

**Review of the New Zealand
Productivity Commission's
Research Function: 2018-20**

Robert A. Buckle

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Contents	Page
1. Summary and recommendations.	3
2. Evaluation of ERT response to the recommendations of the 2018 review.	5
3. The relevance and quality of selected Commission research outputs published since June 2018.	10
4. Evaluation of the role in coordinating research projects involving multiple agencies and researchers and the effectiveness with which research is used to influence policymaking and enhance the Commission's reputation.	15
Annex A: Terms of reference	19
Annex B: People interviewed	20

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1. Summary and recommendations.

The core responsibilities of the Productivity Commission (PC) are to (i) undertake in-depth inquiries on topics referred to the Commission by the Government (the core business of the Commission); (ii) carry out productivity-related research that assists improvement in productivity over time, and to (iii) promote understanding of productivity issues.¹ This Review was commissioned to evaluate the contribution of the Economics and Research Team (ERT) toward the responsibilities of the PC and particularly its performance in delivering on its function to undertake and publish research about productivity related matters and promote understanding of productivity issues. The ERT was formed to promote and support research to improve knowledge about New Zealand's productivity performance and to provide economic analysis in support of PC Inquiries. This Review was required to focus on the period from 1 July 2018 to 30 June 2020. It follows four previous Reviews covering the period from 2011 to June 2018.²

The scope of this Review was to include: an evaluation of the performance of the ERT team in responding to the recommendations of the 2018 review; assess the relevance and quality of selected Commission research outputs published since June 2018; and where appropriate, evaluate the Commission's role in coordinating research projects involving multiple agencies and researchers and the effectiveness with which research is used to influence policymaking and enhance the Commission's reputation.

Key observations and recommendations:

1. The resourcing and operational focus of ERT has changed since the 2018 Review. ERT staff have been more heavily involved in supporting PC Inquiries and there has been less scope for more medium-term 'independent' productivity research. This change has brought some benefits but also some risks. A key risk is the loss of research capability and the scope to build a medium-term research programme and enhance research capability to support PC Inquiries.
2. The organisation of the PC resources appears to be at a turning point and will need to resolve how it can ensure access to critical economic research capability in the future. For this reason, the identification of key recommendations has been more challenging during this Review than in 2018.
3. Investment by ERT in building research capability and a network of researchers and promoting the application of the Longitudinal Business Database (LBD), has advanced core research on understanding the characteristics of New Zealand firms and the productivity performance of NZ

¹ See <https://www.productivity.govt.nz/about-us/>

² The previous Reviews can be accessed from: <https://www.productivity.govt.nz/assets/Our-performance/61c0d87abb/2017-18-Research-Expert-Review-Prof-Bob-Buckle.pdf>

firms, and has advanced understanding of the relevant policy issues. This investment has also benefitted PC Inquiries and capability in policy agencies (such as MBIE) and beyond the public sector. The importance of this research and research capability is evident for example in the development and progress of two of the recent PC Inquiries: *New Zealand firms: Reaching for the Frontier* and *Technological Change and the Future of Work*. The excellent research fostered by the ERT on the measurement of productivity in the state sector informed earlier Inquiries on *State Sector Productivity*.

4. If the PC is to continue to benefit from the presence of an ERT with scope for medium term research and to build appropriate research capability (such as that required to exploit the LBD database to inform future Inquiries and policy advice) and scope to continue to build a research network, there will need to be a rejuvenation of funding to support this. This may require a reprioritisation of resourcing within the PC.
5. The nature of ERT engagement with local and international researchers has changed. The Director has continued to be very active in this regard and plays a key role in this engagement. The diversity of engagement with other New Zealand and international researchers and organisations has expanded and is more diverse.
6. The availability of the Data Lab and access to the LBD is one way to attract a greater number of researchers to work with the PC, and in-turn to maintain the development of the requisite research capability to utilise this resource. The management of this Data Lab does, however, involve increasing compliance costs which need to be resourced appropriately.
7. The nature of engagement with the NZ public sector has changed. Previously, the Government Economics Network's (GEN) Productivity Hub was a key instrument for engagement by ERT with public sector agencies. This has ceased because of the increasing burden placed on the ERT Director to sustain the Hub, changes in ERT resourcing and priorities, and declining financial support and diminished research capability within the public sector agencies.
8. The impact of COVID-19 on firms and business activity has further highlighted the importance of research capability and the ability to exploit databases such as the LBD in order to understand the impact of the pandemic on firms and their ability to cope, and to inform policy. Feedback from public sector representatives expressed regret that the GEN Productivity Hub was no longer functioning, and they felt that it should be re-activated. It would be important that the PC, through the ERT, was actively involved in a rejuvenated Productivity Hub. But for this to be feasible, there would need to be greater support (financially and administratively) from the policy agencies and reprioritisation of resourcing within the PC to enable the ERT Director to fulfil the benefits that could accrue to the PC and policy agencies, including benefits from restoring the research prioritization process (FLARE), capability development, and knowledge sharing.
9. The ERT has responded appropriately to most of the recommendations of the 2018 Review. There is now (i) a systematic work planning process that is integrated into the PC planning process, (ii) a research management process has been implemented, and (iii) a more formal quality assurance process for research is now in place and documented. The changes have resulted in a clearer workplan which has helped the process of specifying research priorities and identifying the research capability required by ERT and the PC.
10. The ERT has also responded to the recommendation in the 2018 Review to reform the PC website and nomenclature for Working Papers. If the PC decides to sustain the type of research initiated

by the ERT, I would recommend that the PC working papers be registered on international research repositories such as IDEAS.

11. The quality of the Working Papers commissioned by ERT during the last two years has continued to be of a very good standard and those utilised by PC Inquiries are having an influence on the quality of the Inquiries. Several of the Working Papers warrant converting into a form suitable for submission to peer reviewed research journals. This would enable the research to reach a global audience and would enhance the reputation of the PC.
12. The communication of research emanating from the ERT has continued to be very good. This has occurred via the Working Paper series, interpretations and summaries using the 'Cut to the chase' mode, workshops, the introduction of webinars, and through more informal engagement by the Director with senior staff in public sector policy agencies.
13. The launch of the annual *Productivity by the Numbers* publication was applauded by interviewees. This annual publication could be exploited more, and its release could be used as one of the PC's marquee events. This could be used as an opportunity to also present (either as part of the publication or an accompanying paper) special topics on productivity and policy insights drawn from the ERT research and PC Inquiries.

2. Evaluation of ERT response to the recommendations of the 2018 review.

The 2018 Review suggested that the ERT could benefit from several improvements to its processes and management of research. The recommendations were to (i) establish a medium-term research planning process; (ii) improve research process management, (iii) document the quality assurance of research, (iv) review the nomenclature of PC research papers and link with international research databases, (v) develop more effective engagement with local and international researchers, and (vi) explore ways to enhance the funding of research. This section evaluates the response to those recommendations. They are evaluated in the context of the resourcing of the ERT and any changes in its role within the Commission.

In a paper to the PC Board on 18th October 2018 the ERT Director recommended accepting all the recommendations of the 2018 Review and provided a thorough and coherent set of proposed responses to these recommendations. The Director subsequently created a "Strategy Paper" clarifying the purpose and mandate of the ERT, its operating model, research priorities and engagement strategy. Subsequent reports by the Director to the PC Board throughout 2019 and 2020 provided updates on the ERT progress implementing the recommendations and the ERT work programme. These regular reports and the reporting process provide a stronger accountability process and a record of how the ERT has responded and the reasons for not adopting or deviating from the recommendations.

The initial proposals in response to the recommendations were conditional on the PC Budget proposals. Since 2018 the PC's budget has remained fixed in nominal terms. Reprioritisation with the PC in response has impacted on ERT staffing and its ability to pursue all of the recommendations.³ The average level of staffing of ERT since 2018 has been reduced

³ An explanation of the changes in the Productivity Commission's resources and implications for the ERT and its role is alluded to by the Chair of the Productivity Commission in the 2018-19 Annual Report and remarked: "Our

compared to the earlier years. For most of the period since mid-2018 the ERT consisted of the Director, one full-time senior researcher, one half-time senior researcher until October 2019 who was replaced by a full-time senior researcher, plus access to a PhD student on an *ad hoc* basis.

The focus of ERT work has also changed. The heavy involvement in organising the Productivity Hub of the Government Economics Network (GEN) has ceased and the team has been more involved in providing research expertise to support Commission inquiries.⁴ Members of the ERT are now more heavily absorbed by the requirements of PC inquiries, and the ERT Director is leading one of the current inquiries, as well as assisting with the development of inquiry topics and providing quality assurance. The team has also taken on a commitment in response to a request from the Minister of Finance, to prepare and publish *Productivity by the Numbers* on an annual basis.⁵

The specific recommendations of the 2018 Review were as follows:

- a. *Establish a regular medium-term research planning process. This plan should be guided by the agreed core areas of work and form the basis for determining the annual research plan, staff capability planning, and the annual financial budget for the ERT. The research prioritisation process should involve the following components:*
 - (i) *The preparation of a medium-term (3 to 5 years) productivity research plan;*
 - (ii) *An annual evaluation of progress and agreements to modify the medium-term plan in light of progress and new information that informs medium-term priorities;*
 - (iii) *Annual specification of priority work for ERT (and collaborators);*
 - (iv) *The medium-term and annual plans should specify the capability requirements and the implications for recruitment into ERT or collaboration arrangements with appropriate external researchers and organisations;*

capacity for such research remains limited. When first established, our funding was delivered in two output classes, inquiries and research, with research limited to just 10% of our total budget. That constraint has now been removed and our funding is received in one bucket. But our capacity to pull resource away from our inquiry teams is quite limited. To provide more research output requires either an increase in funding or a reduction in inquiry outputs.” <https://www.productivity.govt.nz/assets/Documents/4371904067/2018-19-Annual-Report-v2.pdf>

⁴ The Productivity Hub was a partnership of agencies which aimed to improve how policy can contribute to the productivity performance of the New Zealand economy. This involved a joint research work programme, helping build capability, and translating research into policy. The Hub agencies were the Productivity Commission, the Ministry of Business, Innovation and Employment (MBIE), Statistics New Zealand (SNZ), and the Treasury. Several other agencies and nongovernment groups were active in the partnership.

⁵ Regular publication of the *Productivity by the Numbers* report is consistent with one of the suggestions made in the report by Skilling (2018). This report encouraged the Commission to provide additional public communication on New Zealand’s productivity performance, including a systematic programme of national productivity reporting and benchmarking, in the form for example of an annual productivity report similar to that of the National Competitiveness Council of Ireland. Skilling, D (2018), Insights from the international experience of productivity institutions, Landfall Strategy Group, June, pp. 38. <https://www.productivity.govt.nz/assets/Documents/a9137be7c3/Skilling-review.pdf>

- (v) *An annual budget for expenditure and funding sources consistent with the agreed annual research plan and associated activities.*

The initial intention in response to these recommendations, was to develop a medium-term plan in collaboration with members of the Government's Economics Network (GEN) Productivity Hub. The shift in emphasis of the ERT work programme toward greater support for PC inquiries means there is less time for 'independent' ERT research. The planning for research priorities therefore now comes within the process of the Commission's research planning for the purpose of meeting the requirements of PC inquiries. In order to provide greater clarity about the ERT future work programme and to guide resourcing and emphasis of research by ERT, a process is now in place which involves the Director in more engagement with the Commissioners and the PC leadership team in discussion of the Commission's priorities. This engagement is regularly reported on and discussed in Board notes and in turn influences the ERT work programme planning process. This process seems to have arisen from a process of evolution in response to resource constraints and increased involvement of ERT staff in supporting current PC inquiries, rather than as part of a broader discussion on the plans for the Commission's future priorities and requirements.

The Director observed that the ERT has benefitted from a clearer workplan and mission. The process has helped identify the ERT research capability requirements and opened opportunities for more collaboration between ERT and Inquiry staff. However, the close integration of the workplan process with the Inquiry planning process does carry a risk of a loss of focus on the development of a medium-term research plan for the ERT. If the PC is to sustain a research active core in the form of the ERT, it will need to ensure that closer collaboration of the ERT with the Inquiry planning process does not compromise the development of an 'independent' medium-term research plan for the ERT, *albeit* aligned with the PC mission.

- b. Development of the agreed core areas of future ERT productivity research would benefit from continued consultation with the Productivity Hub members, but the scope of consultation should be broadened to include other researchers and institutions involved in the field.*

Due to budgetary considerations, changes in ERT work priorities and diminished research capability within the public sector agencies involved in the GEN Productivity Hub, the ERT is no longer formally involved with the Hub. The ERT Director nevertheless maintains active engagement with economists at public sector agencies involved in productivity related issues and is an external member of the advisory board of MBIE's Strategic Policy Research Team. Other connections and suggestions for renewed collaboration to fund research are discussed in Section 4.

- c. Explore opportunities to support the core research programme through access to other funding and increased collaboration with external researchers to enhance the allocation of external contestable funding sources to research on New Zealand productivity.*

There appears to have been little by way of success in accessing external funding from, for example, contestable funding programmes. The scope in New Zealand for this type of additional funding is limited. The ERT has tried to overcome this constraint by exploring ways of attracting external researchers through a process of providing access to the LBD, joint research and by using its consulting budget to “buy-in” research capability as required. There has been an uplift in the extent of collaboration with external researchers, as discussed in *g* below. The scope for collaborative sourcing of funding is discussed in Section 4.

- d. Examine the time taken to complete research projects and identify ways to lift the rate of research output on core productivity topics per unit of resource available to the ERT.*

A template was created to report on the work ERT programme, and this is regularly discussed with Commissioners and other relevant Commission staff. The Director explained that this is intended to help with earlier identification of issues holding back the completion of research reports. ERT commissioned research productivity during the period since 2018 had initially been affected by the previous less-structured approach to managing outputs, the lack of clarity around expectations, and the skill and experience make-up of the team. The Director has developed processes to avoid these difficulties occurring in the future, as discussed in *e* below.

- e. Document the quality assurance process required for each type of research project and publication. The quality assurance process should involve the following elements:*
- (i) The approval process applied to decide on funding or allocation of ERT researchers to support the research;*
 - (ii) Expectations with respect to workshop and/or conference presentations of draft papers;*
 - (iii) The refereeing process: Each paper under consideration for publication on the PC website should be subject to refereeing, and the selection of referees should include at least one external referee;*
 - (iv) Internal documentation of the date of commissioning, date of completion for each Research paper, and date of publication on the website;*
 - (v) Documentation of the techniques and data used, and where feasible, storage of the data applied so there are opportunities for future researchers to replicate and build on that particular research.*
 - (vi) Indicate on the Research Papers website the links to the journal site of any PC research papers that subsequently appear in peer-reviewed journals.*

The ERT staff work programme has now been incorporated into the Commission's document management system. This has resulted in improved records of key drafts of papers and final papers, and the management of data. The ERT has responsibility for managing the LBD Data Lab. One of the consequences is an increase in administrative responsibilities associated with running the Data Lab. This partly reflects the extra care being taken with this asset at the Commission (and greater utilisation, with the number of terminals increasing from two to four), and increased compliance costs associated with Statistics New Zealand policy.

The ERT Director now regularly reports to the PC Board on the work programme and progress. The Director has observed that this approach has enabled earlier identification of issues holding back the completion of research reports, and to implement a process to rectify delays or constraints that are hindering progress. The Director has also noted that this process helps to identify potential future constraints on research performance and areas which might be rectified by staff training.

A more formal quality assurance processes has been introduced. This involves sending all publications to Commissioners and other relevant Commission staff, along with two external reviewers. External reviewers' comments are kept on file (in the 'Shed') with the report, and authors are asked to provide short notes on how these comments had been addressed. This approach is followed for research published in-house and with contracted research.

f. Review the PC "Research" website, including the nomenclature for research papers, and the scope to link with related international databases and research sites.

The nomenclature for working papers has been simplified. The various categories of outputs that previously existed have been collapsed into a single "working paper" series. The research section of the Commission website has been redeveloped and the series of research papers are easier to identify.

The suggestion to link the PC working paper series to international databases does not appear to have been followed-up. The New Zealand Productivity is registered with IDEAS and some former and current PC researchers are registered on RePec. However, the PC Working Paper series does not appear on IDEAS.⁶ The process of registering the series and ensuring each paper is registered with IDEAS does not involve a significant administration cost and it would enhance the international reach of the PC working papers and increase the incentive for researchers interested in reaching a broader international audience, to collaborate with ERT.

⁶ IDEAS is the largest bibliographic database dedicated to economics and available freely on the Internet: <https://ideas.repec.org/>

- g. *Explore more effective ways to engage local and international academic researchers in working on the research priorities of the ERT.*

By supporting access to the LBD database, by encouraging researchers to develop productivity related research proposals, providing research commentary on proposals, and acting as a ‘hub’ for productivity research and collaboration, ERT has created active relationships with a much wider number of researchers. The ERT has used its consulting budget to ‘buy-in’ research expertise as required which has helped expand its network. Section 4 lists examples of researchers in New Zealand and overseas with whom the ERT has developed working relationships. It also discusses some of the feedback from stakeholders who were interviewed and suggestions for improving engagement.

3. The relevance and quality of selected Commission research outputs published since June 2018.

The PC publishes research papers on a dedicated research site.⁷ In the two-year period since Jun 2018 the Commission has published 19 papers. They include papers by researchers from other institutions that were commissioned by the PC and papers by PC staff, some of which were undertaken in collaboration with external researchers. The practice of collaboration with external researchers enables the Commission to access a wider range of research expertise and skills and promotes a richer fertilization of ideas and insights. Six of the of these research papers contributed to PC Inquiries (for example, on technological change and the future of work, local government funding, state sector productivity, and frontier firms).⁸ The other thirteen research papers were initiated by the ERT as part of their evaluation of the factors that influence productivity (such as trust, competition, and job creation), and their work measuring and monitoring and New Zealand’s productivity performance, plus a special issue of a refereed policy journal.⁹

The following papers were selected and lightly reviewed to assess the quality of the research outputs.

Assessing and enhancing New Zealand's productivity. Policy Quarterly: Special Issue, Vol 14 No. 3, 2018. <https://ojs.victoria.ac.nz/pq/issue/view/583>

This Special Issue of *Policy Quarterly* was initiated and edited by ERT staff and published in 2018. The issue includes an important ‘stocktake’ paper by ERT staff which lays out their assessment of New Zealand’s productivity performance at that point in time, including insights from macro-level productivity data and from the insights derived from firm-level research using

⁷ <https://www.productivity.govt.nz/research/>

⁸ The following site lists current and past inquiries: <https://www.productivity.govt.nz/inquiries/>

⁹ One of the productivity monitoring papers was commissioned during the previous Review period as part of the GEN Productivity Hub initiatives which is no longer active.

the Longitudinal Business Database (LBD). This paper titled “Moving on from New Zealand’s productivity paradox” endeavours to provide more direction for public policy and where the focus should be in order to make better public policy progress in advancing the productivity agenda. This focus includes for example, addressing a persistent low capital to labour ratio and low rate of business investment and the implications this has for technology led productivity improvement. The authors acknowledge though that to address this problem may require a broad policy agenda.

This scene setting and stock-take paper is supported by papers that cover a range of topics that illustrate a point made by the editors that “New Zealand’s productivity requires a broad reform agenda, ranging from topics such as matching skills to jobs, to lifting business investment and trade in services, and to improving government productivity.” Some of those topics and others are discussed by the other papers in the issue. One of the themes is the influence of technological change and innovation. This theme is taken up in papers that discuss digital technological change and its influence on productivity while another paper takes up the argument that innovation will be important to avoid the damaging effects of climate change. These papers highlight the importance of ensuring appropriate laws and institutions are in place to facilitate the uptake of technology to enable transformation to take place. Another theme running through this Special Issue is the role of institutional reform in improving public policy. Productivity measurement is another theme in the Issue. One paper evaluates the idea that productivity measurement accuracy associated with innovation and technological change could be an explanation for New Zealand’s relatively slow productivity growth as measured by official statistics. There are two papers canvassing the issues associated with the measurement of productivity in non-market sectors, notably the New Zealand health and education sectors. Some of these papers build on research that contributed to Productivity Commission Inquiries.

This Special Issue was an excellent initiative that involved a lot of work by ERT staff organising the issue and ensuring suitable peer review of the papers. It provided an opportunity for greater exposure of a suite of research and issues worked on by ERT staff and other researchers, to public policy practitioners and academics. This type of initiative is another avenue by which the ERT and PC can reach into the policy arena and connect with other researchers. It is a model to be encouraged and supported.

Productivity by the numbers: 2019. Research Paper 2019/2 (Nolan, P., Pomeroy, R and Zheng, G.)

This paper is the first of what is intended to be an annual publication reporting on and benchmarking of New Zealand’s productivity performance.¹⁰ This annual publication was requested by the Minister of Finance.

This paper provides a summary of the most recent available data on New Zealand aggregate, sectoral, industry, and regional productivity. It includes growth accounting explanations of the contributions of labour utilisation and labour productivity to trends in New Zealand

¹⁰ The Chair of the Productivity Commission remarked in the 2018-19 Annual Report that “Benchmarking New Zealand’s productivity performance against other OECD countries is critical to help our understanding. To this end, the Commission started an annual series of reporting Productivity by the numbers, where we analyse the productivity performance of the total economy, sectors and individual industries in New Zealand compared with OECD countries.” <https://www.productivity.govt.nz/assets/Documents/4371904067/2018-19-Annual-Report-v2.pdf>

productivity and the standard growth accounting decomposition of contributions to labour productivity and labour utilisation. The data are presented in historical context and comparisons are made with average OECD data on similar statistics and comparisons with a selection of individual OECD countries. Some basic business dynamics data such as firm birth rates and employment growth by firm size. Also presented are trends and discussion of labour productivity of a selection of public sector services.

Some of the welfare implications of productivity trends are briefly discussed in the paper. It explains the implications of productivity growth for the growth in incomes and government revenue. There is also an illustration of how improved productive efficiency in particular sectors (such as agriculture and energy production) can contribute toward reducing greenhouse gas emissions and advancing environmental goals.

The paper is valuable from several perspectives.¹¹ There is an educational dimension through its explanations of the basics of productivity measurement and the welfare benefits of improved productivity. It is a monitor of dimensions of productivity performance and therefore serves as an accessible resource for policy makers and observers of the New Zealand economy. There is scope to provide with each up-date new insights from research on aspects of New Zealand's productivity performance that is produced at the Commission and elsewhere. In this respect, some of the feedback received from interviewees suggested that the value of the paper could be enhanced by providing more insights on New Zealand firm dynamics that has emerged from research in recent years using the LBD.

The paper has the potential to serve as a useful bridge between productivity performance and the identification of policy priorities that could guide the selection of Productivity Commission Inquiries. Although there is a brief discussion in the overview of the paper that endeavours to connect the facts of productivity performance with public policy, this connection is tenuous. There is no detailed discussion of the connection between the characteristics of New Zealand's aggregate, sectoral, industry productivity and firm dynamics and the "explanations" listed in Table 1 of the paper for instance.

While comments from people interviewed applauded this initiative, some felt that its release warranted greater publicity and that it could be used more effectively to educate and promote debate policy. One test of its impact will be the extent to which the report is referred to or used by political parties to inform policy options, including in election manifestos and briefings prepared by government departments for in-coming Ministers. But to increase its influence on policy debate, more attention would need to be devoted to strengthening the link between the measurement of dimensions of productivity performance and the "explanations" listed for example in Table 1 of the paper, and what these explanations imply for policy.

New jobs, old jobs: the evolution of work in New Zealand cities and towns. Working Paper 2019/1 (Coleman, A., Maré, D. and Zheng, G.)

¹¹ A recent Commission survey of stakeholders suggests that the Productivity by the Numbers paper had the highest likelihood of reports published by the Commission of being read by its stakeholders during the past year.

This paper was motivated by the insights from international research that has shown that changes in technology and growth of industries has varied across regions and these differences have had important implications for jobs growth and incomes by region. Therefore, understanding the regional dimension of New Zealand's economic performance is likely to help explain New Zealand's productivity performance and how this performance could be improved.

This paper is of an excellent quality and provides rich insights into the changes to New Zealand's industrial structure, how that has varied by urban area, and the implications for jobs and incomes by urban area and type and size of urban area. While the authors acknowledge the results presented in the paper are largely descriptive, it makes several valuable contributions. It provides an excellent synthesis of the international research literature relating to changes in industrial structure especially since the 1970s and the research explaining those changes; the changes in the location of industry and jobs and the changes in the remuneration of work by location; the research that has documented and endeavoured to explain the reasons for faster and slower growing locations and the forces of agglomeration; and research insights into how regions and locations respond to shocks to employment and the factors that can influence the resilience of regions to these shocks.

The aim of the paper is to try to understand the different forces on the evolution of jobs in towns and cities in New Zealand. The paper uses census data to document and analyse the changing nature of jobs in 30 urban areas of New Zealand between 1976 and 2013. Using as a guide the methods and insights used in the international research literature, the paper provides a rich array of empirical results using statistical techniques to understand the distribution of employment growth in New Zealand between 1976 and 2013 by region and industrial sector, characterises regions by industrial characteristic, and how regions and industries have responded to employment shocks and the extent to which they may have diversified or become more concentrated. The paper identifies how those changes have varied by urban size. These tendencies help to explain the rapid expansion of big cities relative to smaller urban areas.

The paper provides insights into which industries appear to benefit most from agglomeration benefits that tend to favour a big-city location (for example the wholesale, financial services, and professional services sectors), and why there has been a reallocation of employment away from smaller centres and toward the large cities (notably Auckland but also Wellington and Christchurch). The paper also identifies a diversity of employment growth within medium and small sized urban areas. This diversity does not seem to reflect their initial industrial structure and seems to stem from the importance of consumption amenities, such as a good climate and attractive scenery, and the effect on the quality of living.

The paper provides a rich array of carefully worked statistical results that provide insights into the regional dynamics associated with New Zealand's industrial and employment structure and location. These results should be valuable for business decision-makers as well as providing some insights for public policy. The authors endeavour to draw out some of those potential policy insights. The authors comment for example that the rapid expansion in sectors such as the professional services sector that prefer to be located in big cities, is likely

because of the greater agglomeration benefits and these sorts of trends are unlikely to be overcome by regional interventions aimed at encouraging the development of industries in locations where agglomeration benefits do not exist. Another suggestion is that the speed at which urban areas recover from negative employment shocks depends on the type of industry receiving the shock and governments should recognise that if they wish to help regional economies recovering from employment downturns, the transition path out of some industries is harder than others. Also, government programmes aimed at enhancing the way non-tradeable businesses improve their productivity are likely to produce the widest regional benefits, as they have the potential to improve productivity in many sectors everywhere.

Some of the empirical material and policy insights that this paper has generated could be the type of material used to enrich the content of the annual *Productivity by the Numbers* publication. The material could be used for example for a specialist section of the annual monitoring publication in order to help reinforce the insights of the work. Some of the content also warrants developing for submission to a peer reviewed research journal.

Competition and productivity: Do commonly used metrics suggest a relationship? Working Paper 2019/1 (Maré, D. and Fabling, R.).

Competition in New Zealand: highlights from the latest data. Working Paper 2019/3 (Schiff, A. and Singh, H.).

Working Paper 2019/1 was motivated by the aim of developing a better understanding of the role that competition could play in improving New Zealand's productivity performance. It was a joint initiative funded by MBIE, NZ Productivity Commission and Treasury, with project advice from the Commerce Commission and Statistics NZ. The focus of the 2019/1 paper is a substantial body of empirical analysis using the LBD to evaluate the degree of competition in New Zealand industries. It develops alternative internationally recognised measures of industry competition and attempts to evaluate their suitability for assessing the degree of competition in New Zealand industries. This paper makes several valuable contributions. It provides a review of the channels by which competition can impinge on productivity and refers to the international empirical research on the significance of these channels along with relevant New Zealand research in this *genre* where it exists. It provides conventional measures of competition (industry structure measures, price-setting measures, and measures based on surveys of business perceptions) in New Zealand industry sectors using the LBD. It also assesses the relationship of these alternative measures of industry competition with productivity of industry sectors. Material in this paper warrants preparation into a paper suitable for submission to a peer reviewed research journal.

Working Paper 2019/3 summarises and interprets insights from Working Paper 2019/1. It takes an eclectic approach to understanding the signal value of the alternative measures of industry level competition developed in WP2019/1. It uses the suite of measures to offer an interpretation of the degree of competition (in 2016) among NZ industries, the degree of variation among industries and alternative measures, and how they have changed over time. The authors use the various data to determine whether there are discernible patterns which would allow some degree of categorisation of industries by degree of competition.

Both Working Papers represent impressive bodies of work. They provide core empirical work that would seem essential in a study that is endeavouring to understand the degree of competition in New Zealand industries. The papers represent complementary areas of focus and are supported by a web-based data visualisation tool that was developed by the authors for a collection of policy agencies, and a 'Cut to the Chase' summary of the work which endeavours to draw inferences for policy purposes.

4. Evaluation of the role in coordinating research projects involving multiple agencies and researchers and the effectiveness with which research is used to influence policymaking and enhance the Commission's reputation.

Prior to 2018 the ERT, and particularly the ERT Director, was actively involved organising and chairing the Productivity Hub of the Government Economics Network. This was complemented by broader engagement with public sector staff working on productivity. Due to reduced ERT resources and reprioritisation of its work programme, and because some public sector agencies had scaled back their involvement and relevant research capacity within some agencies was diminished, this was not sustainable as an effective network.

Several interviewees from the public sector expressed regret that the GEN Productivity Hub had lapsed. They spoke favourably of the value of the work by the ERT, the research prioritisation process ('FLARE'), the research that emerged from this process and funded by the Hub. They also appreciated the sharing of knowledge, and the development of research skills promoted by Hub supported research. Several gave high praise for the way the ERT members of the Hub were able to bring international research insights to the forum and promote the replication of international research ideas relevant to understanding New Zealand's productivity performance. The networking events promoted by ERT were also greatly appreciated. It was a model that achieved important results. However, under the current work arrangements it is not feasible to expect the ERT and its Director to continue to carry the previous level of responsibility for organising and running the GEN Productivity Hub. If the GEN Hub is to be reactivated, the ERT should be actively involved but the onus will have to fall on the public sector agencies to provide a greater level of administrative and research support.

Engagement by ERT with the public sector has therefore changed. The Director nevertheless maintains active and effective engagement with senior analysts and researchers in MBIE, Treasury, and Statistics New Zealand for example through a variety of outreach processes. The ERT Director maintains an awareness of MBIE research priorities and requirements through regular meetings with the MBIE Chief Economist and is an external member of the advisory board of MBIE's Strategic Policy Research Team, which is the team in MBIE using the LBD (Longitudinal Business Database). Several public sector representatives also expressed appreciation for the "heads-up" type communication that the ERT Director has provided

about possible need for collaboration and data requirements related to research and Commission inquiries.

The fact that the ERT research priorities have shifted more toward supporting PC priorities and are now governed more by the research requirements of PC Inquiries has also changed the way the ERT engages with other agencies. The deeper involvement by ERT staff in PC inquiries has opened-up other ways ERT can connect with the public sector agencies and the policy processes. The inquiries provide multiple touch points with policy agencies through for example, submissions and feedback on inquiry drafts. Feedback indicated that one of the benefits of the ERT becoming more engaged with the PC inquiry processes is that it has resulted in more research informed Inquiries and this has also led to useful research springing out of the Inquiries. Inquiries on *New Zealand Firms: Reaching for the Frontier* and *Technological Change and the Future of Work* were mentioned as examples where this has been evident. Although there continue to be the occasional round-table discussions with public sector representatives, these take place mainly to support PC Inquiry interests.

The role the ERT plays as a coordinator for productivity related discussions and research seminars and the active outreach by the ERT Director are greatly appreciated. Nevertheless, several interviewees suggested more could be done to increase the impact on policy of the productivity research commissioned by ERT and the insights from Inquiries. Feedback suggested that policy advisors in public sector agencies can find it difficult to connect the work arising from PC Inquiries with public policy. Suggestions made to try and enhance engagement and impact on the policy community included regular (perhaps annual) presentations of research insights useful for public policy. These presentations would be an opportunity to provide more depth of insight than is available from the 'Cut to the chase' series. Another suggestion was that the *Productivity by the Numbers* publication could be given a higher profile and used to engage with the policy community, and perhaps include some a policy feature section each year that draws on pertinent policy related results from the research and PC Inquiries.

Evaluation of public policy programmes has been identified as one of the important functions of various productivity institutions that exist around the world.¹² Although the nature of PC Inquiries tends to involve some form of policy evaluation, the Inquiries are determined by Government. Several interviewees suggested that more attention by the ERT and PC should be given to undertaking and promoting policy evaluation work, particularly in view of the PC's relative independence from the policy implementation processes.¹³ Collaboration with

¹² Renda, A. and Dougherty, S. (2017), Pro-productivity institutions: Learning from national experience, OECD Productivity Working Papers, 2017-7, Paris, OECD.

¹³ The recent assessment of the costs and benefits of the Government's Covid-19 Alert Level 4 extension suggests the Commission is not be averse to policy evaluation initiatives. See: Heatley, D. (2020), A cost benefit analysis of 5 extra days at COVID-19 alert level 4, Research Note 2020/02, May. <https://www.productivity.govt.nz/research/cost-benefit-analysis-covid-alert-4/>

university public policy researchers in promoting this type of work and skill development could be another way to develop this aspect.

The feedback from some interviewees suggested that more could be done to explain how the insights from ERT research and PC inquiries could be exploited by businesses to improve the performance of New Zealand firms. The 'hub' role could be extended to involve private firms or involve the collaboration of consulting firms who may be able to help transfer relevant insights to the private sector. Collaboration by the PC with business representative organisations may be a way to pursue this.

Although ERT staff had previously made a considerable effort to engage with the wider productivity-related research community in New Zealand, apart from collaboration with the Chair in Public Finance at Victoria University of Wellington and engagement with researchers at Motu Foundation, the engagement of academic researchers beyond the public sector prior to 2018 had not been particularly extensive. The 2018 Review suggested several ways to strengthen this type of engagement and since 2018 the PC has expanded its engagement with other productivity researchers.

By supporting access to the LBD database, encouraging researchers to develop productivity related research proposals, providing research commentary on proposals, and acting as a 'hub' for productivity research and collaboration, ERT has created relationships with a more diverse and greater number of researchers in recent years. During the last two years there has been collaboration with Professor Richard Harris (Durham University), Dr Simone Pieralli (Massey University), Professor Martin Berka (Massey University), Dr Antony Andrews (Auckland University of Technology), Dr Dave Maré (Motu), Dr Trinh Le (Motu), Dr Izi Sin (Motu & Victoria University of Wellington), Dr Andrew Coleman (University of Otago), John Stephenson (Sense Partners), Dr Richard Fabling (Wellington), Carl Hansen (Wellington), Conal Smith (Kotaka Insights), Dr Filippo di Mauro (National University of Singapore), Professor Kevin Fox (University of New South Wales), the Australian Department of Industry, Science, Energy and Resources and has developed connections with researchers at the National University of Singapore (CompNet). Engagement with the OECD has been maintained by funding New Zealand's contribution to the Global Forum on Productivity and providing the Forum with access to the LBD for its work on the human side of productivity.

Links with NZ universities could perhaps be enhanced further by encouraging PhD study using the LBD and collaborating with academics to promote more PhD study relevant to the Productivity Commission's remit. Steps taken such as the recent recruitment of a PhD student and the ERT Director's involvement in university and public policy teaching are the type of initiatives that might help promote stronger linkages with academic researchers and PhD programmes.

The potential to exploit the LBD for the purposes of generating helpful insights about firm performance, the factors that impinge firm productivity, and potential policy insights is nevertheless hindered by insufficient capability and funding. The initial impetus several years ago involved multi-agency support, built research capability by involving Motu research leadership and skills and creating opportunities for ‘learning-by-doing’, and produced a series of research papers exploiting the LBD. This strategy increased the amount of research using the LBD, increased the numbers of researchers capable of using the LBD, and produced valuable research insights.

The value of the insights from LBD-based research and the capability that was developed is evident in the statistics produced in the annual publication *Productivity by the Numbers*, and various PC Inquiries. The impact on the Inquiries is evident, for example, in the current Inquiry *New Zealand Firms: Reaching for the Frontier*. The webinar produced to explain the purpose of this Inquiry explained how the LBD is being used to understand New Zealand firm characteristics, how they compare internationally and how the Inquiry will use this information to benchmark against firms in other selected small economies, and try to identify which characteristics are most important in influencing the productivity of firms and the ability of New Zealand firms to reach the international ‘performance frontier’.¹⁴

In a paper to the PC Board on 19 October 2018 the ERT Director emphasised the importance of ensuring this capability is maintained and expanded and that local researchers can keep abreast of international research developments to derive meaningful insights for policy purposes. In its November 2018 Triannual Report, the Commission remarked that it was “especially concerned with the level of investment into LBD research across government and see a risk of this database becoming a stranded asset.”¹⁵ Feedback from interviewees indicated there is an ongoing need from several public sector agencies for basic statistics from the LBD, and that while there are still very good quality research papers using the LBD that are being produced, concern was expressed that the flow of research papers using the LBD has declined, and the research capability is being diminished. The impact of COVID-19 on firms and business activity has highlighted the importance of the type of research capability that is able to exploit databases such as the LBD and to understand the impact of the pandemic on firms and their ability to cope, and to use this information to inform policy.

To rebuild and sustain this capability and to be able to exploit the LBD more extensively will require dedicated funding. There will need to be a process of on-going investment in the relevant research skills. Several interviewees expressed the view that the Productivity Hub should be re-established and the research prioritisation process (‘FLARE’) rejuvenated and supported by public sector fund-sharing of the research. Evidently, public sector funding may

¹⁴ The webinar is available from: https://www.youtube.com/watch?v=1r49hh_aPwE&t=3s

¹⁵ <https://www.productivity.govt.nz/assets/Documents/6051f31417/Triannual-Report-Nov-2018-Feb-2019.pdf>

have greater prospect of support if proposals demonstrate human capability building and development. Accordingly, a funding proposal may need to emphasise capability building. A proposal developed by collaboration between ERT and previous GEN Productivity Hub partners with research leadership and supervision by for instance Motu (where critical LBD research capability exists) and skill development that will benefit several policy agencies is one model to consider.¹⁶ If the Hub is re-established, it would seem important that the PC, through the ERT, is actively involved as before, but with greater administrative support from the policy agencies such as MBIE, Treasury and Statistics New Zealand. Other sources of funding to consider are contestable funds such as the Endeavour Fund or by aligning proposals to specific Government policy priorities. By involving universities, it may be possible to draw academics and PhD students into the programme.

Annex A: Terms of reference

Purpose

Undertake an independent expert evaluation of the Commission's economics and research function. This includes evaluating a 'package' of research work undertaken by the Commission during the period 1 July 2018 to 30 June 2020. Where appropriate and useful the evaluation will also cover the Commission's role in coordinating research projects involving multiple agencies and researchers and the effectiveness with which research is used to influence policymaking and enhance the Commission's reputation.

Context

An independent expert evaluation of the Commission's research work programme performance is a key component of the Commission's overall performance measurement and a further way of identifying how the Commission can improve its performance.

Scope

Undertake an evaluation of the Commission's performance in delivering on its function to undertake and publish research about productivity related matters. This evaluation will focus on the performance of the E&R team in implementing the recommendations of Professor Buckle's earlier 2018 review. This will also include an assessment of the relevance and materiality of selected Commission research outputs published since the earlier review.

Deliverable

¹⁶ The Government Regulatory Practice Initiative (G-REG) is a model of shared-funding by public policy agencies that has operated successfully to fund the Chair in Regulatory Practice and is a model that is worth considering. <https://www.wgtn.ac.nz/chair-in-regulatory-practice/sponsors>

A report summarising the independent expert evaluation, in the key areas of scope above, which the Commission can publish or quote in reporting its performance (such as in any inquiry assessment the Board may publish, or in the Annual Report), and use to improve its performance.

Approach

Evaluate the E&R team's performance (including the efforts to implement the recommendations of the 2018 review) based on a review of key supporting documentation and the relevant research papers. Where necessary, discussion with key staff and Commissioners may also be used in the evaluation. There will also likely be a need to consult with key external stakeholders.

The independent expert reviewer is not required or expected to be an expert on the subject matter of the package of research work, but rather to use their experience and judgment of developing and presenting advice to Government and external audiences.

We anticipate the exercise taking between 5-10 working days.

Annex B: People Interviewed

Outside the New Zealand Productivity Commission:

Dr John Janssen, New Zealand Treasury

Yuong Ha, Reserve Bank of New Zealand

Sharon Pells, Ministry of Business, Innovation and Employment

Gary Dunnet, Statistics New Zealand

Paul Pascoe, Statistics New Zealand

Ruvani Ratnayake, Statistics New Zealand

John Stephenson, Sense Partners

Dr John McDermott, Director, Motu

Professor Girol Karacaoglu, Victoria University of Wellington

Simon Pieralli, Massey University

New Zealand Productivity Commission Commissioners:

Professor Gael Pacheco, NZ Productivity Commission and Auckland University of Technology

New Zealand Productivity Commission staff:

Judy Kavanagh, NZ Productivity Commission

Dr Patrick Nolan, NZ Productivity Commission

Secretarial support:

Robyn Sadlier and Judy Williams, NZ Productivity Commission