sciences degree can expect to earn \$10 000 a year more, two years post-study, than an employed graduate with a degree in physics and astronomy. (Careers New Zealand, n.d.)

applications for study in relevant disciplines and courses. Under the demand-driven system, universities respond with increased places in those disciplines.

Figure 12.1 Offer rates by discipline, 2009 and 2014



Source: Australian Government Department of Education and Training, 2009; 2014.

Norton (2013) concluded that these links – between skill shortages, student demand for courses in areas of skill shortage and greater responsiveness of universities to student demand – are a real strength of the demand-driven system. He argued this is better than a system in which employers or government attempts to influence tertiary providers to deliver the courses and graduates that the economy needs. He wrote:

Our much-maligned 18 year olds spot and respond quickly to real skills shortages; the old system did neither in a reliable way. (Norton, 2016)

Employers complain about a lack of skilled graduates in particular fields (Chapter 3). However, students may well be making rational decisions if wages are persistently low or conditions poor. Wage pressure comes with useful incentives for firms to improve productivity through innovation.

F12.5

Wage levels send important signals to prospective students about what type of tertiary education will be rewarding to them and to employers. Government and providers can distort these signals.

Competent providers should self-accredit

The tertiary education quality-assurance regime is largely one-size-fits-all. Regulatory effort in the non-university subsectors are targeted somewhat (based on the results of providers' external evaluation and review (EER) results), but this is limited. The regime treats all universities the same, regardless of their individual competence.

This regime is outdated and unsatisfactory on many grounds, including that:

- in the university subsector, providers receive early notice of other providers' intentions and this reduces the potential returns to innovation;

- in the university subsector, the collective nature of quality control increases the risk that universities will internalise their conception of good quality, equating it with their current practice (Chapter 11);
- providers can effectively exercise veto over other providers' innovations;
- quality control effort is, in most cases, spread thinly across all providers, rather than concentrated where there is the most risk or where it would have the most effect;
- the statutory arrangements take no advantage of external accreditation options, including international accreditation bodies (though some providers pursue these voluntarily);
- quality control concentrates on inputs and process rather than the quality of delivery or outcomes achieved;
- the arrangements are defined by subsector, rather than reflecting the risk associated with individual providers; and
- the rewards for better internal quality control are muted.

Government should reform these arrangements.

Any provider should be able to apply to NZQA for self-accrediting status

Providers from any subsector should be able to apply to NZQA for self-accrediting status. A robust assessment of the provider's quality controls would be the basis for such status. Existing New Zealand universities would likely gain self-accrediting status automatically, unless there is a compelling reason not to in any individual case. NZQA should also consider granting such status to any ITP or wānanga with strong quality controls and a history of good performance against quality standards.

Self-accrediting providers would not need to undertake NZQA or CUAP processes such as programme approval and accreditation, qualification monitoring and external evaluation and review processes.

Providers would periodically re-apply for self-accrediting status – for example, every five to ten years. NZQA should have powers to revoke self-accrediting status if they determine that the provider has breached expected standards. This might require NZQA having powers to undertake "spot checks" or periodic audits of provider practices to monitor compliance (see R12.2).

Provisions similar to these already operate well in Australia's higher education system.

R12.11

All providers should be able to apply to NZQA for self-accrediting status. Self-accreditation would cover processes such as programme approval and accreditation, qualification monitoring, and evaluation and review.

The Commission seeks feedback on the best design for a self-accreditation system. For example, how long should self-accreditation status last before re-application? What (if any) NZQA processes should apply to self-accrediting providers? What monitoring and audit powers should NZQA have for self-accrediting providers?

Q12.1

What are the important design features for a self-accreditation system?

Dissolve the Vice-Chancellors Committee as a statutory body

In order to establish a framework where competent providers have self-accrediting status, the Commission recommends repealing the statutory provisions that relate to Vice Chancellors Committee in the Education Act 1989. This universities' current collective self-accreditation undertaken by the Vice-Chancellors Committee through CUAP and AQA should be granted to individual universities through the establishment of the self-accreditation system.

For self-accrediting providers, collective quality control arrangements such as CUAP and AQA, and cross-institutional collaboration of programme development, would be voluntary and subject to the relevant provisions of the Commerce Act 1986. The exercise of veto powers would likely be unlawful.

R12.12

Government should repeal the statutory provisions relating to the Vice-Chancellors Committee in the Education Act 1989. Cross-institution collaboration on course development and quality control for self-accrediting providers should be voluntary and subject to the normal provisions of the Commerce Act 1986.

In addition to its quality assurance role, the Vice-Chancellors Committee has several other statutory functions that may need to transfer to another body. These include:

- **Administering scholarships.** This responsibility could transfer to NZQA, which could choose to manage the service in-house, or outsource it to a (non-statutory) university peak body if a suitable one existed.
- **Responding to requests from universities to consider enrolment applications from foreign students.** The Commission sees no need for statutory support for this process.
- **Advising NZQA on University Entrance standards.** The Commission recommends abolishing University Entrance (section 12.4). Were it retained, NZQA should be required to consult with the universities (rather than the Vice-Chancellors Committee).

The Education Act requires NZQA to consult with the Vice-Chancellors Committee on various other matters. It would be straightforward to reword the relevant sections to require NZQA to consult with the universities instead of the Vice-Chancellors Committee.

Simplify and speed up NZQA processes for non-self accrediting providers

Providers that are unable to achieve self-accrediting status (or choose not to pursue it) should remain subject to NZQA quality assurance processes. However, inquiry participants raised a number of concerns about these processes – particularly the timeframes involved in the programme approval process, requirements to seek NZQA approval for minor changes, and the composition of review panels used for degree-level programme approval.

Maximum timeframes for subdegree programme approvals are currently 55 working days (or 30 days for providers with a Category One rating based on their most recent external evaluation and review). For degree-level programmes, the maximum timeframe is 130 working days. NZQA should review the maximum timeframes with a view to reducing them, and should set a target for the median timeframe for approvals.

R12.13

NZQA should review their programme approval processes, with a view to reducing timeframes and removing any unnecessary requirements. It should set a target for the median timeframe for approvals.

Inquiry participants raised concerns about requirements to seek approval from NZQA for changes in the physical location of programme delivery. One participant noted that this requirement applied when changing floors within the same building. Such a requirement appears superfluous, particularly given that many education programmes now rely more heavily on digital resources than physical resources.

NZQA's existing programme approval process (Chapter 5) allows providers to make relatively minor changes that do not affect learning outcomes ("type one" changes) without having to obtain NZQA approval. It appears that NZQA treats a change to delivery site as a "type two" change, which requires NZQA approval. NZQA should update their programme approval policies to enable some changes to delivery location (such as changing floors within the same building) to be treated as a "type one" change. Changes to the delivery site that materially alter the programme from the perspective of students should remain a "type two" change.

R12.14

NZQA should update its policies to permit providers to change the location of delivery without prior approval, where those changes do not materially alter the programme from the perspective of students.

NZQA normally establishes a panel with nine or ten members to review applications for approval of degree-level programmes. By contrast, they do not establish a panel to review applications for approval of programmes below degree level. This distinction appears arbitrary. For example, a panel review would have been required to gain approval of a three-year Bachelor of Applied Management (level 7). Yet a panel review would not have been required for the approval of a two-year Diploma in Business Studies (level 6), even though courses in this qualification can be cross-credited toward a Bachelor of Applied Management.⁷⁴

According to NZQA guidelines, such panels normally include “two university academics, chosen from four nominees (from New Zealand or overseas) from the area of specialisation appertaining to the application” and “one senior academic, chosen from two nominees, from a similar institution with accreditation to award a degree in a similar subject area” (NZQA, 2014b, p. 32). NZQA informed the Commission that academic panel members are selected based on their expertise, and will not always include two academics from the university subsector. If three academics from external providers are required to conduct an effective panel review, then selection should be without reference to subsector. NZQA should update their guidelines to clarify this.

R12.15

NZQA should amend its guidelines for approval of degree-level programmes to clarify when and why they require a panel review. Panels should be the minimum size and skills composition necessary for quality control.

Quality of teaching

Students devote substantial energy and resources to co-producing their tertiary education. They deserve professional, competent educators. However, tertiary teachers are often not qualified as educators (Chapter 6); and incentives for providers to invest in teaching quality are weak (Chapter 8). In universities in particular, research performance is much more important for academic career success than teaching performance (Chapter 6).

The United Kingdom and Australia are both working on frameworks of standards for tertiary teaching, aiming to provide a means of assessing and rewarding performance for academics who want to pursue teaching rather than research as their primary career goal (HEA Academy, 2011; Ako Aotearoa, 2016). Ako Aotearoa and NZITP & Metros Working Group (2012) undertook a similar project for vocational educators; and Ako Aotearoa hosted Professor Denise Chalmers in 2016 to discuss a similar project under way in Australia in higher education (Ako Aotearoa, 2016). The Commission recommends that providers develop or adopt frameworks of standards for tertiary teaching, suitable for New Zealand’s tertiary system.

R12.16

Providers should develop or adopt frameworks of standards for tertiary teaching, suitable for New Zealand’s tertiary system, for assessing and rewarding the capability and performance of tertiary teachers.

Relax the statutory requirements for research-led teaching

In contrast to Australia, the United Kingdom and the United States, providers in New Zealand are unable to offer degrees in fields of study where they do not undertake research. The Education Act 1989 requires that degrees can only be awarded where they are “taught mainly by people engaged in research”; and that at a

⁷⁴ Current course offerings at the Wellington Institute of Technology (Weltec) provided the basis for this example.

university “research and teaching are closely interdependent and most of the teaching is done by people who are active in advancing knowledge” (ss 162 (4)(a)(ii) and ss 253B (3)(a)).

As described in Chapter 6, quantitative studies find little evidence of strong complementarities between teaching and research.

The collective view of New Zealand universities is that the bundling of teaching and research is value-creating. If this is so, then universities will choose to bundle teaching and research without a legal requirement to do so; and students will continue to value and seek out degrees where teaching and research are bundled.

Relaxing the statutory requirements would allow providers to chart different courses, as providers have done successfully in other countries (Chapter 6). Some providers will continue to be research intensive across all their areas of educational delivery; others will prefer to concentrate their research efforts in particular fields of study, while still delivering a broad range of degrees. This will promote specialisation of staff and institutions, differentiation between providers, and wider choices for students.

In a more differentiated system, it may be necessary to make changes to the Performance-Based Research Fund to ensure that it rewards excellent research, wherever it occurs.

R12.17

Government should relax its statutory requirements for research-led teaching of degrees.

Imperfect information should not delay action

The Commission recommends collecting more reliable and relevant performance data, including measures of value add. But action should not be delayed until such data is available. The nature of education means that measures of teaching quality, student outcomes and provider performance will always be imperfect. Any feasible measure will be imprecise, incomplete and potentially misleading.

These conditions suit those who favour the status quo. They can argue to delay the release of new information (“it is unreliable and could mislead”), to delay action until better information is available, and to remove or blunt financial incentives (“they will create unexpected consequences”). All such arguments are familiar to those in the tertiary education system and other areas of public policy.

Information is crucial to drive and coordinate any large, complex system, but its imperfections create three challenges.

- **Measurement approaches need continuous improvement.** Information collection, management and assessment tools are improving all the time. There is plenty of knowledge about the shortcomings of existing measures, which can feed into the next round of improvements.
- **Information should be cross-checked rather than used in isolation.** Decision-making should not be overly reliant on any one measure. Broad consistency across a range of measures offers a more reliable basis for decision making. Similarly, linking financial incentives to a basket of measures, rather than just one or two measures, reduces the chance of perverse incentives.
- **The imperfections of current measures are not a valid reason to delay change.** It can seem risky and potentially costly to make changes based on imperfect information, and it is often tempting to wait for a future time when information will be better. However, the information on which the current system is based is also imperfect, and maintaining the status quo is neither risk-free nor costless. The relevant question in determining whether to act is not “will better information be available later?” but “is acting now better than maintaining the status quo?”

12.4 Rebalance regulation to protect the interests of students and encourage innovation

Market regulation

Customers run the risk of being over-charged and under-served when transacting in any market. These risks are higher when customers are less well-informed than suppliers are. It can also happen when suppliers have a degree of market power – they are able to be choosy about which customers they deal with and how they treat them. Students face these risks in New Zealand’s tertiary education market (Chapters 3 and 8).

Market power can arise from many sources, such as exclusive rights to intellectual property, or the ability to capture economies of scale. It can also arise from government regulations. For example, licensing regulations designed to protect consumers from poor quality suppliers confer a degree of market power on suppliers who do have licences.

While having market power is not illegal, it can harm competition and may be used for anti-competitive purposes. This can result in higher prices, poorer quality products, less choice, and not as much innovation as would otherwise occur.

Some businesses have substantial market power. This in itself is not illegal. But, when a business has a substantial degree of market power and takes advantage of that power for an anti-competitive purpose, competition can be harmed. Competition delivers lower prices, better quality, more choice and greater innovation to New Zealand consumers. (Commerce Commission, n.d.)

Government, therefore, has an important role in regulating markets. The amount and type of market regulation varies with the characteristics of the market and the consequent risks for consumers (NZPC, 2014b). Regulation can include measures to inform and protect consumers, controls to limit the accumulation of market power, controls over-pricing and other market behaviour, and sanctions for anti-competitive behaviour.

Tertiary education regulation does the opposite of what it does in other parts of the economy

In New Zealand’s tertiary system, providers’ market power derives mainly from government’s regulatory and funding policy settings. Extensive licensing controls confer market power on incumbent providers. The Government allocates the majority of public funding to public providers. Government controls effective entry into the tertiary education market through its funding allocations. Additionally it gives protected status to universities and polytechnics, gives cartel-like powers to the Vice-Chancellors Committee (section 12.3) and protects ITPs from competition from their neighbours.⁷⁵

F12.6

Market regulation typically includes measures to inform and protect consumers, limit the accumulation of market power, control over-pricing and sanction the abuse of market power. Yet in tertiary education, government regulations grant local monopolies and create cartel structures.

Non-transparency

Government’s regulatory and purchasing decisions determine the extent and distribution of the market power of incumbents, but not always in a transparent way. Resource allocation based on non-transparent processes, operating by informal rules, tends to reward the politically powerful and those with resources to devote to lobbying (Chapter 7). But even with good processes, agencies making such allocations run the risk of “regulatory capture” in which special interests that are the target of regulation succeed in influencing decisions in their own favour (Stigler, 1971). This makes the independence of regulators, and their ability to

⁷⁵ A cartel involves arrangements that reduce the competition between competitors, offering them increased market power. Examples include price fixing, the restriction of outputs, the allocation of customers, suppliers or territories, and bid rigging. Such arrangements are generally unlawful in New Zealand unless authorised under the Commerce Act or other legislation.

make principled decisions that reflect the wider interests of society, crucial (section 12.2; see also R12.1 and R12.19).

Balancing quality regulation and market regulation

Licensing controls are necessary to ensure minimum quality (section 12.3). However, it is desirable that quality controls are balanced by other settings that limit the market power of incumbents to protect the interests of students and encourage innovation. Providers with market power have weak incentives to innovate, and any innovation that does occur is more likely to sustain existing business models. Any limits on the entry of new providers restrict the opportunities for truly disruptive innovation.

Protect the interests of students

Some students will make choices that, over time, turn out less than ideal for them. Students can find themselves in a course not well matched to their abilities or preferences, either because their more preferred courses were unavailable; or because they have learnt more about the subject area, the suitability of their provider, or about themselves during their study. They may also need to move location because of a change in their personal circumstances.

For these reasons, students may want to leave or transfer away from their current course or provider. The current system makes it hard for students to do this. Students bear high costs from making initial mistakes or from changing their mind.

Improved staircasing and articulation

Clearly signposted pathways for students to study across providers would create more options for students. For example, a student studying a Diploma of Engineering at an ITP might want to switch after two years to a Bachelor of Engineering (Hons) at a university. It would be ideal if they could do so knowing (and having known from first enrolling at the ITP) that the university would fully credit their study to date, allowing them to enter the third year of the degree.

Such pathways require two or more providers to enter into an articulation (or staircasing) agreement and publicise the agreement. Articulation agreements are a standard mechanism to provide transparency to students about how providers accept transfers and recognise each other's credits. They help to make a provider-centred system that students find easier to navigate and that delivers lower "switching costs" (Chapter 8).

Few such agreements are in place in New Zealand, and the Commission understands they are becoming increasingly rare (Chapter 3). An increase in articulation agreements is desirable – but it is difficult to construct a recommendation that would encourage providers to enter into articulation agreements that provide useful pathways for students. The Commission seeks feedback on what might be effective.

Q12.2

What measures might encourage providers to enter into articulation agreements to provide pathways for students to study across providers?

Improving credit transfers

Not all student transfers will align with articulation agreements. Students wishing to transfer between providers are stuck with whatever credits the destination provider is willing to offer for courses completed at the source provider, if indeed the destination provider accepts their enrolment. Such offers are non-transparent and, the Commission understands, often ungenerous.

Students know little about credit transfer, and have little, if any, recourse if made a poor offer. To improve the bargaining power of students in such situations, the Commission recommends establishing a student ombudsman within NZQA who can arbitrate when students dispute transfer offers (as does the Office of the Independent Adjudicator in the United Kingdom). The student ombudsman would also promote credit transfer and articulation agreements. This service should not cost students much and would be binding on providers.

R12.18

Government should establish a student ombudsman service within NZQA to promote credit transfer, and with the power to arbitrate disputes between transferring students and their destination provider.

Recognition of credits can be a problem not only when students transfer between providers, but also between faculties at a single provider. Even where providers have appropriate organisation-wide statements about credit transfer, individual schools may have less accommodating policies. It may be desirable that the student ombudsman can also arbitrate such cases.

Reduce the market power conferred on incumbent TEIs

Reducing the market power that government has conferred on incumbent providers will help to make the system more flexible and open to new models.

Government faces conflicting objectives in regulating this market (Chapter 8). It is financially liable for TEI debts, and accountable to the public for TEI performance and survival. Government will sometimes have to choose between protecting a poorly performing TEI (and therefore its own balance sheet and political reputation), or protecting the interests of students. These, and other conflicts of interest, are present in the current allocation of responsibilities to different parts of government (Table 12.1).

Government can manage this conflict of interest by allocating these two roles (managing the government's fiscal exposure to TEIs, and protecting students by regulating the market power of providers) to different parts of government.

One possible arrangement would be for the Ministry of Education to manage government's residual fiscal exposure to TEIs. As this exposure cannot be devolved, it makes sense to manage it close to ministers. The regulation of market power is more amenable to devolution. The Commerce Commission could become the regulator of market power issues in the tertiary sector, perhaps by implementing some industry-specific regulation as it does for telecommunications. However, this arrangement would leave open the important question of who allocates quotas and therefore funding – a significant source of market power in the current system.

Government should review the current regulatory arrangements, with a view to best reducing conflicts between government's roles.

R12.19

The Ministry of Education and the Treasury should review the current regulatory arrangements, with a view to separating government's fiscal exposure to tertiary education institutions from its responsibility to protect the interests of students.

Financially competent TEIs should have more autonomy and responsibility

Various regulatory hurdles restrain providers from trialling or adopting new models. At minimum, providers are likely to need agreement or sign-off from quality-control (eg, NZQA, CUAP) and purchasing (eg, TEC) agencies. This report recommends relaxing these types of regulatory hurdles.

TEIs face additional hurdles. New models with significant financial implications, or that involve a change to the use or disposition of their assets, require additional approvals from TEC and the Ministry of Education (Chapter 5).

One reason government maintains tight control over TEIs is because government bears legal liability for their debts in the event of failure. Government has reason to closely monitor the financial performance of TEIs, and, fearing the worst, keeps close control over TEI's use and disposal of assets. This control inhibits the kind of innovation that might radically change a TEI's business model.

Governments are unlikely to approve changes they regard as financially risky. And, knowing this, TEIs may quash such proposals before they get far.

The Commission recommends that competent providers with adequate quality assurance systems become self-accrediting (R12.11). This removes a barrier to innovation by providers. NZQA would assess such competence.

Similarly, the Commission recommends that government should treat *financially* competent TEIs as autonomous entities.⁷⁶ That is, they should receive increased autonomy *and* responsibility. Such TEIs would no longer need to seek approval to acquire or dispose of assets, or to borrow money. In exchange, they would lose the government guarantee of their creditors.

These changes would remove this further hurdle to innovation by TEIs – government’s direct control over their assets and borrowing.

R12.20

To improve their ability to innovate, tertiary education institutions (TEIs) should own and control their assets, and be fully responsible for their own debts. Government should seek to amend the Education Act 1989 to allow it to identify financially competent TEIs and treat them accordingly. This includes:

- removing the requirement for such TEIs to seek approval to acquire or dispose of assets, or to borrow money; and
- removing government’s guarantee of the creditors of such TEIs.

The current government responsibilities to students of a dissolved TEI should remain (as specified in the Education Act). These are logically distinct from the government’s guarantee of a TEI’s creditors.

While this recommendation would remove government’s explicit guarantee of a TEI’s creditors, arguably an implicit guarantee would remain. That is, government would come under pressure to rescue a TEI in trouble, for the sake of the TEI’s students, staff, and potentially its regional economy and (if applicable) to maintain regional coverage. The strength of such implicit guarantees is unknown.⁷⁷ Creditors should do their own assessment of the financial viability of the TEI and the strength of implicit guarantees, and price their loans accordingly. This would improve the current situation in which creditors face no incentive to do such an assessment. Both government and TEI gain from such independent monitoring.

Remove impediments to the efficient and innovative use of assets

TEIs have incentives to accumulate assets and to use them inefficiently (Chapter 8). This may create problems for the adoption of new models that are better suited to, for example, buildings in different locations or with different configurations.⁷⁸

The Commission’s *Using land for housing* inquiry recommended that educational institutions pay rates to local government (NZPC, 2015b). Exempting TEIs from paying rates has no principled justification; it creates costs for others in the community, and offers a competitive advantage to TEIs over private education providers. This inquiry endorses that recommendation.

R12.21

Tertiary education institutions (TEIs) should contribute directly to their local communities by paying rates. This would remove a distortion that leads to inefficient asset use by the TEIs and inefficient land use.

Further, some land and buildings used by TEIs are in Crown title, lessening the ability of TEIs to use them efficiently or repurpose them to support new models. TEC administers a process to transfer the assets into

⁷⁶ TEC collects sufficient information to support assessments of the financial competence of TEIs.

⁷⁷ In the recent case of Solid Energy, the state-owned enterprise’s creditors found that government did not guarantee their loans. Future TEI creditors may be wary, given this experience.

⁷⁸ The disposal process for Crown assets is subject to several Acts.

TEI title. But this process is slow, and incentivises TEIs to retain newly transferred assets until they can receive the full proceeds of sale (five years after the transfer).

F12.7

Some land and buildings used by TEIs are in Crown title, which lessens their ability to repurpose such assets to support new models. The process to transfer the assets into TEI title is slow and creates incentives for TEIs to retain assets they may no longer need.

The Commission is keen to receive feedback on what might lead to a faster transfer of assets into TEI title without incentivising TEIs to retain assets they do not need.

Q12.3

What measures could lead to a faster transfer of (nominally) Crown assets into TEI title, without incentivising TEIs to retain assets they do not need?

Should government let providers determine their own prices?

Fee regulation in New Zealand controls the maximum prices that providers can charge students. (It also controls the flow-on costs to government of the SLS – see section 12.5.)

Students in New Zealand currently need the protection afforded by fee regulation for two main reasons.

- Providers face little competition in some parts of the market. Some New Zealand regions have few tertiary providers, limiting the options of students who cannot travel to study and who want an intramural learning experience. There are significant barriers to entry across the system resulting in little or no entry (Chapter 7). Without fee regulation, providers could choose to charge high prices to students, knowing that their market share was protected by the system of EFTS quotas and the inability of new providers to move in and undercut their prices.
- Students lack good information about quality (Chapters 3 and 9). In a competitive market, price often signals quality – at least where the cost of inputs plausibly has a big influence on the price. In the absence of other information about quality, “more expensive is better” is a common rule of thumb. Without fee regulation, providers might set prices high on the assumption that students would apply this rule of thumb, as has occurred in some other countries (Box 12.2).

Yet fee regulation significantly constrains innovation. It limits the ability of providers to create new products with different price/quality trade-offs and to signal these differences to students. Universities New Zealand noted that fee regulation, in combination with uniform tuition subsidies (EFTS price), limits innovation and differentiation:

[a]ll New Zealand universities receive a similar amount of funding (fee and tuition subsidies) for courses offered under particular Student Achievement Component (SAC) cost categories. This constrains the amount of differentiation and innovation that is possible in New Zealand universities. (sub. 17, p. 14)

Box 12.2 University responses to changes to fee regulation in other countries

In the United Kingdom in 2004, the maximum domestic tuition fee chargeable by universities (set in law) tripled, from £1 000 to £3 000 a year. It tripled again in 2013 to £9 000. Contrary to the government’s expectations, nearly all universities raised their fees to the maximum level.

David Willetts’ theory of fee charging... is that, based on their performance, [universities] would organise themselves into something approaching a football league of fees, with the grey stone medieval quadrangles of Oxford and Cambridge in the premiership; the 19th century redbrick of the likes of Leeds and Sheffield in the championship; and the 1960s concrete carbuncles of the former polytechnics in division one.

But that hasn’t happened. ...

Graham Henderson, vice chancellor of Teesside University [stated that] “Our students have been checking we are not charging the bottom of the [fee] spectrum because they don’t want it to be seen as second rate.” In other words, the less you charge, the lower the quality of your university appears to be. (Paige, 2011)

In Australia, recent increases in the fee caps provided universities with an opportunity to compete on price, but few took it up. Providers who did not increase their fees by the maximum 25% suffered lower demand, and swiftly increased their prices by the maximum allowed, to move in line with their competitors (Chapman, 2014).

The United States does not have fee regulation at the federal level, but many states administer their own regulation. Overall, advertised tuition fees at universities have increased significantly over the last decade, especially at private providers (including non-profit providers). However, many students pay less than the advertised price. Growth in tuition fees in the United States may be starting to level off (Douglas-Gabriel, 2015). This may be in part a result of state governments making public funding conditional on capped fees (Meotti, 2016). However, average advertised fees are still increasing well above the level of inflation (Table 12.2).

Table 12.2 Increases in tuition fees at universities in the United States, 2015/16

	Advertised tuition fee for 2015/16 academic year	Inflation-adjusted increase on 2014/15
Public four-year universities	\$9 400	2.9%
Private non-profit universities	\$14 900	10.7%
Private universities	\$32 400	2.6%

Source: Douglas-Gabriel, 2015.

In terms of encouraging more innovation and new models of tertiary education, it would be desirable if providers could set their own fees, to enable them to differentiate more on the nature and quality of their offerings.

In the Commission’s view, though, government cannot protect students’ interests in an environment of unregulated fees unless it has already made significant changes to:

- information for students, so that students can access good information about the value-add of individual providers and courses of study, and weigh this information against the cost of different options;
- the ability of students to change providers partway through a qualification; and
- regulation and the management of subsidies, so that providers face meaningful competitive pressure from other incumbents and, in particular, from new entrants.

It is hard to see how this last requirement in particular (ie, providers facing meaningful competitive pressure from other incumbents and, in particular, from new entrants) can be achieved within a system in which government centrally allocates a capped number of subsidised places – even after implementation of all the other recommendations in this report. The Commission invites submitters’ suggestions for addressing this challenge.

F12.8

Uniform student fees are a significant constraint on innovation. It would be desirable if providers could set their own fees, to enable them to differentiate more on the nature and quality of their offerings – but only if students’ interests were adequately protected.

Q12.4

How can government deregulate fees, to encourage providers to differentiate more on the nature and quality of their offerings, while still adequately protecting the interests of students? Is this achievable within a system where government centrally allocates a capped number of subsidised places?

If providers were permitted to set their own fees, the proposed student ombudsman (see R12.18) could potentially consider complaints from students about over-charging. In the United Kingdom, the Office of the Independent Adjudicator performs this function.

Encourage flexibility of organisational form

Significant innovations are more likely to arise in established providers if they establish “skunkworks” – largely autonomous subsidiaries that are able to operate free from the day-to-day control of the parent organisation (Chapter 11). Otago Polytechnic’s Capable NZ and Australia’s Swinburne Online are two examples. The Commission is interested to understand what, if any, barriers exist to other providers adopting this sort of approach.

Q12.5

What barriers do providers face in establishing largely autonomous subsidiaries that pursue innovation and new models?

Remove constraints on course and qualification design that stifle innovation

Some of the specifications on course and qualification design and funding eligibility in the current system are difficult to justify. These include rules that prevent providers from receiving TEC funding for students who want to take a course but do not intend to pursue a qualification; upper and lower limits on course duration; and limits on the levels at which industry training is funded.

The indirect intent behind these specifications appears to be to regulate low-quality provision. However, they reflect a narrow view of what good quality provision looks like, and are at odds with a system that is intended to support lifelong learning. Their universal application reduces the ability of competent providers to adapt provision to match student and employer demand. They are not an effective way to manage quality, and government should remove them.

R12.22

Government should:

- extend funding eligibility to students who do not intend to pursue qualifications;
- remove specifications that set a lower and upper limit on fundable course duration; and
- remove limits on the use of industry training funding on training at levels 5 and above on the NZQF.

Abolish University Entrance

The Education Act requires NZQA, in consultation with universities and the Vice-Chancellors Committee, to establish criteria that a student must meet to gain entrance to a university if under the age of 20 (s 247). This sets the standard known as University Entrance. It currently comprises a package of credits at National Certificate of Educational Achievement (NCEA) level 3, including a minimum number of credits in literacy, numeracy and various “approved subjects”.

University Entrance performs no useful function and the name confers a market advantage on one type of provider (Chapter 3). Government should abolish it, leaving universities free to set their own entry requirements. This in itself will have little effect on actual requirements for entry to university, given that universities already set the bar higher or lower for particular courses as they see fit.

R12.23

Government should abolish University Entrance, leaving all universities free to set their own entry requirements.

Remove the approvals process for ITPs that seek to deliver education outside their region

TEC expects ITPs to concentrate primarily on delivering education that meets the needs of students in their region. If an ITP wishes to deliver outside their own region, they must first seek TEC approval.⁷⁹ As part of the approval process, TEC requires the ITP to demonstrate a regional industry or community need for the proposed provision, and to engage with the incumbent ITP to determine that they do not have a similar offering. These requirements give incumbent ITPs protection, dampen pressure to improve, and restrict the spread of new models.

R12.24

Educational delivery by institutes of technology and polytechnics anywhere in New Zealand should not require the approval of the Tertiary Education Commission.

Lower barriers to entry by new providers – including offshore providers

While incumbent organisations may engage in disruptive innovation, it is more likely to come from new entrants (Chapter 11). Potential new entrants to the New Zealand tertiary education market face both regulatory and funding barriers (Chapter 5). This section recommends removing regulatory barriers, which is a necessary but not sufficient step towards allowing new entry. Section 12.6 explores funding barriers.

Universities New Zealand submitted that the three main threats to the New Zealand university system in the next 10 years are:

- Providers offering internationally recognised brand degrees in New Zealand (likely) – A multi-campus/multi-channel university with an internationally recognised and valued name (like Harvard or MIT) sets up a campus in New Zealand and starts offering its programmes and qualifications in New Zealand. The learning experience and graduate quality is at the same level as that of those who graduate from the parent institution...
- An aggregator sets up shop in New Zealand (possible) – The aggregation model is that currently being explored by the main MOOCs providers. Under this model, the aggregator bundles up courses offered by other typically highly respected brand name providers, and limits its role to running assessment centres and awarding qualifications...
- A successful transformation model actually emerges (possible, but not in the near future) – A model emerges that satisfies the requirements of (a) conferring education and degrees that are credible to students and employers, (b) does not require the sunk capital infrastructure of the campus environment, and (c) does not require extensive subsidising. This model does not currently exist (other than the aggregator model listed above). (sub. 17, pp. 84–85)

While these may be threats to the market share of incumbent universities, the successful introduction of these models into the New Zealand tertiary education system could be a boon for students, offering them greater choice and access to new programmes and modes of delivery.

The Commission recommends that the Ministry of Education systematically review regulatory barriers to new entry, with a view to their removal.

R12.25

The Ministry of Education should systematically identify and remove regulatory barriers to new entrants in the tertiary education system, subject to quality standards.

Specifically, government should reduce restrictions on use of the terms “university”, “polytechnic”, “institute of technology” and “college of education”. The Education Act should not prohibit reputable foreign

⁷⁹ The Open Polytechnic can deliver online courses anywhere in New Zealand.

universities that wish to operate in New Zealand, or high-quality providers from other subsectors, from using such terms.

Under current legislation, a private training establishment (PTE) wanting to use one of these terms must apply to the minister for approval (see s 253C of the Education Act), which is a *prima facie* barrier to new entrants. In addition, the Act has no provision for a TEI that wishes to apply to use a term other than the one under which it was established (eg, an ITP or wānanga cannot apply to use the term “university”). This would likely prevent a joint venture between an ITP or wānanga and a reputable foreign university being able to apply to use the term “university”. There is no principled reason why PTEs can apply to use the terms, but other TEIs cannot.

The current policy gives significant weight to protecting the reputation of existing TEIs. Yet in other countries like Australia and the United Kingdom, where a broader range of institutions are able to use the term “university”, the status of reputable institutions is not undermined. Other sources of information about quality are available; in particular, widely-recognised university ranking systems significantly reduce the potential for confusion.

There are risks for quality and for New Zealand in loosening up the “brand” associated with these terms, both by themselves and with the “New Zealand” prefix. Managing this risk required a strong regulator making informed decisions in the long-term interests of consumers and New Zealand.⁸⁰

Any provider should be able to apply to NZQA for permission to use these terms. NZQA should grant or reject applications based on the provider’s characteristics, and on whether students or the public are likely to be significantly misled about the provider’s nature or quality, rather than on the applicant’s ownership status.

R12.26

Any provider should be able to apply to NZQA to use the terms “university”, “polytechnic”, “institute of technology” and “college of education”. NZQA should grant or reject such applications based on the provider’s characteristics and on whether students or the public are likely to be misled about the provider’s nature or quality.

Government should also remove the statutory processes in sections 162 and 164 of the Education Act that make it very difficult for TEIs to change subsectors. It should also develop a new process by which NZQA considers such applications.

R12.27

Any tertiary education institution should be able to apply to NZQA to change subsector (eg, from ITP to university or university to ITP).

In addition, wherever government is satisfied that other jurisdictions have good quality assurance arrangements, it should allow providers and courses approved for delivery in those jurisdictions to deliver in New Zealand. This should include all jurisdictions with which NZQA already has mutual recognition agreements.

R12.28

Government should approve for New Zealand those providers and courses approved in jurisdictions with which NZQA has mutual recognition agreements, or in other jurisdictions where the New Zealand government is satisfied with the quality assurance arrangements.

The allocation of subsidised places remains a problem

The recommendations in this section would help to reduce the market power of incumbents, but they do not address the single biggest source of providers’ market power: the central allocation of EFTS quotas. The

⁸⁰ This is not unlike the situation that New Zealand faced with the deregulation of the banking industry in the 1980s. The potential gains from deregulation might not have been realised if quality was mis-represented to consumers through the use of the term “bank” by poor-quality providers. The term “New Zealand bank” by poor-quality providers could also have damaged the reputation of the New Zealand banking industry and its regulators.

inflexibility of allocations makes the market much less attractive to a new entrant, and limits the ability of existing providers to grow.

The Commission has heard that the only practical way for a new entrant to receive a quota from TEC is to buy an existing funded PTE (for the majority of TEC-administered funds). Even then, TEC does not assure ongoing funding, and may disallow the quota transfer (Chapter 7). The entrant's ability to grow provision is very modest – unless they purchase additional funded PTEs. Such acquisition activity is apparent in the PTE subsector.

Quota transfers – that is, shifts of EFTS funding between providers – in the other subsectors are minimal (Chapter 5). The interests of government and TELs appear to coincide in maintaining current quota allocations with little regard to provider performance and student demand.

The Commission's recommendations in this report, if fully adopted, will only partially open the system to new entrants and to new models. The system's inbuilt tendency to resist change or revert to form in the face of various pressures may reduce this openness over time.

Sections 12.6 to 12.8 discuss these problems and offer a possible solution.

12.5 Providing student access to finance

The current SLS is a barrier to other changes that would support the emergence of new models.⁸¹ The current SLS combines a subsidy scheme and a loan scheme. The subsidy component is very expensive to government. Government has sought to reduce that expense by adjusting the (non-interest rate) settings of the SLS, such as repayment rates.

The cost of the subsidy component is substantial; in 2014/15, the government wrote off \$602 million. Based on lending in 2010, Baxter (2011) found that about 45% of this write-down was attributable to the SLS's interest-free nature, with the remainder attributable to non-repayment risk (eg, due to bankruptcy, death, failure to meet the income threshold for repayments, or failing to repay while overseas). The cost of the SLS deters government from pursuing policies to expand access to tertiary education.

The SLS is also highly regressive, both because it represents a transfer to those who will receive high incomes because of tertiary education, and because of its opportunity cost. Acharya and Crampton (2016) suggested the savings from reintroducing interest should be directed to primary and secondary schools, supporting students at risk of not achieving NCEA. The Child Poverty Action Group suggested the savings could be better spent on student support: “[i]f it is a genuine trade-off between higher interest on debt in the long-term versus short-term support to ensure students can complete their degrees, the latter should be prioritised” (Lin, 2016, p. 25).

There are many alternative uses of the subsidy component of the SLS, and these could contribute more to educational outcomes or national wellbeing.

A re-designed SLS should perform a single function: *a loan scheme with income-contingent repayments that ensures that people are not excluded from tertiary education purely because they cannot borrow against future earnings to fund their education.* Such a scheme would feature:

- a higher repayment threshold (at least at the equivalent of the full-time adult minimum wage);
- a progressive repayment schedule; and
- an interest rate that covers the government's costs of running the scheme.

There is a range of defensible options for the interest rate. Ideally, the rate should not distort (too far) the decisions of lenders or borrowers. Setting the interest rate at government's long-term borrowing rate,

⁸¹ The inquiry's terms of reference ask the Commission, among other things, to “explore the options for changes to education funding and pricing mechanisms that may be required to facilitate new models of tertiary education. The focus will be on pricing and fee setting and not on student support (ie, student loans and allowances)”. It is clear from the Commission's analysis that the SLS is an integral part of the current system, with direct implications for new models. Accordingly, the Commission makes recommendations on the SLS.

adjusted for default risk and administration costs, offers the minimum distortions to the lender's decisions. This would be above the Consumer Price Index, but below the rate at which students (and ex-students) can borrow for other purposes, and so unlikely to distort borrowers' decisions excessively.

R12.29

Government should reform the Student Loan Scheme to be an income-contingent loan scheme that ensures that people are not excluded from tertiary education purely because they cannot borrow against future earnings to fund their education. Future Student Loan Scheme borrowers should be charged interest at a rate that covers government's costs in running the scheme.

12.6 Subsidising education

Subsidies are difficult to design. A good subsidy regime should:

- limit the fiscal risk of the subsidiser;
- be fair, in the sense that people facing the same circumstances receive the same subsidy;
- be transparent so that it is clear who is subsidising whom, and by how much;
- be targeted, which means being effective in inducing participation by those the regime intends to benefit, without inducing over-participation by others or subsidising those who would have participated without any subsidy; and
- not create substantial distortions (eg, in product quality, product form or market structure).

Either the student or the provider can be the direct recipient of a subsidy. The two mechanisms have different implications. This section assumes the current arrangements continue; that is, providers are the direct recipients of tertiary education subsidies. (Section 12.8 explores an alternative.)

Challenges with subsidising providers

The current tertiary funding system subsidises providers to supply education to students. To mitigate its fiscal and political risks, the government defines the product, sets the price, specifies the quantity supplied and regulates the market structure (Chapters 7 and 8). A responsive, innovative system requires the removal of one or more of these constraints. But feasible alternatives all have problems.

- It appears to be politically very difficult for government to reallocate quotas away from incumbents. Uncapping quantity (removing all quota limits) would allow student choice to drive reallocation, but would create high fiscal risk for government, as described in the next subsection. Tradeable quotas might lead to a more efficient allocation; however, these offer windfalls for incumbents and barriers for new entrants.
- It is politically difficult for government to modify the subsidy price based on student attributes, provider attributes, student willingness to pay or provider performance. But the alternative – inflexible pricing – creates incentives for cherry-picking. Government tries to limit cherry-picking; for example, by creating additional funding streams (eg, equity funding) or by requiring bundling through administrative controls (eg, participation targets in investment plans). These add further complexity and compliance costs.
- Bulk subsidies are feasible, but create further problems. They lock in the current market structure, and offer little incentive to improve performance. They also create the problem that providers can choose to maximise their surplus by reducing supply (overall or in high-cost fields). This risk could lead government back to regulating quantity.

This section makes recommendations about various improvements to the current subsidy system. However, the recommendations cannot wholly address the problems identified above. (Section 12.7 discusses this further.)

A demand-driven system is attractive, but typically leads back to quantity controls

In the New Zealand system, providers who can meet their quota by attracting younger, full-time students to on-campus study have clear incentives to do so. The traditional model is well-supported by the funding policy, and these providers have few or no incentives to innovate to meet latent demand.

By contrast, Australian higher education providers are innovating and chasing new markets, because the current (as at 2016) Australian university system is “demand driven” at Bachelor’s level. The Australian Government does not limit the number of student places it subsidises, either overall or at specific higher education providers (Box 12.3).

Is a demand-driven system the answer to opening the system up to new models?

Experience in Australia and New Zealand shows that supply can expand rapidly in a demand-driven market, with an expansion of cost to government. Typically, the new supply addresses latent demand from people previously poorly serviced because of their location, circumstances or preferences. Such expansion of service is desirable, provided quality is maintained.

Demand-driven systems also encourage provider innovation. Experience with this has been good and bad. In Australia, providers such as Swinburne expanded with new products designed for previously unserved populations (Chapter 11). New Zealand providers grew significantly during the demand-driven period, revealing significant latent demand for their products; but government became concerned about cost and quality in the early to mid-2000s.

Kemp and Norton (2014) and Norton (2013) argue that demand-driven systems offer better labour market matching (Box 12.1), and improvements in quality of provision, organisational innovation, market entry and student participation and diversity.

However, governments have struggled to assure the quality of new providers and products. High-profile examples of poor quality or inappropriate courses – whether localised or widespread – have led to policy backflips. In Australia, for example,

[f]ly-by-night private colleges with high drop-out rates are set to lose access to taxpayer subsidies under a federal government plan to “smash” the business model of dodgy operators...

Education Minister Simon Birmingham will announce on Thursday that he is finalising a major overhaul of the government’s scandal-plagued vocational loans scheme to come into effect next year. (Knott, 2016a)

The other problem with demand-driven systems is the fiscal risk to government. Government cannot be sure that its costs in any one year will fall within the amount budgeted for.

In combination, these problems lead to governments clamping down on demand-driven systems (Box 12.3).

Box 12.3 Australian and New Zealand experiences with “demand driven” systems

The Australian and New Zealand governments have adopted demand-driven tertiary education policies at different times.

In 1999, New Zealand removed caps on enrolment and allowed PTEs to access subsidies on similar terms to public providers. Reviewing this period, Green (2005) concluded:

UTTA [the Universal Tertiary Tuition Allowance] is found to have been spectacularly successful in expanding learner choice and improving equality of opportunity, but less obviously successful against the goal of improving quality. The policy failed to meet the ‘affordability’ test, with the government ultimately abandoning UTTA in the face of fiscal pressure. The levels of innovation, responsiveness and competition experienced differed among institutions, suggesting that institutional management ability is a key factor in making ‘quasi-market’ policies work, and that the impacts of such policies will necessarily vary for different types of institutions. (Green, 2005, p. 2)

Concerns about the quality of some private providers and institutions involved in subdegree provision emerged. The media reported on funding for courses considered of dubious public value (such as “twilight golf”).

Poor quality control appears to have been a significant contributing factor. Green reported that

[s]everal Ministry of Education officials and PTE managers identified insufficient oversight from quality assurance bodies as the key reasons for these breaches. Dean Carroll, a former Ministry and Tertiary Education Commission official with responsibility for monitoring publicly-funded private providers reported that the New Zealand Qualifications Authority (which is responsible for quality assuring PTEs and the wananga) appeared “actively disengaged” from funding policy reforms and was poorly prepared for its implications. (Green, 2005, p. 79)

In the Australian state of Victoria, uncapped provision at subdegree level from 2010 saw reports of private Vocational Education and Training (VET) providers rorting the system, often using brokers to recruit students. The media reported multiple stories of students being paid to enrol, brokers door-knocking rest homes (and even palliative care wards) to enrol students, diplomas being granted for a fraction of the required hours of work, and an explosive growth in fitness training and sports coaching courses. Poor quality control appears to have contributed to these developments.

Independent Tertiary Institutions submitted that

[t]he New Zealand PTE sector is far better regulated than the “Wild West” of the Australian market. We do complain (rightly) about regulation and compliance here but it is far better – for students and providers – than the shonky Australian system. (sub. 81, p. 12)

Financial risks and quality scandals usually lead government back to re-imposing regulation, including quantity caps. Victoria’s VET system remains uncapped, but improved regulation was introduced from 2015. Caps were re-introduced in New Zealand for PTEs in 2003 and for public providers in 2006.

Caps in Australia’s higher education system were relaxed from 2009 and removed in 2012 for degree-level study at universities. Costs have increased sharply as participation has risen.

Since 2009, with the demand driven system, taxpayer funding for Commonwealth supported places in higher education has increased by 59 per cent as compared to 29 per cent growth in nominal GDP [Gross Domestic Product] over the same period. Funding of university students has grown at twice the rate of the economy. Similarly, the debt held under our income contingent student loans scheme, one of the most generous in the world, has grown to over \$40 billion, with an annual expense of \$2.6 billion. (Australian Government, 2016, p. 4)

The elite Group of Eight universities recently called for the re-introduction of per-university student caps. They were concerned about underfunding of research, falling entry standards and soaring costs (Knott, 2016b).

Improvements within the existing system

Notwithstanding the challenges discussed above, the current subsidy arrangements could be improved.

The EFTS funding formula constrains innovation

Controls on the inputs of tertiary education constrain innovations that seek to achieve the same outputs or outcomes through a different mix of inputs. For example, purchasing EFTS based on “learning hours” is a barrier to innovations that allow individuals to learn more quickly. Laitinen (2012) outlines several problems with a “time served” approach to calculating learning hours for funding purposes. She explains that government can change its approach to calculation in a way that retains the convenience of a standardised funding unit, but enables providers to innovate in how and what they deliver to diverse learners. While her discussion focuses on the US system, there are clear parallels to (and lessons for) New Zealand’s EFTS-based funding approach. Changes are needed to open up innovations to accelerate learning. These may involve creating standardised units of learning to replace actual measures of delivery time.

R12.30

The Government should alter the definition of an equivalent full-time student (EFTS) to allow alternatives to the input-based “learning hour” as a basis of calculation.

Further, an EFTS implicitly funds not just delivery but also content design, assessment, credentialing and sometimes pastoral care, all in a single bundle. This approach inhibits a provider from unbundling these services – unless that provider is willing to (and receives TEC permission to) subcontract some activities to other parties. It also prevents a student from unbundling the services that best suit their needs.

Apprenticeship subsidies should be consistent

There are two main types of apprenticeship: New Zealand Apprenticeships and Managed Apprenticeships. The key difference between these two is that the former is organised by ITOs (or businesses approved under the Direct Funding Scheme), while the latter is organised and delivered by an ITP (Mahoney, 2015).

Government subsidies for the two approaches differ markedly, with Managed Apprenticeships attracting nearly twice the subsidy of New Zealand Apprenticeships. The rationale for this difference is unclear. The usual rationale for the funding differential between provider-based delivery and industry training is that, in the case of industry training, the student can access the supervision and infrastructure of the workplace to support their learning. However, this is also the case for a Managed Apprenticeship.

R12.31

The Ministry of Education should review the funding rates applicable to New Zealand and Managed Apprenticeships, with a view to equalising them.

Improving the transparency of subsidies

The current system hides costs from students. Most are unaware of the costs their choices impose on others (Baxter, 2012) or, for that matter, the taxes they will need to pay in future to educate other students under these arrangements.

Prices, costs and who is paying would be more transparent if every student received an invoice for government-subsidised education. The invoice should explicitly show the full cost and the government’s contribution.

R12.32

Every student should receive an invoice from their provider for government-subsidised education. This should explicitly show the full price of education, and the Government’s contribution alongside the fee payable.

Improving the administration of subsidies

Current arrangements for the administration of subsidies give providers little time to plan for change. For example, it is not uncommon for providers to receive confirmation of their funding allocations for a coming calendar year in the last business week before Christmas. Another example is the introduction of a new allocation method for SAC funding for provision at levels 3 and 4, which will give providers as little as two months to make any necessary changes to staffing and facilities to be ready to deliver (or to cease delivery) in 2017. Short timelines constrain innovation and new models.

R12.33

The Tertiary Education Commission should, in consultation with providers, set – and stick to – a reasonable deadline by which they will confirm funding allocations.

12.7 How would these recommendations affect the system?

The draft recommendations in sections 12.3 to 12.6, individually and collectively, would better focus quality control, improve the provider subsidy regime, increase transparency of costs and performance, offer more

autonomy and responsibility to TEIs and simplify regulation. They could also stimulate innovation and diversity of models in tertiary education, by allowing providers to experiment and differentiate on some dimensions. How might different providers act in the more open system envisaged by the draft recommendations?

- Some providers may embrace technology-enabled models of distance and blended learning that would improve access, participation and achievement of groups such as Māori, Pasifika, at-risk youth and those with limited access to traditional campus-based provision.
- Some vocational providers may adopt new models of partnering with employers to better deliver skills and competencies demanded by industry, including at higher levels of study. Some may specifically target older adults who want to retrain or upskill.
- Some providers might offer delivery by specialised teaching staff who are research-informed rather than research-active.
- Some providers may focus on achieving world-class excellence with the best students and best researchers in particular fields.
- Some providers may choose to concentrate on giving students a traditional campus-based experience.

Such differentiation would not only protect the system from external shocks, but would also increase a student's ability to find a better match of tertiary provision to their needs and preferences. This could significantly improve the chances in life for those currently excluded from, or under-served by, the system.

However, as noted in section 12.2, the tertiary education system has an inbuilt tendency to resist change or "revert to form" in the face of various pressures. If this tendency should override or counteract the recommended changes, then adoption of any new models may be short-lived.

The inquiry's draft recommendations fall short of addressing this tendency. Nor do they deal fully with some of the other major structural deficiencies of the current system. These include:

- the conflict of interest that government faces as the guarantor and funder of TEIs;
- the inability of the funding regime to reallocate funds among providers based on their relative performance;
- the over-specification of an education "product" inherent in using EFTS as the unit of purchase;
- the rationing of tertiary education, which is a direct consequence of a supply-driven system;
- the inherently inequitable allocation of resources to people; and
- the inability of the funding regime to shift funding to new entrants.

F12.9

The inquiry's recommendations, if adopted, will improve the system, and its openness to new models. However, they are insufficient to address the system's major structural deficiencies identified by the inquiry.

The majority of these unresolved problems arise from – or are made worse by – the payment of subsidies directly to providers. These limitations led the Commission to look at other service models for the tertiary education system.

12.8 Slicing through the knot – a student-centred system

Coolbear (2006) contrasted traditional (Figure 12.2) with student-centred (Figure 12.3) models of educational delivery. In the traditional model:

- the teacher is in control;

- the teacher acts as a gatekeeper of content; and
- the learner tends to be passive.

Implicit in this model is the relationship between the teacher/provider and the government in controlling and specifying the type and quantity of education.

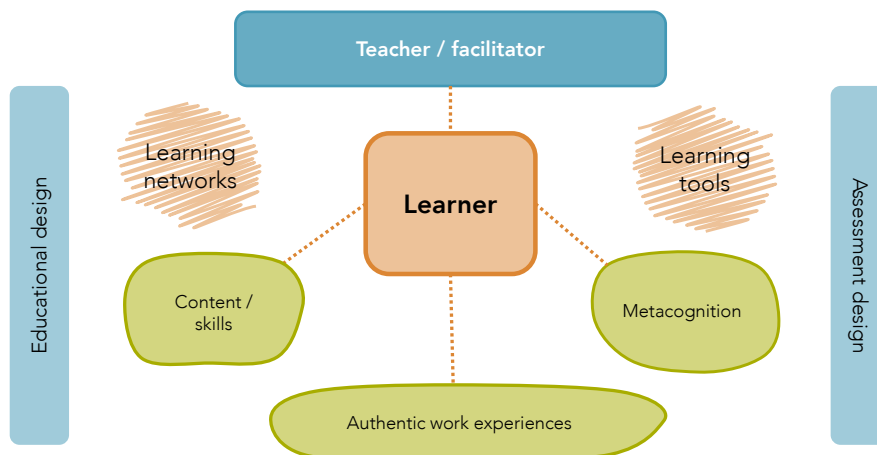
By contrast, in the student-centred model, “the key services are structure, motivation, support and credentialing” (Tertiary eLearning Reference Group, sub. 101, p. 3). This model recognises that students, rather than being passive recipients, actively engage in the co-production of their education. They bring, as well as receive, resources of various kinds.

Figure 12.2 The traditional model of educational delivery



Source: Coolbear, 2006; cited in Tertiary eLearning Reference Group, sub. 101, p. 3.

Figure 12.3 The student-centred model of educational delivery



Source: Coolbear, 2006; cited in Tertiary eLearning Reference Group, sub. 101, p. 3.

Government has expressed a commitment to a student-centred system

The seven government agencies involved in stewarding the education system recently participated in an exercise, led by the State Services Commission, to design a “blueprint” for the New Zealand education system, including tertiary education.⁸² The agencies

agreed at the outset that they wanted to reorient the system around the learner, ie, to “ensure that lifelong learners are at the centre, with their journey and outcomes strategically aligned across agencies”. ... Creating a truly learner-centric Education System is seen by most people we spoke to as a significant shift in the current system orientation. (States Services Commission et al., 2016, p. 9)

The Productivity Commission agrees both that this is the right goal, and that it requires a significant reorientation. New Zealand’s current funding environment is well-suited to the traditional educational model shown in Figure 12.2. In the present system, government allocates subsidies to providers, and providers in turn allocate subsidised places to students. This creates a system that is provider-centric from the students’ perspective (ie, that requires students to understand and meet providers’ needs, rather than the other way around); and government-centric from the providers’ perspective.

⁸² The seven government agencies involved were the Ministry of Education, the Education Review Office, the Tertiary Education Commission, the New Zealand Qualification Authority, Careers New Zealand, Education New Zealand, and the Education Council.

F12.10

The current tertiary education system is provider-centric from the students' perspective; and government-centric from the providers' perspective.

What would it take to have a truly student-centred model, in which the allocation of resources was determined not by a central agency or by providers, but by the students?

Subsidising students directly

The Commission's *More Effective Social Services* inquiry outlines an alternative service model for subsidising the provision of services: the *client-directed budget* (Box 12.4). The Commission believes this could be an effective way to deliver a truly student-centred tertiary education. In a client-directed budget, the service recipient is the direct recipient of the subsidy. The recipient is free to spend the subsidy on approved services from licensed providers. Crucially, recipient choices – rather than those of government or providers – drive the behaviour of the system.

This section describes a possible implementation of a client-directed budget in the form of a student education account (SEA). The proposed SEA is consistent with the Commission's principles for a successful application of client-directed budgets.⁸³

The Commission is keen to receive feedback on this concept and, reflecting that feedback, may recommend some form of SEA in its final report.

Box 12.4 Client-directed budgets

In the *client-directed budget* service model, a client is allocated a specific amount of money – a *budget* – and they can divide that budget as they see fit, to purchase the best mix of services for them. This budget is different from a *voucher*. Typically, a voucher is an entitlement to a particular service. The client gets to choose the provider, but the voucher cannot be divided. By contrast, client-directed budget can be split across providers and services, in a way that best matches the client's needs.

Client-directed budgets require either an informed, motivated client to make decisions, or an agent that can be trusted to decide on the client's behalf.

Client-directed budgets allow good providers to expand at the expense of poor providers. In so doing, they encourage providers to be responsive and efficient. Unlike most other service models, they encourage innovation and bottom-up experimentation. Providers benefit from being able to supply a mix of quality and types of service matched to what their clients want.

Client choice supports gradual changes in market share and allows for gradual entry by new providers. This reduces the financial risks of providers, relative to service models in which government makes unforeseeable changes to allocations of market share.

Client-directed budgets, provided that design challenges are overcome and a real choice between providers is offered to clients, have the ability to be equitable, efficient and responsive, and to generate the highest client benefits. Importantly, they strongly incentivise providers to care about, and become informed about, their clients' interests and needs.

Source: NZPC, 2015a.

The concept of a "student education account"

On turning 16, every New Zealand citizen (and eligible residents) would receive an interest-bearing dollar-denominated entitlement, which they can spend on whatever (licensed) tertiary education they want, as long

⁸³ NZPC (2015a, pp. 293–294) lists these principles.

as the provider was willing to enrol them. This SEA balance would be non-transferrable. The government would top up the student's balance in portions; say equal amounts spread over five years.

Providers would have freedom to set prices according to student demand. Students would pay fees out of their entitlement to any provider licensed by NZQA. Students could also withdraw for living costs, subject to monthly and yearly caps.

The account would interact seamlessly with a revised SLS, with students able to borrow when they had exhausted their SEA balance, or reached the maximum withdrawal allowed within a given period or for a given purpose. The rate of interest paid on any positive SEA balance should be similar to that charged on any negative balance. If these rates were set near the government's long-term cost of borrowing, then government would be largely indifferent to students' time preferences in spending and repaying their balances. Such indifference is desirable, as expected SLS costs should not adversely influence other policy settings.

Government may want to continue to pay loadings to effect its own goals. It could pay such loadings via the SEA or directly to providers (Box 12.5).

Box 12.5 Loadings to pursue other government goals

Governments have legitimate goals that extend beyond a flexible and efficient education system that is responsive to student demand. For example, they may wish to increase enrolments by students in priority groups, enrolments by those selecting priority fields of study, or enrolments by those living in regional locations.

In a system based on an SEA, government could pursue such goals by paying a loading either into the student's account, or to the provider – either on enrolment or on completion. Payment via a student's SEA is best suited to goals based on long-term characteristics of the student. For example, a student who left secondary school without a qualification might receive a top-up they could spend on “second-chance” learning.

Government would also need to continue to pay student allowances to low-income students. It should manage this separately from the SEA, as having a low income is a short-term student characteristic.⁸⁴

Government may decide it is necessary to pay a loading for courses that are costly for providers to deliver, but offer relatively low labour market returns to students. A scholarship is one way to pay such a loading, paid either directly to the student or via their SEA (on enrolment or on completion). Where costs are high but labour market returns are also high (eg, medicine), students may be willing to take on more debt in expectation of earning high wages once their study is complete.⁸⁵

Community service obligations are common in regulated industries, such as telecommunications. They are another mechanism to achieve government goals. For example, providers over a certain size could face obligations to offer places for students with particular characteristics or offer delivery in particular locations.

To be fiscally neutral, loadings for priority students or courses of study would need to be funded by a smaller SEA allocation to other students, creating a transparent cross-subsidy.

Potential advantages of the SEA model

The major advantage of the SEA model is that it firmly establishes the student at the centre of the system, and allows tertiary providers to offer a much wider range of education models to meet students' diverse needs and aspirations.

⁸⁴ Current eligibility rules for student allowances include parental and partner income, depending on the student's age and relationship status.

⁸⁵ The current “price” (SAC funding plus tuition fees) of a standard six-year Bachelor of Medicine in New Zealand is about \$300 000, not including living costs.

Under current policy settings, the majority of provider revenue comes from government through a complex planning process that includes many biases toward maintaining the status quo. In the SEA model, student choices would drive the allocation of these funds. This would incentivise providers to be highly responsive to student needs. If well-designed, the SEA model would reduce bureaucracy and administrative costs for providers and government.

Students would be able to see the real costs associated with different study options at different providers. The finite amount of money in their account would encourage students to think carefully about how that money is spent. The account also provides a mechanism to channel donations from family, iwi and charitable givers in support of young people's education.

Providers would be free to develop and offer just about any model that they determine students will value, providing that they meet minimum quality standards. This, in conjunction with the recommendation to allow providers to become self-accrediting (R12.11), greatly increases the chances of genuine disruptive innovation, and of the system adapting quickly (ie, on ordinary commercial timeframes) to changes in student and employer demand.

For example, the SEA would enable students to pay for assessment and recognition of prior learning (Chapter 4) without needing any system set up specifically for it. More generally, the SEA would allow for the disaggregation of teaching, assessment and credentialing. (Government would need to take care to ensure that minimum quality standards did not force re-bundling.)

Along with creating incentives for providers to develop new models that are responsive to student demand, the SEA would also enable the establishment and growth of new providers who offer models that students value. In some cases, this may be at the expense of older well-established providers. Such dynamism is discouraged in the current government-driven system, as Ministers are reluctant to oversee the decline of established institutions. The SEA model would not eliminate this issue entirely; but calls to protect institutions are harder to credibly sustain if students have already voted against them with their feet.

The SEA model would allocate dollars to people equally – in doing so it would create a baseline of financial resources available to every young person for use toward education at any stage in their life. An SEA would remove the highly regressive nature of the current system. It is likely to encourage participation in tertiary education, and therefore offers wider access to the public and private benefits that education brings.

Those spending many years in the education system – and reaping higher personal rewards from doing so – will contribute a higher proportion of their education costs. They will have the option of borrowing from the redesigned SLS after they use up their SEA balance.

Potential disadvantages of the SEA model

The transition to the SEA model could be challenging to manage. Government would need to design grandparenting arrangements, and these are likely to be complex.⁸⁶

Not all 16-year olds are future oriented, and some may look for ways to spend their entitlement quickly. They are at risk of making choices that they will later regret. Making payments into SEAs in portions over time will assist with this issue, as will the fact that accounts are interest-bearing. And social norms (supported by social marketing and careers advice) could help to instil the view into young people that their SEA is precious, and they should invest it carefully. Some providers may create products to take advantage of this situation, so good quality control in course and provider licensing will be necessary.

Those nearing retirement might face an incentive to “spend it or lose it”. This could be mitigated by allowing account holders to tip any unused balance (perhaps less a fixed discount) into KiwiSaver on becoming eligible for New Zealand superannuation. Those who valued education in retirement might elect to leave their balance in their SEA.

⁸⁶ Grandparenting requires careful design, but is not impossible. One possibility would be to create an SEA (on request) for any eligible New Zealanders aged over 16, subject to them declaring all public education received to date (with penalties for false declaration). Their opening balance would be reduced by an estimate of the (current) cost of providing equivalent education.

The SEA could displace training activity for which employers currently pay (including in-house training and industry training), at least for those employees with a positive SEA balance. One possible way to encourage employer contributions is a system in which employer payments into the SEA attract a government co-contribution. The employee would then directly purchase the industry training. A risk would remain that employers would preferentially hire people with remaining balances who can therefore invest in their own training.

None of these disadvantages appears to represent an overwhelming obstacle to the proposal, but they raise issues that may require careful management.

The SEA model offers useful extensions

The SEA model could support smoother transitions into and out of education. For example:

- students might purchase career advisory services with their entitlement – though this would not solve the problem of poor career advice at school for learners aged under 16 for whom (arguably) it matters most; and
- the SEA would be compatible with a system to support retraining following redundancy (eg, government or employers might pay a top-up into a redundant worker's SEA).

Detailed design choices

The above subsection provides an outline rather than full details of an SEA model. Before adoption, government would need to clarify many details, including:

- eligibility criteria for the various classes of non-citizens and new immigrants;
- whether to continue to subsidise doctoral study for international students (and, if so, how best to subsidise it);
- restrictions on use of the SEA based on (for example) time or level of study; and
- application of the SEA model to unassessed learning such as Adult and Community Education.

Government would also need to consider how SEAs should operate for people who cannot participate in tertiary education due to long-term severe disability or poor health (eg, whether their SEA balance could be redirected to purchase other services or invest in other forms of capital). It should also explore whether and under what circumstances to make additional contributions for students with learning disabilities.

Possible impact on students and providers

Most students in an SEA model would enjoy better access to a wider choice of tertiary education, with providers incentivised to respond to their needs and interest. If the change was fiscally neutral, then average per-student subsidies would reduce as the expenditure was spread over a larger population. Those who do not currently participate in the system would gain the most from the new approach.

The minority of young people who are well-matched to a traditional model of education, and who undertake long or expensive programmes of study, would have to contribute a higher proportion of the cost of their tertiary education than they currently do. Such students typically experience the highest private returns, so this arrangement would be more equitable than the current system.

Most providers, especially those who are capable and student-focused, would benefit from the freedom and flexibility of a truly student-centred system. Providers delivering education that students did not value would suffer as funding moved to follow demand.

For some providers, an SEA model would likely upset current patterns of cross-subsidies from education funding to research. This could make some research activities unviable at some providers. Should government wish to retain current actual expenditure on research activity, then it can reallocate some funding from Vote Education to Vote Science and Innovation (and possibly to the Wānanga Research Capability Fund). This has the advantage of making the expenditure more transparent.

Providers' increasing differentiation may affect how they market themselves to international students, especially universities. Current marketing via Education New Zealand often emphasises the homogenous nature of the New Zealand tertiary education system, in particular that all eight universities are in the top 3% of the QS world rankings. In a student-centred system, some universities are likely to move up in the international rankings (overall or in particular disciplines where they have chosen to focus), and others to move down. Those with high rankings are likely to want to emphasise their ranking in their marketing.

An SEA could be revenue-neutral for government

A well-designed SEA model need not be any more expensive for government than the current arrangements. Current government expenditure on tertiary education tuition (excluding allocations for provision at levels 1 and 2) and write-downs on student loans corresponds to a payment of \$45 436 for every resident aged 16 (Table 12.3).

This figure would be more than enough (leaving \$8 500 unspent) to cover the average cost (excluding living costs) of three years of full-time study at an ITP – \$36 903 – based on the average fee charged in 2014 (\$3 936) and the average SAC funding rate in 2014 (\$8 365).

Table 12.3 Government expenditure on tertiary education per 16-year-old resident, 2014/15

Annual expenditure	Budget allocation
Tertiary tuition and training ¹	\$2 179 125 000
Write-down on student loan lending	\$602 000 000
Total	\$2 781 125 000
Expenditure per resident aged 16	\$45 436

Source: Statistics New Zealand, 2016b; 2014/15 Budget appropriation.

Notes:

1. Tertiary tuition and training includes all tuition subsidies except courses at levels 1 and 2. It also excludes all research funding.

F12.11

Either the student or the provider can be the direct recipient of a subsidy. The two mechanisms have different implications. A funding arrangement that subsidises students directly to purchase education from licensed providers offers potential advantages over the current arrangement. Student choices, more so than those of government and providers, would drive system behaviour. This would encourage providers to innovate.

One such arrangement is a Student Education Account (SEA). An SEA model would remove the highly regressive nature of the current system. It is likely to encourage participation in tertiary education, and therefore offers wider access to the benefits that education brings. An SEA model could be revenue-neutral for government.

An SEA model would put a premium on good regulation and good information

The inquiry's draft recommendations would improve quality regulation and the information available to students. This would help them to make good choices about study options that meet their needs and aspirations, and about the performance of providers.

These recommended changes would become even more imperative under a student subsidy model like an SEA. The chief danger of an SEA model is that low-quality provision will proliferate and providers have an incentive to offer unsuitable programmes of study that might superficially seem attractive to a naïve student. Government has a responsibility to protect students from unscrupulous providers. Quality regulation, information provision and other tools can help government fulfil this responsibility. Over time, students and their families are likely to become more knowledgeable and discerning about how to use an SEA to further the student's educational goals and aspirations.

F12.12

Improvements to performance information and quality regulation become even more important under a student subsidy model such as the proposed Student Education Account.

The Commission seeks feedback

The Commission has insufficient evidence at the time of writing to make a firm recommendation for or against a student account. Accordingly, the Commission seeks further information from inquiry participants.

Q12.6

What do you think of the Student Education Account proposal as outlined in this draft report? What would you do to improve it?

Q12.7

What are the implications of the Student Education Account proposal for students? For providers? For industry training?

Q12.8

What are the implications of the Student Education Account proposal for innovation and the emergence of new models of tertiary education?

Q12.9

Are there alternative models that could shift the tertiary education system from being provider-centric to being genuinely student-centric?

Consequent changes to recommendations

Adopting an SEA would have implications for the inquiry's draft recommendations, as outlined in Table 12.4.

Table 12.4 How a student education account affects the inquiry's draft recommendations

No.	Recommendation	Implications of an SEA
R12.1	Regulatory and purchasing functions in tertiary education appear to be a poor match to government agencies. In implementing this inquiry's recommendations, government should take the opportunity to design agency forms that provide clarity of function and reduce conflicts of role.	A purchasing agency would not be needed under an SEA. Management of SEAs could be combined with Studylink.
R12.2	NZQA and providers should use ex post tools that assess the actual quality of the tertiary education experience. Such tools can ensure compliance with minimum standards and verify promises made by providers.	Retain
R12.3	The Ministry of Education should design a new quality control regime for tertiary education that encourages innovation, takes a risk-based approach, and enforces minimum standards of quality.	Retain
R12.4	The Ministry of Education and the Tertiary Education Commission should prioritise analysis of the value-add of tertiary education, including at provider level and by ITO. It should identify what kinds of study, at what providers, result in the best outcomes for different groups of students – including comparisons between provider-based and ITO-arranged training. It should publish this information for use by students, parents, providers, ITOs and purchasing agencies.	Retain

No.	Recommendation	Implications of an SEA
R12.5	The Tertiary Education Commission should change the way it measures completions so that provider performance is not penalised if a student transfers to continue learning at a different provider or moves into work.	This responsibility might shift to NZQA.
R12.6	Students should be able to mix and match courses from different providers. The funding and regulatory system should not penalise providers for participating in such arrangements.	Enhanced by an SEA
R12.7	Government should discontinue Performance-Linked Funding.	No longer relevant.
R12.8	NZQA should be responsible for defining minimum performance thresholds and monitoring provider performance against those standards. Providers that fail to meet minimum performance thresholds should lose their licence to operate. The thresholds should be clear and any changes publicised well in advance.	Retain
R12.9	The Ministry of Education should reform its approach to school-based career education so that school students, from an early age, develop the skills and knowledge to make effective decisions about their study options and career pathways.	Retain
R12.10	Government should consolidate and improve the array of official information sources about study and career options aimed at prospective (and current) tertiary students.	Retain
R12.11	All providers should be able to apply to NZQA for self-accrediting status. Self-accreditation would cover processes such as programme approval and accreditation, qualification monitoring, and evaluation and review.	Retain
R12.12	Government should repeal the statutory provisions relating to the Vice-Chancellors Committee in the Education Act 1989. Cross-institution collaboration on course development and quality control for self-accrediting providers should be voluntary and subject to the normal provisions of the Commerce Act 1986.	Retain
R12.13	NZQA should review their programme approval processes, with a view to reducing timeframes and removing any unnecessary requirements. It should set a target for the median timeframe for approvals.	Retain
R12.14	NZQA should update its policies to permit providers to change the location of delivery without prior approval, where those changes do not materially alter the programme from the perspective of students.	Retain
R12.15	NZQA should amend its guidelines for approval of degree-level programmes to clarify when and why they require a panel review. Panels should be the minimum size and skills composition necessary for quality control.	Retain
R12.16	Providers should develop or adopt frameworks of standards for tertiary teaching, suitable for New Zealand's tertiary system, for assessing and rewarding the capability and performance of tertiary teachers.	Retain
R12.17	Government should relax its statutory requirements for research-led teaching of degrees.	Retain

No.	Recommendation	Implications of an SEA
R12.18	Government should establish a student ombudsman service within NZQA to promote credit transfer, and with the power to arbitrate disputes between transferring students and their destination provider.	Retain
R12.19	The Ministry of Education and the Treasury should review the current regulatory arrangements, with a view to separating government's fiscal exposure to tertiary education institutions from its responsibility to protect the interests of students.	Retain
R12.20	To improve their ability to innovate, tertiary education institutions (TEIs) should own and control their assets, and be fully responsible for their own debts. Government should seek to amend the Education Act 1989 to allow it to identify financially competent TEIs and treat them accordingly. This includes: <ul style="list-style-type: none"> removing the requirement for such TEIs to seek approval to acquire or dispose of assets, or to borrow money; and removing government's guarantee of the creditors of such TEIs. 	Retain
R12.21	Tertiary education institutions (TEIs) should contribute directly to their local communities by paying rates. This would remove a distortion that leads to inefficient asset use by the TEIs and inefficient land use.	Retain
R12.22	Government should: <ul style="list-style-type: none"> extend funding eligibility to students who do not intend to pursue qualifications; remove specifications that set a lower and upper limit on fundable course duration; and remove limits on the use of industry training funding on training at levels 5 and above on the NZQF. 	Not directly relevant, but may have implications for what may be purchased using an SEA.
R12.23	Government should abolish University Entrance, leaving all universities free to set their own entry requirements.	Retain
R12.24	Educational delivery by institutes of technology and polytechnics anywhere in New Zealand should not require the approval of the Tertiary Education Commission.	Retain
R12.25	The Ministry of Education should systematically identify and remove regulatory barriers to new entrants in the tertiary education system, subject to quality standards.	Retain
R12.26	Any provider should be able to apply to NZQA to use the terms "university", "polytechnic", "institute of technology" and "college of education". NZQA should grant or reject such applications based on the provider's characteristics and on whether students or the public are likely to be misled about the provider's nature or quality.	Retain
R12.27	Any tertiary education institution should be able to apply to NZQA to change subsector (eg, from ITP to university or university to ITP).	Retain
R12.28	Government should approve for New Zealand those providers and courses approved in jurisdictions with which NZQA has mutual recognition agreements, or in other jurisdictions where the New Zealand government is satisfied with the quality assurance arrangements.	Retain

No.	Recommendation	Implications of an SEA
R12.29	Government should reform the Student Loan Scheme to be an income-contingent loan scheme that ensures that people are not excluded from tertiary education purely because they cannot borrow against future earnings to fund their education. Future Student Loan Scheme borrowers should be charged interest at a rate that covers government's costs in running the scheme.	The Student Loan Scheme would be integrated with an SEA.
R12.30	The Government should alter the definition of an equivalent full-time student (EFTS) to allow alternatives to the input-based "learning hour" as a basis of calculation.	No longer relevant
R12.31	The Ministry of Education should review the funding rates applicable to New Zealand and Managed Apprenticeships, with a view to equalising them.	No longer relevant
R12.32	Every student should receive an invoice from their provider for government-subsidised education. This should explicitly show the full price of education, and the Government's contribution alongside the fee payable.	No longer relevant
R12.33	The Tertiary Education Commission should, in consultation with providers, set – and stick to – a reasonable deadline by which they will confirm funding allocations.	No longer relevant

12.9 New models face hurdles, but offer great potential

The inquiry finds that the current system, despite its strengths, is tightly prescribed, homogenous and inflexible, with many constraints on innovation. Providers have limited ability to adapt quickly to external change, placing the onus on government to accurately predict the nature and timing of emerging (and potentially disruptive) trends. The system serves some students well – especially the "traditional" school-leaver studying full-time on campus – but others suffer lost lifetime opportunities because the system fails to meet their needs or develop their potential.

The solution is not for government to direct the universal adoption of a new, better model. No one can predict the future of tertiary education with confidence, and no one style of tertiary education is the best for everybody. Rather, government needs to redesign the system to allow tertiary providers to respond adaptively to changing demand and changing global circumstances.

The task is urgent

The Tertiary eLearning Reference Group (TeLRG) suggested the task is urgent. In its view New Zealand has already reached the stage where current models of tertiary education are no longer fit for purpose.

One thing that is very clear to the TeLRG is that we are reaching a tipping point. Trends in massification of tertiary education, the breaking down of traditional boundaries through digital technologies (not only teaching environments per se, but also across sectors and internationally) and the changes in future work opportunities that technology is already driving all present high levels of risk to achieving a prosperous and inclusive society.

The current models of tertiary education within New Zealand may well serve specific interests, but it is clear they are no longer fit for collective national purpose. (sub. 101, p. 15)

A real opportunity

Government's central agencies recently articulated a ten-year ambition for the education system.

For a learner-centric system, this ambition has to be defined in terms of the value that a system that is "ambitious for learners" aims to create for all the learners it seeks to serve. Consideration of the megatrends facing education pointed to a future where a greater share of education will be provided and consumed globally. In this future, the system's ambition has to ensure that a New Zealand

education is one that domestic and foreign learners will choose when both have more choice. And that means that the system's stewards will need to ensure that in ten years: "A New Zealand education equips you to contribute locally and compete globally". (States Services Commission et al., 2016, p. 12)

The Commission believes this ambition is achievable for tertiary education. It will require substantial change to the current system. The Commission's proposals outline a path towards achieving that ambition.

Summary of questions

Chapter 9 – Outcomes of the system

Q9.1

What evidence is there about the impact of New Zealand tertiary education on participants' or graduates' wellbeing, separate from their labour market outcomes?

Chapter 10 – Trends

Q10.1

Are the operating costs of tertiary providers per EFTS increasing in real terms? If so, what factors are driving this trend?

Chapter 12 – A system that supports new models

Q12.1

What are the important design features for a self-accreditation system?

Q12.2

What measures might encourage providers to enter into articulation agreements to provide pathways for students to study across providers?

Q12.3

What measures could lead to a faster transfer of (nominally) Crown assets into TEI title, without incentivising TEIs to retain assets they do not need?

Q12.4

How can government deregulate fees, to encourage providers to differentiate more on the nature and quality of their offerings, while still adequately protecting the interests of students? Is this achievable within a system where government centrally allocates a capped number of subsidised places?

Q12.5

What barriers do providers face in establishing largely autonomous subsidiaries that pursue innovation and new models?

Q12.6

What do you think of the Student Education Account proposal as outlined in this draft report? What would you do to improve it?

Q12.7

What are the implications of the Student Education Account proposal for students? For providers? For industry training?

Q12.8

What are the implications of the Student Education Account proposal for innovation and the emergence of new models of tertiary education?

Q12.9

Are there alternative models that could shift the tertiary education system from being provider-centric to being genuinely student-centric?

Findings and recommendations

The full set of findings and recommendations from the report are below.

Chapter 3 – Student characteristics and choices

Findings

F3.1

Students choose tertiary study for a wide range of reasons. Improving career prospects and pursuing personal interests are key reasons. Students are acutely concerned with whether their investment in tertiary education will lead to well-remunerated employment.

F3.2

Māori and Pasifika have relatively high rates of participation in tertiary education, but the high participation rates are entirely at subdegree-level study.

F12.13

The tertiary education system is increasingly oriented towards full-time study, towards younger students (under 25 years) and away from extra-mural study.

F12.14

Decisions about entering tertiary education and the influences on prospective students are complex. The arrangement and delivery of careers services including in schools, and government provision of information to prospective tertiary students, is fragmented and operating poorly.

Chapter 4 – Employers, industry training and the labour market

Findings

F4.1

Compared with other OECD countries, workers in New Zealand are poorly matched with their positions (based on their qualifications, what they studied, and their literacy). The impact of these mismatches has not been analysed in a New Zealand-specific context; however, international studies show higher levels of mismatch are correlated with negative consequences, including lower labour productivity.

F4.2

Career guidance, information about the returns to different tertiary education programmes, opportunities to upskill and retrain, development of transferable skills, and an education system that is responsive to employer demand are all important in improving matching between graduates and employment.

F4.3

Employers can have input into the tertiary education system through a range of formal and informal avenues. The incentive for employers to engage with tertiary providers may be muted by the relative ease of access to skilled migrants while tertiary providers lack incentives to respond to employer input in a meaningful way, as the majority of their funding comes from government

F4.4

Government has established numerous initiatives that seek to improve coordination and links between the tertiary education sector and employers. The need for such initiatives is symptomatic of a system that often fails to respond to employer needs.

F4.5

Tertiary education qualifications that equip graduates with transferable skills are desirable in that they retain their relevance in a changing job market. Several providers noted they are focusing on developing transferable skills; however, in some cases, these skills are poorly integrated into assessment processes.

F4.6

Funding for industry training is predominantly restricted to provision at levels 1 to 4 on the NZQF. This limits the ability of the industry training subsector to respond to demand for higher-level training, and inhibits the adoption of new models such as degree apprenticeships.

F4.7

The government funding rate for apprenticeships differs markedly, depending on whether apprenticeships are administered by an ITO or an ITP. The rationale for this difference is unclear.

F4.8

Current funding and regulatory settings for tertiary education that focus on younger, full-time learners completing full qualifications, the design of the student support system, and funding rules that make recognition of prior learning difficult, all present barriers to mid-career retraining.

Chapter 5 – Government’s many roles

Findings

F5.1

The Tertiary Education Strategy contains some worthy priorities, but indicators are frequently vague and monitoring against the strategy is sporadic. It is not clear that the strategy is an effective tool for driving outcomes.

F5.2

Government typically recovers just 60 cents per dollar lent through the Student Loan Scheme – due in large part to the use of a zero nominal interest rate. This fiscal cost, along with the cost of other student support payments, creates a strong incentive for government to control student numbers and provider fees.

F5.3

Funding determinations, set by the Ministry of Education, include tight specifications regarding how funding is allocated, and what providers can deliver.

F5.4

The fiscal effect of Performance-Linked Funding is frequently overstated. Between 2013 and 2015, less than 0.2% of SAC 3+ funding was withheld under Performance-Linked Funding. However, Performance-Linked Funding does appear to have strong behavioural effects that may be detrimental to innovation and the development of new models.

F5.5

Tertiary providers apply for government funding through an investment plan process whereby they forecast their volume and mix of provision. TEC’s approval criteria for investment plans restricts the ability of ITPs to deliver outside their own region, and the confirmation of funding allocations is often granted very late in the year – giving providers little time to plan and prepare.

F5.6

A very small share of funding allocated through the investment plan process shifts between tertiary providers, resulting in a very stable funding environment with little reward for successful innovation or high performance.

F5.7

Caps on the enrolment of domestic students means tertiary providers are allocated a certain number of EFTS for whom they must deliver a certain mix of programmes at specified levels on the NZQF. As a consequence, TEOs are locked into a predetermined pattern of delivery with limited options to adjust delivery in response to changes in student demand.

F5.8

Fee regulation inhibits differentiation in educational offerings within the system.

F5.9

New providers must complete a multi-faceted set of entry requirements before being eligible to deliver qualifications on the NZQF or apply for TEC funding.

F5.10

NZQA processes are time-consuming, costly and a barrier to innovation in the development and delivery of programmes. Tertiary providers have no choice in what quality assurances NZQA undertakes and charges them for.

F5.11

There is scope for NZQA to adopt a more risk-based approach to external evaluation and review, and for reviews to concentrate more on providers' value-add and student outcomes.

F5.12

The New Zealand Vice-Chancellors Committee's CUAP process is not conducive to innovation in the university subsector.

F5.13

Audits conducted by AQA focus on process rather than the quality of delivery or outcomes achieved. This is a missed opportunity to identify improvements that matter most for students.

F5.14

Government's comprehensive financial guarantee for TEIs' creditors and council members compels it to undertake financial monitoring of TEIs. However, government is not in the best position to fulfil this role as it has neither the most current or comprehensive information, nor is it best placed to intervene if financial issues emerge.

F5.15

Government has a multitude of initiatives to provide information about careers and tertiary education to students and businesses. Responsibility for these initiatives are spread across four government agencies.

Chapter 6 – Providers of tertiary education

Findings

F6.1

Universities have significant incentives to invest in research to maximise their PBRF revenue, and they are responding to these. Universities have no similarly strong external incentives to invest in teaching.

F6.2

Tertiary education sector staff hold a widespread, though not universal, view that "red tape" and excessive management increase costs and reduce their ability to do good and enjoyable work, without any compensating gains in the quality of that work.

Chapter 7 – Tertiary education markets

Findings

F7.1

An EFTS is the main unit purchased by TEC and delivered by tertiary providers via Investment Plans. It is defined by inputs, and commodifies the complex, co-produced good of tertiary education into a simple product that is purchased and supplied in a (highly constrained) “market for EFTS”.

F7.2

Government constrains the market for EFTS. Government purchases a limited range of products, sets quotas for each provider, and controls price. EFTS prices are not sensitive to important drivers of costs such as economies of scale, differences in student characteristics, and differences in location and mode of delivery.

Chapter 8 – Implications of tertiary system settings

Findings

F8.1

TEIs perform a delicate balancing act between crying poor and at the same time demonstrating efficiency and innovative activity. This arises because observable success in reducing costs could undermine their lobbying attempts to maintain or increase price and quantity.

F8.2

The incentives facing TEIs encourage them to over-invest in reputation and other sunk assets, and to take on more debt than might otherwise be prudent. In (partial) response, government directly regulates the amount of debt that TEIs can take on.

F8.3

The EFTS pricing system, in combination with economies of scale and financial regulation (including fee regulation), means that larger TEIs will accumulate assets faster than smaller ones, and TEIs with higher fees can increase them by more than TEIs with lower fees. Over time, the big get bigger, and the rich get richer.

F8.4

The government devotes significant resources to quality control. Yet it directs few of those at ensuring that students receive quality teaching.

F8.5

The funding and regulatory system does not meaningfully distinguish between a provider who is just “satisfactory” and a provider who is “exceptional” at developing students’ knowledge, skills and capabilities in a way that prepares them for success in their ongoing lives. No robust information is currently available to help prospective students make this distinction either.

F8.6

Student choices have little if any impact on provider revenue, as long as providers can fill their allocated EFTS quotas. Student choices may lead to a reallocation of revenue within providers.

F8.7

The EFTS quota system leads to the over-subscription of some courses and providers while others are under-subscribed, with supply unable to readjust to demand. Instead, demand has to adjust to supply – and some students are inevitably left with their second (or lower order) preferences. This means less efficient matching of students to tertiary education.

- F8.8** The New Zealand system offers students a choice between relatively homogenous providers. Such a system risks mediocrity and discriminates against some students.
- F8.9** The funding and quality assurance systems do not reflect stated government commitments to improving educational outcomes for disadvantaged student groups, including Māori and Pasifika.
- F8.10** Providers have the requisite market power – and clear financial and reputational incentives – to set high switching costs for students.
- F8.11** The tertiary education system is poorly suited for lifelong learning.
- F8.12** The entry barriers, exit disincentives and quota mechanisms in the tertiary education system mean minimal reallocation of student places. This greatly reduces opportunities for improved system-level productivity and quality.
- F8.13** The market power of providers gives them weak incentives to control costs. Spending more money does not, of itself, necessarily result in better outcomes for students.
- F8.14** Government needs every public provider to make a surplus, and it sets EFTS prices at a level that enables this. This means that the highest-cost public provider (that does not have other substantial sources of revenue) will effectively set EFTS prices.
- F8.15** Some degree of cross-subsidisation in tertiary education is normal and necessary. Where it is transparent and well-understood, it can be a valuable tool. But it can be problematic where it undermines funders' intentions, puts competitors on an uneven playing field, or is absent where the government's funding approach assumes it is present.
- F8.16** Features of the system combine to limit innovation and reduce responsiveness to student demand. Competition – where it exists in the system – is not on the dimensions of cost-reducing or education-enhancing innovation. Nor is it on responsiveness to student demand.
- F8.17** There is "considerable inertia" in the New Zealand tertiary education system. This inertia is an emergent property of the system, rather than a characteristic of providers.

Chapter 9 – Outcomes of the system

Findings

- F9.1** Course and qualification completion rates as currently published by government are not a reliably good indicator of a provider's performance in educating students, because they do not measure value-add.
- F9.2** Whatever happens educationally between age 15 and young adulthood in New Zealand does not reduce variation in skill levels across the population, or improve the skills ranking of younger New Zealanders compared to other OECD countries.

F9.3

The tertiary education system underperforms for Māori and Pasifika students. They experience persistently worse tertiary education outcomes than other students.

Chapter 10 – Trends

Findings

F10.1

University tuition fees have increased significantly in real terms over the past ten years. Average tuition fees in the ITP and wānanga subsectors have fallen.

F10.2

At the aggregate level, tuition fees and government tuition subsidies per EFTS have increased faster than the rate of inflation over the past 15 years.

Chapter 11 – Innovative activity

Findings

F11.1

The internal culture and management capability of a tertiary education provider is a major influence on its ability and wish to innovate.

F11.2

Providers in New Zealand tend to adopt sustaining innovations that improve the value of their existing way of delivering education. Often, this means technology is grafted on to old ways of doing things.

F11.3

Regulatory settings do not allow innovative new models of tertiary education to emerge from existing government-funded providers. New models either arise outside of the government-funded system, or are enabled by legislative change on a case-by-case basis.

F11.4

Some frontline educators adopt technology to aid their teaching in innovative ways, but there is little institutional capability to scale this activity.

Chapter 12 – A system that supports new models

Findings

F12.1

The tertiary education system allocates more resources to those who spend more time in education, especially at higher levels. These people also gain the largest private rewards from their education. The system therefore extends and exacerbates the inequality that emerges in the schooling system, rather than ameliorating it.

F12.2

Regulation should recognise that different people can reasonably hold different views about what constitutes “good quality” tertiary education. Regulation should focus on enforcing minimum standards.

F12.3

A regulatory system that enables innovation and diversity also increases the risk of poor-quality provision. Opening the system to greater flexibility and innovation needs to be accompanied by carefully designed and effectively implemented regulatory processes.

- F12.4** The current regulatory system has the wrong mix and wrong type of ex ante controls and ex post monitoring. The system is ill-suited to an environment in which new models can emerge. Such an environment requires fewer input controls and better ex post monitoring of service quality and student outcomes.
- F12.5** Wage levels send important signals to prospective students about what type of tertiary education will be rewarding to them and to employers. Government and providers can distort these signals.
- F12.6** Market regulation typically includes measures to inform and protect consumers, limit the accumulation of market power, control over-pricing and sanction the abuse of market power. Yet in tertiary education, government regulations grant local monopolies and create cartel structures.
- F12.7** Some land and buildings used by TEIs are in Crown title, which lessens their ability to repurpose such assets to support new models. The process to transfer the assets into TEI title is slow and creates incentives for TEIs to retain assets they may no longer need.
- F12.8** Uniform student fees are a significant constraint on innovation. It would be desirable if providers could set their own fees, to enable them to differentiate more on the nature and quality of their offerings – but only if students’ interests were adequately protected.
- F12.9** The inquiry’s recommendations, if adopted, will improve the system, and its openness to new models. However, they are insufficient to address the system’s major structural deficiencies identified by the inquiry.
- F12.10** The current tertiary education system is provider-centric from the students’ perspective; and government-centric from the providers’ perspective.
- F12.11** Either the student or the provider can be the direct recipient of a subsidy. The two mechanisms have different implications. A funding arrangement that subsidises students directly to purchase education from licensed providers offers potential advantages over the current arrangement. Student choices, more so than those of government and providers, would drive system behaviour. This would encourage providers to innovate.
- One such arrangement is a Student Education Account (SEA). An SEA model would remove the highly regressive nature of the current system. It is likely to encourage participation in tertiary education, and therefore offers wider access to the benefits that education brings. An SEA model could be revenue-neutral for government.
- F12.12** Improvements to performance information and quality regulation become even more important under a student subsidy model such as the proposed Student Education Account.

Recommendations

R12.1

Regulatory and purchasing functions in tertiary education appear to be a poor match to government agencies. In implementing this inquiry's recommendations, government should take the opportunity to design agency forms that provide clarity of function and reduce conflicts of role.

R12.2

NZQA and providers should use ex post tools that assess the actual quality of the tertiary education experience. Such tools can ensure compliance with minimum standards and verify promises made by providers.

R12.3

The Ministry of Education should design a new quality control regime for tertiary education that encourages innovation, takes a risk-based approach, and enforces minimum standards of quality.

R12.4

The Ministry of Education and the Tertiary Education Commission should prioritise analysis of the value-add of tertiary education, including at provider level and by ITO. It should identify what kinds of study, at what providers, result in the best outcomes for different groups of students – including comparisons between provider-based and ITO-arranged training. It should publish this information for use by students, parents, providers, ITOs and purchasing agencies.

R12.5

The Tertiary Education Commission should change the way it measures completions so that provider performance is not penalised if a student transfers to continue learning at a different provider or moves into work.

R12.6

Students should be able to mix and match courses from different providers. The funding and regulatory system should not penalise providers for participating in such arrangements.

R12.7

Government should discontinue Performance-Linked Funding.

R12.8

NZQA should be responsible for defining minimum performance thresholds and monitoring provider performance against those standards. Providers that fail to meet minimum performance thresholds should lose their licence to operate. The thresholds should be clear and any changes publicised well in advance.

R12.9

The Ministry of Education should reform its approach to school-based career education so that school students, from an early age, develop the skills and knowledge to make effective decisions about their study options and career pathways.

R12.10

Government should consolidate and improve the array of official information sources about study and career options aimed at prospective (and current) tertiary students.

R12.11

All providers should be able to apply to NZQA for self-accrediting status. Self-accreditation would cover processes such as programme approval and accreditation, qualification monitoring, and evaluation and review.

R12.12 Government should repeal the statutory provisions relating to the Vice-Chancellors Committee in the Education Act 1989. Cross-institution collaboration on course development and quality control for self-accrediting providers should be voluntary and subject to the normal provisions of the Commerce Act 1986.

R12.13 NZQA should review their programme approval processes, with a view to reducing timeframes and removing any unnecessary requirements. It should set a target for the median timeframe for approvals.

R12.14 NZQA should update its policies to permit providers to change the location of delivery without prior approval, where those changes do not materially alter the programme from the perspective of students.

R12.15 NZQA should amend its guidelines for approval of degree-level programmes to clarify when and why they require a panel review. Panels should be the minimum size and skills composition necessary for quality control.

R12.16 Providers should develop or adopt frameworks of standards for tertiary teaching, suitable for New Zealand's tertiary system, for assessing and rewarding the capability and performance of tertiary teachers.

R12.17 Government should relax its statutory requirements for research-led teaching of degrees.

R12.18 Government should establish a student ombudsman service within NZQA to promote credit transfer, and with the power to arbitrate disputes between transferring students and their destination provider.

R12.19 The Ministry of Education and the Treasury should review the current regulatory arrangements, with a view to separating government's fiscal exposure to tertiary education institutions from its responsibility to protect the interests of students.

R12.20 To improve their ability to innovate, tertiary education institutions (TEIs) should own and control their assets, and be fully responsible for their own debts. Government should seek to amend the Education Act 1989 to allow it to identify financially competent TEIs and treat them accordingly. This includes:

- removing the requirement for such TEIs to seek approval to acquire or dispose of assets, or to borrow money; and
- removing government's guarantee of the creditors of such TEIs.

R12.21 Tertiary education institutions (TEIs) should contribute directly to their local communities by paying rates. This would remove a distortion that leads to inefficient asset use by the TEIs and inefficient land use.

R12.22

Government should:

- extend funding eligibility to students who do not intend to pursue qualifications;
- remove specifications that set a lower and upper limit on fundable course duration; and
- remove limits on the use of industry training funding on training at levels 5 and above on the NZQF.

R12.23

Government should abolish University Entrance, leaving all universities free to set their own entry requirements.

R12.24

Educational delivery by institutes of technology and polytechnics anywhere in New Zealand should not require the approval of the Tertiary Education Commission.

R12.25

The Ministry of Education should systematically identify and remove regulatory barriers to new entrants in the tertiary education system, subject to quality standards.

R12.26

Any provider should be able to apply to NZQA to use the terms “university”, “polytechnic”, “institute of technology” and “college of education”. NZQA should grant or reject such applications based on the provider’s characteristics and on whether students or the public are likely to be misled about the provider’s nature or quality.

R12.27

Any tertiary education institution should be able to apply to NZQA to change subsector (eg, from ITP to university or university to ITP).

R12.28

Government should approve for New Zealand those providers and courses approved in jurisdictions with which NZQA has mutual recognition agreements, or in other jurisdictions where the New Zealand government is satisfied with the quality assurance arrangements.

R12.29

Government should reform the Student Loan Scheme to be an income-contingent loan scheme that ensures that people are not excluded from tertiary education purely because they cannot borrow against future earnings to fund their education. Future Student Loan Scheme borrowers should be charged interest at a rate that covers government’s costs in running the scheme.

R12.30

The Government should alter the definition of an equivalent full-time student (EFTS) to allow alternatives to the input-based “learning hour” as a basis of calculation.

R12.31

The Ministry of Education should review the funding rates applicable to New Zealand and Managed Apprenticeships, with a view to equalising them.

R12.32

Every student should receive an invoice from their provider for government-subsidised education. This should explicitly show the full price of education, and the Government’s contribution alongside the fee payable.

R12.33

The Tertiary Education Commission should, in consultation with providers, set – and stick to – a reasonable deadline by which they will confirm funding allocations.

Appendix A Public consultation

Submissions

Individual or organisation	Submission number
Academic Quality Agency for New Zealand Universities	29
ACE Aotearoa	32
ACE Strategic Alliance	34
ACG Tertiary and Careers Group	84
Ako Aotearoa	58
Alan Cocker	62
Alona Ben-Tal	15
Alpha Training & Development Centre	9
Auckland Construction Skills Alliance and Auckland Construction Industry Partners	86
Auckland University of Technology (AUT)	64
BusinessNZ	77
Canvas	43
Careerforce	56
Chris Bridgman, Dave Petrie and Sarah Tabak	68
Clare Feeney	4
COMET Auckland	50
Competenz	45
CORE Education Ltd	78
Creative HQ Limited	75
DairyNZ	26
Deans of Medicine, Universities of Otago and Auckland	97
Ed.Collective	89
Education New Zealand	52
Eric Pawson and Rua Murray	40
Flexible Learning Association of New Zealand	98
Francesca Beddie	3
Grant Duncan	18
Higher Education Research and Development Society of Australasia (HERDSA) NZ branch	72
Horticulture New Zealand and Affiliates	92
Ian Hooker	36
Independent Tertiary Institutions	81
Industry Training Federation	54
Jeffrey McNeill	13
John Davies, Vicky Mabin and Peter Hodder	100
K. Kennedy	23
Kaylene Sampson, Eleri Nugent, Sue Holstein, Erik Brogt and Ellie Kay	14
Ken Francis	94
Kerry Shephard	16
Lawton Hakaraia and Adnan Iqbal	102
Lynette Hardie Wills	49
Manukau Institute of Technology	67
Margaret Stuart	22
Mark Nichols	6
Massey Business School	96

Massey University	82
Massey University College of Creative Arts	33
Massey University College of Health	70
Massey University College of Humanities and Social Sciences	27
McGuinness Institute	90
Methodist Mission Southern	5
Ministry of Business, Innovation and Employment	63
MITO New Zealand Incorporated	53
Neil Dodgson	28
New Zealand Council of Trade Unions	69
New Zealand Federation of Graduate Women	47
New Zealand Manufacturers and Exporters Association	66
New Zealand Nurses Organisation	25
New Zealand Post Primary Teachers' Association (PPTA)	61
New Zealand Qualifications Authority (NZQA)	88
New Zealand Union of Students' Associations	19
Nicholas Tarling	10
NZEI Te Riu Roa	65
NZITP and Metro Group	42
OMEP Aotearoa New Zealand	24
OMEP Waikato Bay of Plenty Chapter	20
Open Polytechnic of New Zealand	44
Otago Polytechnic	91
Paul Hansen	55
Peter Harwood	95
Quality Public Education Coalition (QPEC)	48
Raazesh Sainudiin	74
REAA NZ (Research & Education Advanced Network New Zealand)	87
Rhys Taylor	7
Richard Norman, Victoria School of Management	21
Royal Society of New Zealand	41
Rural Women New Zealand	30
Science New Zealand	79
SeniorNet Wellington	11
Service IQ	57
Stephen Marshall	73
Te Mata o te Tau, the Academy for Māori Research and scholarship at Massey University	99
Te Rōpū Āwhina Whānau (1999-2015)	12
Tertiary Education Commission (TEC)	2
Tertiary Education Union (TEU)	83
Tertiary eLearning Reference Group (TeLRG)	101
Tourism Industry Association New Zealand	51
Unitec Department of Civil Engineering	76
Universities New Zealand	17
University of Auckland	85
University of Auckland Society	38
University of Canterbury Faculty of Arts	35
University of Otago	37
University of Waikato	93
VET Outcomes Group	60

Victoria University of Wellington	71
Victoria University of Wellington Centre of Lifelong Learning	39
Victoria University of Wellington Faculty of Humanities and Social Sciences	31
Victoria University of Wellington Students' Association (VUWSA)	80
Waikato Institute of Technology (Wintec)	46
Wellington Institute of Technology and Whitireia Community Polytechnic (WelTec & Whitireia)	59
Zhivan Alach	8

Engagement meetings

Academic Quality Agency for New Zealand Universities
ACE Aotearoa
Ako Aotearoa
Arthur Graves
Association of Pasifika Staff in Tertiary Education
Auckland Tourism, Events and Economic Development
Australian Education Union
BusinessNZ
Careers New Zealand
Chen Palmer
Creative HQ
Denise Chalmers
Donna Matahaere-Atariki
Doug Armstrong
Ed.Collective
Education Directions Ltd
Education New Zealand
Education Review Office
English New Zealand
Ernst & Young
Flexible Learning Association of New Zealand
Gary Hawke
Geoff Whitcher
Hawkins
Horowhenua Learning Centre
Ian Hooker
Independent Tertiary Education New Zealand
Independent Tertiary Institutions
Industry Training Federation
Innovation Strategy
NZITP – ITP CEOs
NZITP – ITP Chairs
Isambard Limited
Jane von Dadelszen
Kelly Gay
Lincoln University
Linda Sissons
Linda Tuhiwai Smith, Pro Vice-Chancellor (Māori) Waikato University
Literacy Aotearoa
Liz Richardson
Luamanuvao Winnie Laban
M I Bain & Associates

Manukau Institute of Technology
 Margaret Kouvelis, Mayor, Manawatu District Council
 Marnie Hughes-Warrington – Deputy Vice Chancellor, ANU
 Mason Durie
 Massey University
 Massey University – Senior Leadership Team
 Massey University – Te Mata o Te Tau Academy for Māori Research and Scholarship
 Massey University Council
 Maurice Wilkins Centre for Molecular Biodiscovery
 McGuinness Institute
 Meta Office Limited
 Metro Group – Polytechnics
 Mike Pratt and Murray Horn
 Ministry for Pacific Peoples
 Ministry of Business, Innovation & Employment
 Ministry of Business, Innovation & Employment – Skilled and Safe Workplaces CEs
 Ministry of Education
 MITO
 New Zealand Council for Educational Research
 New Zealand Council of Trade Unions
 New Zealand Manufacturers and Exporters Association
 New Zealand Post Primary Teachers' Association (PPTA)
 New Zealand Qualifications Authority
 New Zealand Union of Students' Associations (NZUSA)
 Office of the Auditor-General
 Otago Polytechnic
 Pacific Centre for Learning Teaching and Research
 Peter Gluckman
 Phil Ker – Otago Polytechnic
 Pride and Joy
 REANNZ
 Rick Christie
 Rob Cameron
 Rob McIntosh
 SeniorNet
 Sholeh Maani
 State Services Commission
 Talent Central
 Te Kura
 Te Mana Ākonga – National Māori Students Association
 Te Puni Kōkiri
 Te Wānanga o Aotearoa
 Tertiary Education Commission (TEC)
 Tertiary Education Commission – Engineering E2E Steering Group
 Tertiary Education Union (TEU)
 Tertiary Education Union – Industrial and Professional Committee
 Tertiary eLearning Reference Group (TeLRG)
 The University of Auckland
 The University of Waikato
 Treasury
 Unitec

Universities New Zealand
 University of Canterbury
 University of Otago
 Victoria University Continuing Education
 Victoria University of Wellington, School of Management
 Victoria University of Wellington, Disability Services
 Waikato Institute of Technology

Australian engagement meetings

Australian Department of Education and Training
 Australian National University
 Denise Bradley
 Department of Education and Training
 Francesca Beddie
 Grattan Institute
 Manufacturing Skills Australia
 Mitchell Institute
 Monash University
 Nous Consulting
 RMIT University
 Swinburne University of Technology
 TAFE NSW
 Tertiary Education Quality and Standards Authority (TEQSA)
 The Australia and New Zealand School of Government (ANZSOG)
 The University of Melbourne
 The University of Sydney
 University of Western Sydney
 Victoria University (Melbourne)
 Victorian Skills Commissioner

Conference and forum presentations

Murray Sherwin, <i>What can a five year old Productivity Commission add to a thousand-year old institution?</i> Connect Public Lecture, University of Canterbury	6 April 2016
Judy Kavanagh, <i>The Productivity Commission inquiry into New models of tertiary education: What are we hearing.</i> Pathways, Transitions and Working Across Boundaries. Te Ara Whakamana. Wellington	29 June 2016
Sally Davenport, <i>New models of tertiary education: A system reluctant to innovate?</i> Metro ITP Symposium. Wellington	6 July 2016
Sally Davenport, <i>Student information, decision-making and the costs of switching.</i> Higher Education Summit. Wellington	7 July 2016
Murray Sherwin, <i>Under construction: New models of tertiary education.</i> ITF Conference. Wellington	27 July 2016
Judy Kavanagh, <i>New models of tertiary administration: Keeping students at the centre of what we do.</i> Australasian Heads of Student Administration (HoSA) Conference. Dunedin	10 August 2016

Conferences and forums attended

Higher Education Conference and Measuring Quality Outcomes in Higher Education Forum. Singapore	16 October 2015
Industry Training Federation Organisation – Chief Executive's Forum. Wellington	10 December 2015
Professor Denise Chalmers Seminar – <i>Recognising and rewarding teaching in higher education</i> . Ako Aotearoa. Wellington	17 March 2016
DEANZ Conference. Hamilton	17-20 April 2016
Colloquium on competency based learning and assessment. Wellington	8 June 2016
TEU Symposium 'Voices from the sector'. Wellington	22-23 July 2016

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