Competition and productivity: The New Zealand context

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These comments will represent a shift in perspective for the workshop, being the observations of an economist rather than a lawyer on how we think of the role of competition as we pursue greater productivity as the foundation for improved wellbeing for the diverse communities that make up New Zealand.

My comments include a quick perspective on productivity – what is it and why should we worry about it. I will then look at the how competition influences our productivity performance before going on to outline what we know about competition in New Zealand. This will include some historical perspectives on how policy makers have thought about competitive dynamics over time, how can we assess competitive intensity and what the few measures we have tell us about the state of market competition in New Zealand. I will touch on how structural changes in the economy may be influencing competitive dynamics before finishing with a few observations about some of the new challenges emerging for competition regulation with the "new economy" of globalized, services-dominant activity with winner-takes-all elements at large.

The main themes, to cut to the chase early, are that New Zealand policy makers have long been quite ambivalent, and at times even hostile, to the role of competition in our economic performance. We've moved along since the mid 1980's dramas, but retain a soft spot for sheltering business from competition. A tiny, fragmented and remote island economy will not naturally lend itself to intense competition. That puts a premium on smart, well-targeted pro-competition regulation that also recognizes the challenges of small scale and the growing significance and particular characteristics of services industries.

Our competition soft spot matters in terms of our productivity performance. It explains at least a part of our laggardly economic performance over recent decades. What is more, life for policy makers in the competition field is getting rapidly more complicated courtesy of globalized technology firms and the expanding share of activity held by services industries.

Productivity

Let's start with productivity, and what we mean by that term. In essence, productivity describes the process by which communities or societies lift their living standards. It is a process by which producers innovate in ways that enable them to do more with less. If we compare our lives today with those of our hunter/gatherer forebears, to use an extreme contrast to make the basic point, the progress we see is one of vastly increased productivity over the ages. Our ancient forebears spent most of their days engaged in meeting their immediate survival needs, gathering food from their surroundings. Today, we are a globally connected, technology driven and creative society, where basic food needs can be supplied by a tiny percentage of the population. We specialize in what we produce, we trade using a monetary system to do so, we save and invest in the future, we accumulate and share knowledge. Specialization and trade underpin the miracle of modern man and modern living standards.

This is a process driven by continuous enhancement of our various capital stocks:

- human capital (through continuously improved education, nutrition and health care),
- physical capital (machinery, infrastructure enhanced through technological advances),
- social capital (rule of law, property rights, human rights, socially inclusive political/governance processes)

There is another critical capital stock that underpins our improved wellbeing, but which I put in a different category, largely because in earlier eras with smaller human populations we have been able to treat this stock as more or less infinite. But no longer.

Human, physical and social capital stocks are largely in the hands of mankind to nurture and develop. What we cannot nurture and develop in the same way, but rather must husband and protect with a close eye on the likely needs of future generations is:

- natural capital (water, atmosphere, mineral and other natural resources, biota and biological systems)

Progress from hunter/gatherer days has been driven by continuous development of human, physical and social capital – starting with cropping, hand tools, co-operative social arrangements. The associated increase in output per person is seen in strikingly reduced population shares engaged in agriculture. In the US, ILO data puts those the share of workforce employed in agriculture at less than 2%. The comparable share for New Zealand, despite still being regarded as a heavily agriculture dependent nation, is around 6% of the workforce, even with a very high share of production (over 90% in the case of dairying) being exported.

Reduced need for farmers means a bigger share of the workforce available for other activities. Enhanced agricultural productivity facilitated the rise of manufacturing in late 19th to mid 20th centuries by freeing labour to staff the new factories.

With that came a further substantial lift in national productivity, at least in the industrializing world. It is a process that China came to later, but essentially describes what has been underpinning the huge gains in China's per capita income as under-employed and low productivity peasant farmers moved to the factories of urban China. Mixing labour with technology and capital is a well-trodden path to improved productivity.

Today we face a rather more perplexing productivity challenge. Manufacturing industry has been shedding labour – made possible by continuous productivity gains. The sector now absorbing labour is services. In New Zealand today, the services sector represents over 70% of GDP and a slightly higher proportion of total employment. In the USA, services account for around 80% of employment, while even late-comer China now has over half of its workforce in services.

While pockets of the services sector display very high labour productivity – think ICT activities - most labour is drawn into jobs which rely on face-to-face personal delivery. However socially important (eg, child care, aged care, hotel, restaurant services) these roles will generally involve relatively low measured value add and consequently relatively low wages. That shows in the data, and in the incomes of employees, as low productivity.

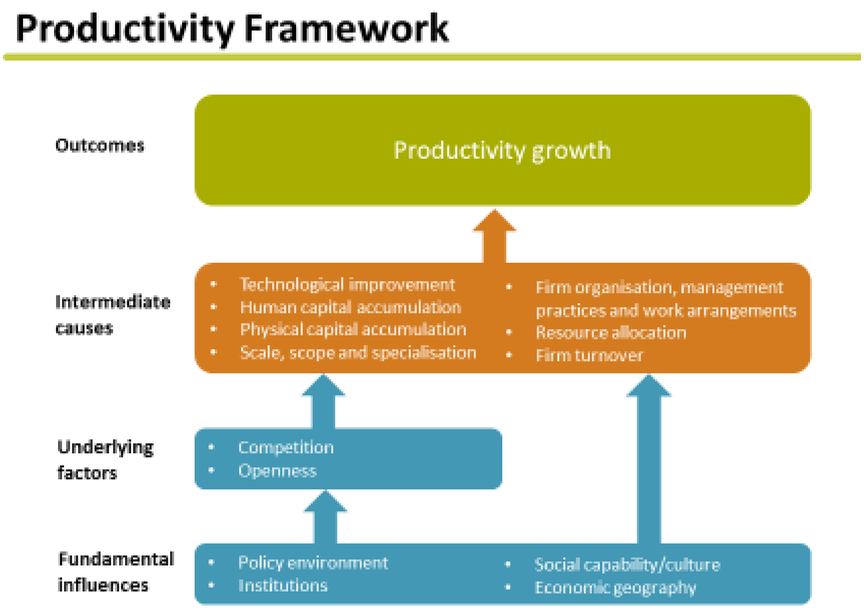
We've hit a productivity flat spot. New Zealand has been in it for longer, but it is now evident across the developed world. Even the usual hotbed of productivity performance, the USA, is experiencing sluggish aggregate productivity growth as its services sector approaches 80% of GDP.

Yes, there are important instances of high performance to be found, but those are increasingly concentrated in a few very high tech industries and their associated regional locations.

What has competition to do with this?

At the NZPC we use a stylized model of productivity, borrowed in large part from our mates at the Australian Productivity Commission.

[Figure 1]



In a sense, this presents much the same story as that told above in relation to the important capital stocks story. But it adds a couple of related, but critically important, sources of dynamic impetus – tradability and competition. These are related in the sense that for an incumbent producer, tradability, both domestic and international, is a pathway to larger markets and the associated economies of scale. But it is also a source of added competition from outside the home market.

A little historical diversion

There is nothing new in thinking of competition as a critical driver of innovation and therefore productivity. Joseph Schumpeter introduced us to the term "creative destruction" in the 1940's – drawing on Marxist analysis in describing the process by which innovation creates new firms and industries but supplants existing businesses by unleashing a "gale of creative destruction". He is describing a competitive, Darwinian process where innovation is tested in the market place, either winning by gaining customer support and over-running existing producers, or failing and being itself over-run.

To economists' thinking about productivity, the phase where an unsuccessful business fails is important. At that point, the failing business releases its resources - labour, capital, land – to be redeployed ideally into innovating and more productive industries. That is a key mechanism for productivity enhancement.

Enthusiasm for this process of change driven by competition is not universal and has not been a strong feature of government thinking for that long in either Australia or New Zealand.

In the post WWII era, both countries embarked on an industrialization phase in an effort to reduce reliance on the instability (weather and international prices) of agriculture. Modern societies were presumed to be industrial societies, so we needed local manufacturers. To grow local manufacturers, we needed protection from existing international producers while the new local "infant industries" became established. Protection came in the form of tariffs, licensing or quota controls on imports and local content obligations. None of this had much to do with recognizing the essential dynamics of competition between producers. Nor did it pay much heed to the interests of consumers.

Policy thinking on such matters in Australia is captured in the history of our Australian counterpart, the APC (http://www.pc.gov.au/about/history/thirty-years). What that article captures is the evolution of official thinking from protection to competition as reflected in the remits of the APC's various predecessor organizations.

The roots of the APC lie in the Tariff Board, established in the 1950's with statutory objectives of encouraging the development of "economic and efficient" Australian industries which, the APC notes "it sought to discharge for most of its life by recommending additional tariff assistance".

The Tariff Board was succeeded in 1976 by the Industries Assistance Commission (IAC) which had a wider mandate reflecting interests beyond industry protection. Its policy objectives "included not only economic development, but also the wellbeing of Australians and the efficient use of the community's productive resources". It was required to "recognize the interests of consumers and consuming industries" and to "facilitate adjustment to structural change". This was clearly a big shift from growing infant industries behind tariff barriers.

By 1989, Australia had moved on to its next iteration, the Industry Commission. Again, the mandate and scope had been broadened, taking in not just manufacturers, but statutory marketing corporations, urban planning and transport, public housing, workers' compensation, occupational health and safety, charitable organisations and defense procurement. The Industry Commission's research subsequently paved the way for the 1995 National Competition Policy framework.

The Australian Productivity Commission as we now know it came into being in 1998. Again, the new institutional form came with a broader role and scope than its predecessors. Its focus is on ways of achieving a more efficient and productive economy, as the key to higher living standards. The scope includes the full range of economic, social and environmental matters that have a bearing on community living standards. The importance of open borders, the high costs of impediments to trade and knocking back barriers to competition have been prominent in the APC's thinking from the outset.

I touch on that history because the transition from a public policy emphasis on growing the economy by building industries behind protective barriers, to improving living standards and community wellbeing through an efficient, competitive and productive economy and sustainably healthy environment was matched, in broad terms in New Zealand – albeit with important lags and without the same institutional form seen in Australia.

Often in New Zealand, we seem to pick up a new public policy idea, either indigenous or borrowed from abroad, and then stretch it much further than our more restrained international counterparts.

Industry assistance in New Zealand is one of the more extreme examples. By the 1960's, thanks to very heavy-handed import licensing and tariff protection, New Zealand had at least 8 motor vehicle assembly plants producing possibly the most expensive vehicles in the world for a heavily rationed market. Other industries, such as consumer electronics, clothing, and footwear developed in similar fashion resulting in locally made, but expensive products with consumers paying through limited choices and high prices.

At the absurd end of the protection spectrum, imports of nylon carpets were banned to protect the wool carpet industry. Likewise, no imported wallpaper could be found in local shops, margarine was available only with a doctor's prescription and Watties sought a ban on imports of canned salmon in order to limit the competition for their locally canned tuna.

Far from enhancing economic growth, productivity and the wellbeing of New Zealanders, these measures undermined the purchasing power of consumers, limited their choices and undercut the international competitiveness of exporters by ramping up their input costs. It's hard to improve productivity when significant industries are producing negative value-add – the total cost of inputs for a locally produced car, for example, well exceeded the international price for the finished product.

The intellectual and policy currents washing around Australia which recognized the damage done by such industry protection were also washing around the New Zealand shores. But they did not result here in the sorts of policy or institutional evolution that I have just described for Australia. Mostly, these matters were subject to close political oversight and managed within the government machine, in particular, the former Department of Trade and Industry.

The Trojan horse for reformist policy makers here was the Australia/New Zealand Closer Economic Relations agreement (CER) signed, to the surprise of many at the time, by then Prime Minister Robert Muldoon. Even Muldoon accepted the line that "if local manufacturers can't compete with the Aussies they didn't deserve to be in business". This agreement was no big deal for Australia – indeed APC modelling suggests a small negative impact for Australia – but marked a major shift in thinking and the competition policy settings in New Zealand.

Of course, the CER Trojan horse was, just a couple of years later, overrun by the stampede of the 1984 Lange Government which rolled out a comprehensive agenda of removing protection and committing to an open trade agenda. In general, that agenda has been sustained since.

So much for history. Let's turn to the here and now.

How does competition influence productivity?

There is plenty of international literature supporting the notion that threatened or actual competition is a key driver of productivity. This can happen via a couple of mechanisms:

a. Within markets, competition drives market share towards more efficient firms. So in a competitive environment, high-productivity firms are more likely to grow and expand while low-productivity firms shrink and exit (opening up room for more efficient producers).

b. Within firms, competition encourages managers to undertake costly productivity-raising actions that they may otherwise not. For example, because adopting new technology is costly, producers facing less competition may prefer to avoid those costs and the risks associated with innovation.

"New technology" is broadly defined here. It is not just about a new computer or machine. It may involve new systems and processes, new ways of doing business. There is evidence suggesting that more intense competition in a firm's market is positively correlated with best-practice management.

Note also that there is a seam in the literature suggesting that by squeezing margins, "too much" competition can discourage firms from undertaking productivity-enhancing innovations. That is, once all the rents have been squeezed out of a market, firms no longer have the capacity to undertake costly innovation.

What do we know about competition in New Zealand?

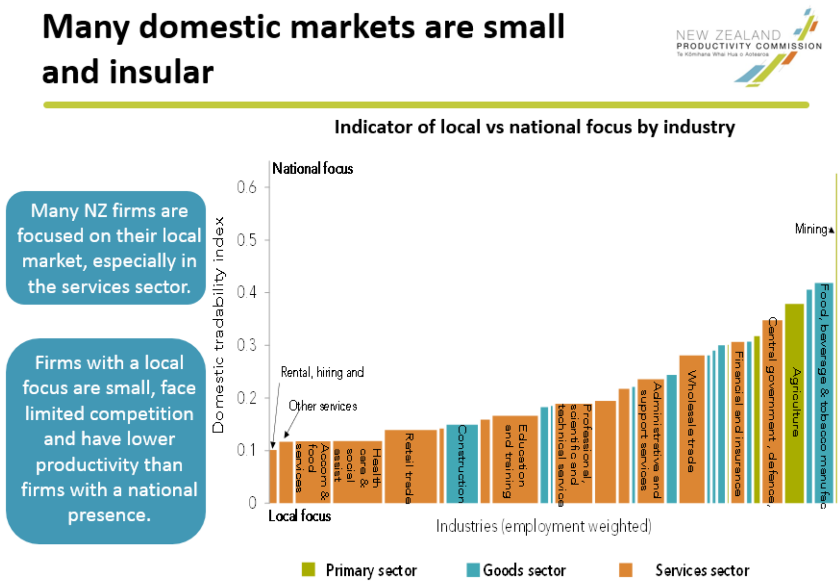
Our knowledge of competitive characteristics across New Zealand, and how that affects productivity, is fairly patchy. It is one of the areas that the Commission and its partners in the Productivity Hub, a sort of Wellington productivity research collective convened by the Commission, has been working on and will continue to explore.

The available evidence suggests that our small and isolated markets lack competitive intensity, especially at the regional level.

The Commission's research work to date has involved a lot of work with a very comprehensive firm-level data base that enables us to see into our firms on many dimensions and to explore their characteristics, which ones perform better, which are performing badly. That research points to the higher performers being larger, more capital intensive, engaged in international trade and more likely to have foreign ownership. While the intensity of competition varies between industries, firms operating in some service industries are generally exposed to less intense competition than firms in goods-producing and primary industries.

"Tradability" across domestic markets

One indicator of competition that we have built at the Productivity Commission measures the extent to which goods and services are traded in local vs national markets. The idea here is that when the costs of trading a service over distance are high – such as for services that require face-to-face delivery – markets tend to be localised and less open to competition.



So for each industry, this indicator captures where the products produced by an industry are consumed compared with where they are produced. It tells us that firms in some of the big services industries tend to service local markets. While collectively firms in these industries employ a lot of people, individually they tend to be small, unlikely to export and face limited competition.

Overall, and consistent with other measures of competitive intensity, services are more likely to be traded in small local markets compared to goods. There are some differences between service industries, with finance and insurance, wholesale, and information, media and telecommunications traded outside of local markets, but still less than manufacturing, mining and agriculture.

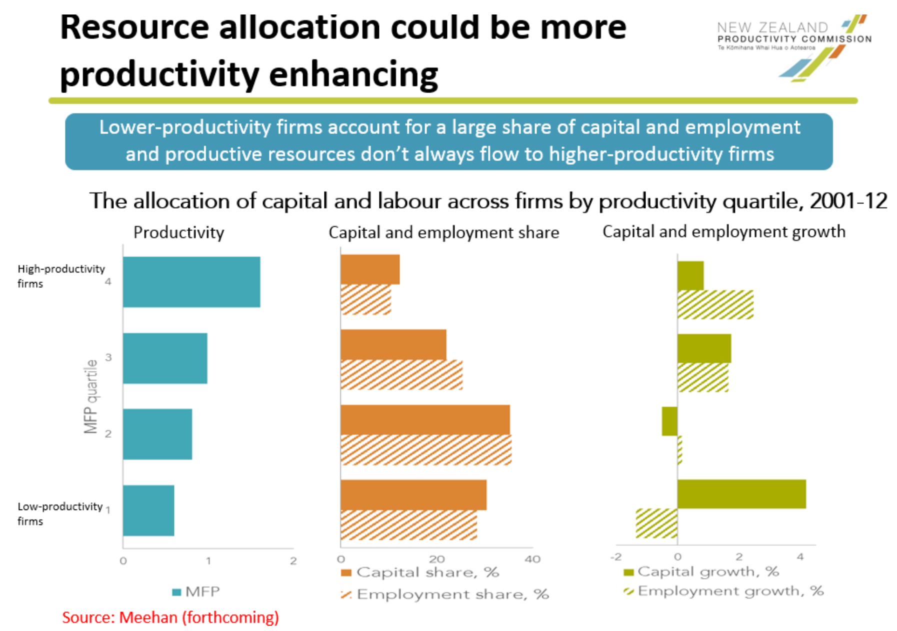
The industries with the lowest domestic tradability are accommodation and food, retail, and other services. Of course, local markets in these industries may still be competitive if there are sufficient local suppliers.

The New Zealand economy bears the scars of weak competition

As noted, our knowledge of the impact of weak competitive intensity and productivity at the firm level is patchy (we are working on it). But there certainly are features of New Zealand firm' performance that are consistent with weak competitive intensity in New Zealand markets.

First, best estimates show that the difference in productivity levels between the most (10th decile) productive firms compared to the least (90th percentile) productive firms is relatively large in New Zealand. This is especially so in the services sector.

On the face of it, this is consistent with the idea that new ideas and ways of doing things do not diffuse as easily from high to low-productivity firms in New Zealand compared to elsewhere. There are a number of possible reasons for that, one of which is low competitive intensity here. As mentioned, adopting new ideas and technologies isn't cheap or easy. So why would a small firm with limited revenues operating in a small and insular domestic market go to the trouble?

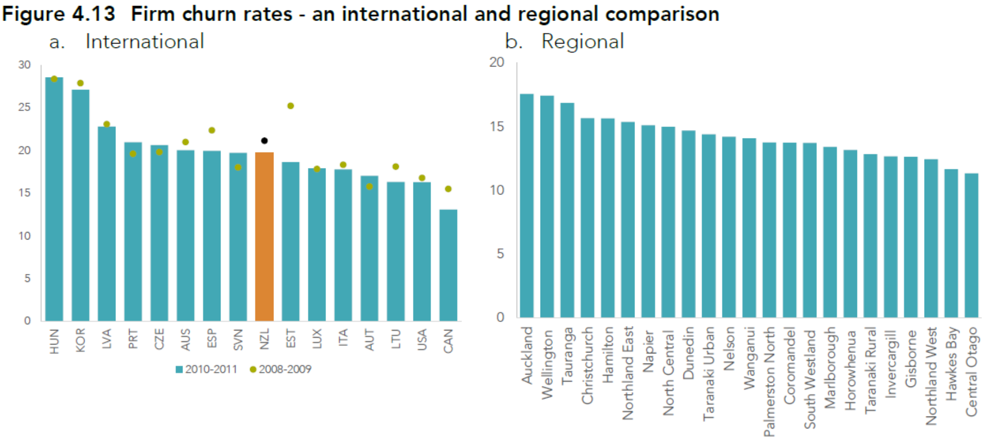


We also see the impact of weak competition on the allocation of labour and capital across New Zealand firms. By industry, if you line firms up from the most to least productive and look at the share of capital and labour accounted for by each quartile, you get a picture like this one. The middle chart tells us that a large share of labour and capital is employed by firms in the lower productivity quartiles in their industry

Again, there are a number of reasons as to why this may be the case. But it is certainly consistent with the idea that weak competitive pressures allow relatively unproductive New Zealand firms to continue trading and doing what they do with only limited risk of going out of business. At the other end of the productivity distribution, there may also be a story in here about high-productivity firms that face limited opportunities for growth and expansion in New Zealand's small domestic markets.

Things are a little more promising when we look at growth in capital and employment, with the RH chart showing relatively strong growth in capital and employment for high productivity firms but also a puzzling trend of strong capital investment in low-productivity firms.

Figure 4.13 Firm churn rates - an international and regional comparison

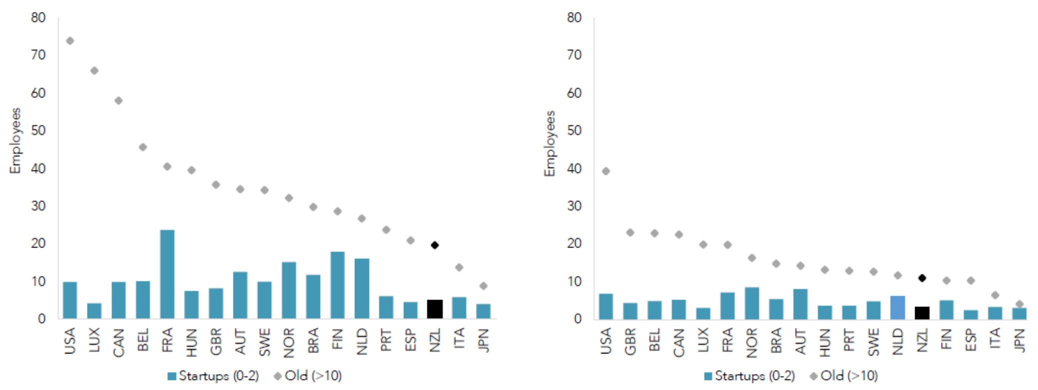


A further indicator of the dynamics of our markets can be found in firm churn rates – defined as entry plus exit as a share of total firms. These are about average in New Zealand overall, they are higher in urban centres compared with secondary urban and rural markets. Again, this is consistent with the idea of limited competitive intensity in some of New Zealand small regional markets.

A trade-off between competition and scale?

Figure 4.14 Average size of start-ups and old firms

a. Manufacturing b. Services



So competition may be weak in New Zealand, with a negative impact on productivity growth. But inevitably, we lack the economies of scale that larger countries benefit from.

To promote competition we seek to limit the exercise of market power by dominant firms. But we also recognize that economies of scale are required for firms to operate efficiently

Firms are born small in New Zealand. And those that survive for ten years don't grow much and are still small in international comparison. These issues of small scale and low growth are particularly acute among firms in the services sector. This means that industries maybe more concentrated than in larger economies such as the United States, and firms cannot achieve the same economies of scale and scope in the domestic market.

The Dairy Industry Restructuring Act 2001 (DIRA) enabled the creation of Fonterra as an overwhelmingly dominant dairy co-operative. This is a text book case of policy makers trying to balance competing interests in facilitating the creation of an indigenous company with scale to be competitive internationally, while also preserving the prospect of new entrants to the market competing for milk supply from farmers and seeking to preserve real competitive tension in the servicing of the domestic dairy foods market.

So Fonterra, our largest enterprise, has a custom-made piece of legislation to wrestle with this scales vs competition dilemma. It does so, in part by taking the creation of Fonterra outside of the competition provisions of the Commerce Act – although not out of the purview of the Commerce Commission which oversees elements of the DIRA.

But beyond Fonterra, we find a substantial proportion of our largest firms (those with annual revenues of $1 billion or more) are constituted as either producer owned co-operatives (dairy, meat, fertilizer, kiwifruit) or SOE's – some now partly privatised.

Both organisational forms display growth limitations due to constrained access to capital together with owners' reluctance to embrace opportunities for risk and growth. That is likely to be a less than ideal recipe for productivity and growth in the wider economy.

Services and competition: Policy challenges abound

In 2014, the Commission published the results of an inquiry into "Boosting Productivity in the Services Sector". It was a wide ranging inquiry initiated with a sense that, despite its now dominant size in terms of contribution to GDP and employment, we know a lot less about the services sector than we do about manufacturing and primary industries.

As already noted, we do know that productivity across the sector is varies greatly in different subsectors. We also know that, on average, productivity is low and that many of the features that mark out high productivity industries in manufacturing elsewhere – scale, capital intensity, export activity, connections with global value chains – do not exist in large parts of the services sector. We also concluded that while the intensity of competition varies between industries within the services sector, generally the sector experiences less intense competition than the goods-producing or primary sectors.

In addressing the policy issues arising from those judgements, the Commission explored a number of specific options that might help stimulate competition in services and made recommendations on them. Those options included:

- Addressing search and switching costs, including through
    - better support for comparison web sites,
    - dealing with unfair contract terms especially those involving unfair termination costs,
    - promoting switching facilities and portability (eg, phone numbers, email addresses, bank account numbers)
- Occupational regulation, including the role of professional bodies in supporting competitive entry to the market and the merits of certification regimes as opposed to those based on registration.
- Competition Law, especially Section 36 relating to misuse of market power and its interpretation.
- The place of productivity-enhancing collaboration in the context of the then-current Commerce (Cartels and Other Matters) Amendment Bill
- The case for providing the Commerce Commission with the power to undertake market studies (now enacted)

In an earlier inquiry into New Zealand's international freight services, the Commission had made a recommendation to remove the exemption from competition law that had long been afforded the container shipping lines. The Parliament recently acted on that, although the time required to do so is an indication of the awkward politics of the matter.

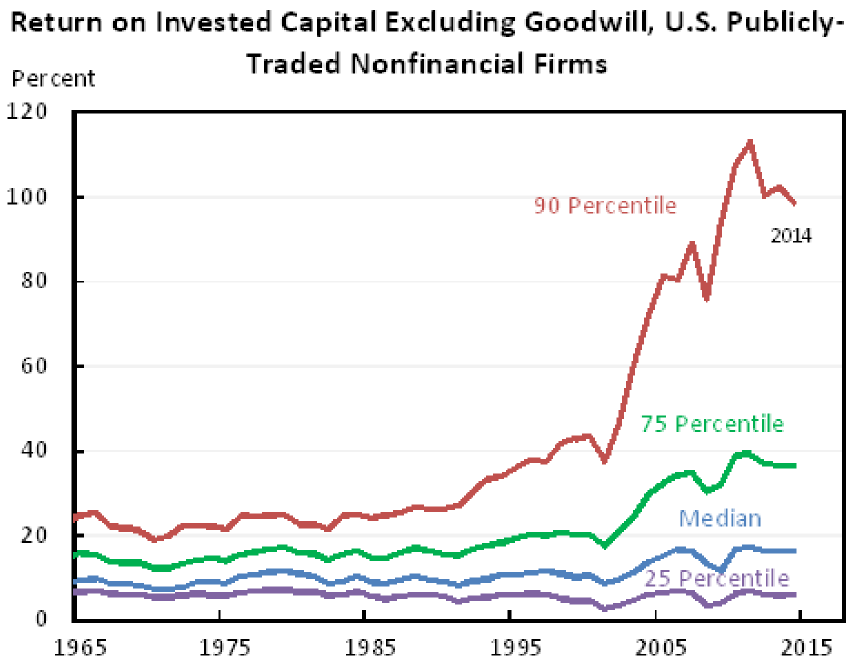
Our sense is that the growing share of services in GDP and some of the particular characteristics of services may be contributing to the disappointing productivity performances we have experienced in New Zealand and more widely across the developed world. One point we noted in our services inquiry was the close interconnections between services and goods markets. In particular, a substantial share of the value encapsulated in goods is represented by "embodied services" ie, services contributed in the production of goods. So a competitive and productive goods sector needs competitive and productive services in support.

One other element of the services and competition nexus lies with public sector services. We have an inquiry underway at present which is exploring productivity issues with public services covering topics such as measurement, what to measure, making measurement useful to public sector leaders, and the authorising environment within which all of this is considered.

The growing complications of competition regulation

Over the past year of two, just as there has been a growing recognition of a slowing and concentration of productivity performance, there has been a coincident upsurge in anxiety and commentary about the health of competition in the major economies, especially the US. This is a big topic and is related to a sense of decreasing investment even as returns to investment, at least for a small minority of firms, are reaching extraordinarily high levels. Commentators point to increasing concentration of activity in that small minority of "superstar" firms, and dilemmas of how to consider competition policy in the face of the very high returns to scale in some technology sectors. A key question relates to the long term consumer benefits with respect to those firms and their services.

The chart below is from a study undertaken by Jason Furman (then Chairman of Obama's Council of Economic Advisors) and Peter Orszag with the McKinsey Corporate Performance Analysis group (footnote: Op-Ed published by Brookings "People are not unequal; companies are", Peter Orszag, October 16, 2015)



Source: Koller et al. (2015); McKinsey & Company

A couple of interesting observations emerge from this paper. Firstly, IT and health services firms overwhelmingly dominate the 90 percentile firms. Secondly, the firms experiencing those very high returns are persistent in the sense that the same firms tend to remain in the high returns group over many years. In this article, Orszag also refers to other research suggesting that "the rise in wage inequality is driven more by a widening gap in the average earnings of workers in different companies than by a widening gap between paychecks inside individual businesses".

As Orszag notes, "returns of 50% or even 100% should be short-lived, as they attract competition from other companies". So why is this not happening? We can contemplate a number of possible reasons, such as the influence of network effects, economies of scale coupled with high start-up costs and the power of first mover advantages.

In the US, in particular, we see increasing discussion about the rise of "monopoly wealth". Stanford economist Mordecai Kurz ("The New Monopolists", Project Syndicate, September 22, 2017) estimates "normal profit levels" for companies. Profits above that "normal" level, and the associated stock prices, he asserts can be considered to be reflective of monopoly power. He estimates the share of "monopoly wealth" has grown from near zero in the 1980's to currently stand at around 80% of total listed market value. His list of those with the largest share of monopoly profits is also dominated by IT and pharmaceutical companies.

University of Manchester economist Diane Coyle pondered related issues (footnote: "Digital platforms force a rethink in competition policy", Diane Coyle, Financial Times, 17 August 2017). She dwells on the impact of the forces driving concentration in the digital economy, being high upfront costs with very low marginal costs generating large economies of scale for those who get past the initial phase and establish a position in the market. The usual tests for competition regulators in pre-digital days related to whether efficiencies of big or merging companies would be passed on to consumers, and whether it remains possible for new entrants to break into the market.

Coyle's key point is that economists are failing to provide the necessary tools to assist regulators to evaluate where the benefits lie in a world of huge returns to scale and powerful network effects – in particular, whether and to what extent consumers are reaping a fair share of those benefits. This gets no easier when the consumer is not paying, at least in the usual manner, for the services provided, and where what looks like a dominant market position may be by-passed by an innovation that quickly renders the once-dominant service obsolete.

Concluding comments

The general view that we take in thinking about these issues is that competition matters for productivity performance. New Zealand, for a number of reasons, including scale, isolation, industry structure and political inclination, has not managed to generate the intensity of competition across markets that we see in our usual comparator countries.

This matters. It has implications for our productivity performance. Given our laggardly productivity performance, New Zealand can ill-afford to pass up opportunities to take advantage of available productivity-enhancing policies and regulation. In essence, to hold our own against other, larger and better connected economies, New Zealand needs to have the best policy and regulatory regime it can muster.

In each of our inquiries, we have identified opportunities to do better. Our current inquiry into public sector productivity is likely to also point to opportunities to lift our game, to the benefit of tax payers, consumers of public services and the public servants who deliver those services.

Our challenge, as always, is to present those opportunities and ways forward in a form that make their adoption compelling to our political and policy-making leaders.

Murray Sherwin
Chair, New Zealand Productivity Commission