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Welcome from Professor Norman Gemmell and Dr Nazila Alinaghi

Welcome to the December 2019 CPF Newsletter. This edition highlights:

- A media article querying whether the persistence of low interest rates in New Zealand would justify higher government spending and borrowing.
- Some advice to the Tertiary Education Council for its Review of the PBRF assessment regime.
- Report and abstracts from the recent Public Economics Research Day at Victoria University of Wellington.
- The success of 'Team public finance' here at the University with the award of a three-year MBIE Endeavour Fund grant to study the income mobility of New Zealand families.
- News and research from public finance institutions overseas.

We also want to congratulate a special newly married couple: Gulnara and Matt Nolan— two of our favourite local economists finding more than just professional interests in common! Of course, they now have quite a target to aim for since the recent announcement of the first husband and wife collaboration to win the (2019) Nobel Prize in Economics: Abhijit Banerjee and Esther Duflo of MIT.

Finally, work continues to build a new CPF tax microsimulation model that will become publicly available in due course. This continues the work begun initially with financial support from a previous MBIE research grant and with the collaboration of The Treasury and Inland Revenue. With a new behavioural model able to be operated outside the confidential data and modelling environments of Statistics New Zealand and The Treasury, we have high hopes that this new

model will allow many researchers with an interest in tax policy to run their own favourite reform scenarios. Watch this space.

Norman Gemmell and Nazila Alinaghi
December 2019

Should the Government borrow more to invest?

Norman Gemmell

"[UK Finance Minister] Sajid Javid unveiled a £300 billion (NZ\$604b) investment spree as he tore up borrowing rules and reversed decades of Conservative policy with a pledge to revamp Britain's roads, railways, schools and hospitals."



So wrote the UK Daily Telegraph's economics editor as the media there tries to rationalise why a right-of-centre Conservative Party is proposing the sort of public spending spree normally associated with the Labour Party. Is this just another unsustainable pre-election give-away? Have the Conservatives gone "soft" and ditched fiscal prudence? Or is this a sensible policy whatever its proponent's political colour? These questions are being raised more widely by, among others, respected economists at the International Monetary Fund.

And here in New Zealand Finance Minister Grant Robertson and the Treasury are questioning how much government borrowing is prudent and sustainable. Would it be sensible for the current government to significantly expand public expenditure even if that meant loosening current borrowing limits?

The Economics 101 answer to that question is relatively straightforward. It depends on three conditions being met: 1) the social benefits of extra spending outweigh the cost of borrowing; 2) the economic (and social) impact of that public spending is greater than the equivalent impact if the money were left in private hands; 3) whether the public spending or borrowing "crowds out" private activity – for example, by diverting investment funds to the government does this reduce private investment?

In the current debate, these three conditions haven't changed. Of course, the first condition can easily, but superficially, be met to justify higher spending and borrowing – if sufficient weight is given to the wellbeing of those who will benefit from it. This is why, in political debate, reasonable people can disagree about the merits of higher public borrowing. Those types of cost-benefit calculation are no different now than in the recent past.

Rather, it is the second two conditions that the current debate is challenging.

For the past decade since the global financial crisis, interest rates have been unprecedentedly low, and even negative. Government borrowing has never been so cheap and looks likely to stay low, possibly for decades.

At the same time, central banks across much of the developed world have been throwing liquidity at private banks to try to tempt them into higher lending to encourage investment. But by and large these attempts have failed. Private investors appear to be driven more by the climate of low innovation and productivity growth and political uncertainties (especially in Europe) than by the availability of "cheap money".

If private firms won't do it, why shouldn't the government step up with big infrastructure spending? This should, so the argument goes, raise private sector productivity while helping to eradicate much lamented "infrastructure deficits around roads, schools and hospitals.

Certainly, it can hardly be argued that such spending would crowd out private sector firms' investment – they are self-evidently not doing it, anyway.

All of this points to the government picking up the investment baton that the private sector has, perhaps temporarily, dropped. Just make sure the public investment projects are carefully selected – high benefit-cost ratios – and capable of being reigned back if/when crowding out concerns loom on the horizon.

There can be little doubt this case for more "fiscal stimulus" has become more compelling in a number of countries in recent years as monetary policy has become ineffective through a combination of persistently low and falling interest rates and unresponsive firms.

But a little careful thought suggests that expanding government spending is no panacea. Firstly, choosing the right infrastructure projects with maximum benefit to private industry is no easy task, with limited knowledge about what boosts productivity. And by their nature such investments can take decades to deliver productivity improvements, so will deliver little short-term benefit.

Secondly, and perhaps more importantly, almost all output expansion needs a mixture of new capital and suitable labour. But in New Zealand (as in numerous other countries) labour markets are relatively tight, with employment rates at historical highs, so labour can only be expanded on these projects at the cost of diverting workers from elsewhere. This is the key

crowding-out concern in New Zealand: Human capital is the vital constraint, which is not so quickly remedied.

So before New Zealand politicians and their advisers head down the dangerous Muldoonian road of another Think Big public investment spree, they should think carefully about two things:

1. Why is the private sector not investing more despite it never being so cheap to finance it?
2. How can public infrastructure spending best help raise firms' productivity?

Where the prospects of productive public investment look good, at least for the foreseeable future it should cost less for the government to "borrow and invest" than it has in several decades.

[Read the original article on Stuff.](#)

MBIE Endeavour Fund Award to CPF

Team public finance' at Victoria University of Wellington was delighted to be awarded a Smart Ideas grant from MBIE's Endeavour Fund in the September 2019 announcement. (The full list of successful projects is available [here](#)). The funds – around \$1,000,000 over three years – are to support a research project on 'measuring income inequality and mobility in New Zealand', to be conducted by Nazila Alinaghi, John Creedy and Norman Gemmell.

So, what will the research do?

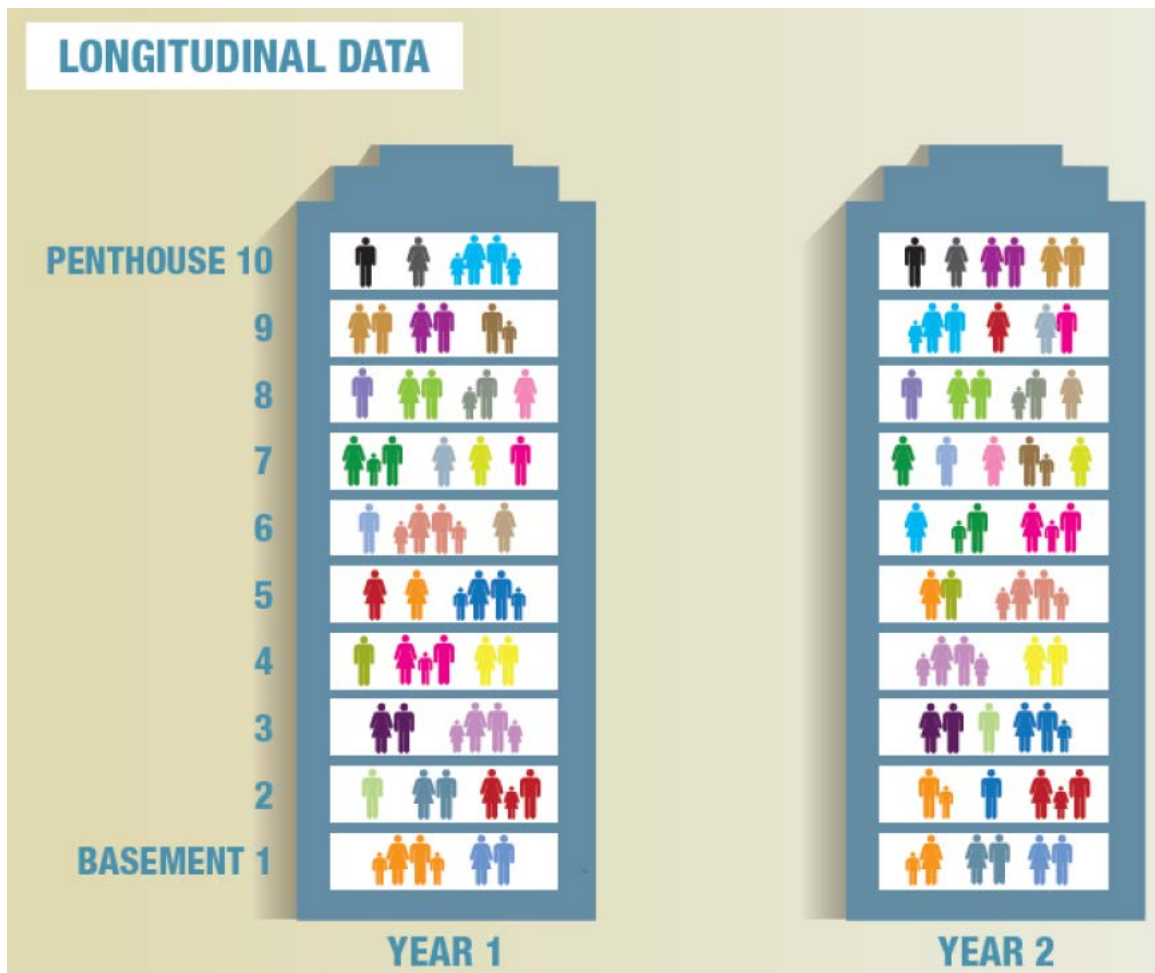
Evidence on income inequality among New Zealand individuals and households is increasingly important to many analyses of social wellbeing and government policy. But to evaluate income inequality more fully, it is important to know how incomes change over time, relative to other individuals. Income mobility influences longer-term income inequality, and income changes (or 'dynamics') are crucial in determining movements into and out of poverty. For example, a series of cross-sectional inequality 'snapshots' and longer-term inequality measures need not move in the same direction.

However, very little is known about the extent and nature of these dynamic income processes among families in New Zealand. The project will establish how individual and household characteristics determine observed movements in people's incomes, and their position in the income hierarchy, over time – leading to both upward and downward mobility. It will also address how poverty persists over time for some individuals while others move into or out of shorter spells of poverty.

The diagram below illustrates some of the complexities when examining income mobility of families, even when longitudinal data are available. This shows a simplified case where there are six individuals on each floor of a building, where each floor represents deciles of the income distribution. Movements take place from year one to year two. Here all members of each family are given a family-specific colour. In this case, the changes over time include the break-up and

formation of families: the family groupings do not remain fixed and members move across income 'floors'.

This becomes yet more complex when entries (births and migration) take place along with exits



deaths and outward migration), which (for simplicity) are not shown in this diagram. With longitudinal data, available in the Integrated Data Infrastructure at Statistics New Zealand, the movement of each individual can be traced. By contrast, with more commonly analysed cross-sectional data, movements of the same people cannot be followed.

Understanding these dimensions can have substantial impacts on the way New Zealanders' wellbeing is evaluated. The project results will therefore contribute evidence for the formulation and evaluation of government policy. Future incomes across the New Zealand population will be better understood, and the policies designed to improve them should be better conceived, including policies targeting regional, ethnic or occupational mobility.

Public Economics Research Day

This event was organised by the Chair in Public Finance (CPF) at Rutherford House on 4 November. The Research Day aimed to provide an opportunity for informal interaction among public economics/finance researchers and other interested parties in New Zealand and Australia. You can find the programme [here](#) and the abstracts of the presented papers are as follows.

Taxation, the User Cost of Capital and Investment Behaviour of New Zealand Firms **By Gulnara Nolan and Lynda Sanderson**

Abstract

This paper investigates the link between the user cost of capital (UCC) and firm investment behaviour among New Zealand firms. The key goal is to understand how policy changes that influence this cost of capital translate into changes in productive investment in New Zealand. The first goal of our paper is to allow for additional data up until 2017 to see whether the addition of extra data leads to a change in the results of the Fabling et al 2015 paper. However, we also add estimation for foreign firms, changes in lag structure based on standard optimality criteria and an alternative methodology - a non-structural model of adjustment costs. Prior results suggested that aggregate investment behaviour was relatively unresponsive to changes in the UCC in New Zealand, a result that is at odds with results from other countries (e.g. Belgium, France, Germany, UK). As a result, testing whether this result holds when a longer time period and alternative methodologies are analysed will be of direct interest for policy makers.

The Effect of Tax price on Donations: Evidence from Canada **By Ross Hickey, Brad Minaker, A.Abigail Payne, Joanne Roberts and Justine Smith**

Abstract

Estimating the responsiveness of charitable donations to changes in tax incentives is more than estimating a single number. Giving to charity is unlike normal consumption – it involves supporting the delivery of privately-provided public goods. Age and income may influence how tax incentives to give affect both the decision to give as well as how much to give. Using a large administrative dataset from Canada to estimate the tax price elasticity of donations, we estimate that the tax price elasticity of charitable donations is -1 when it is restricted to be the same for all individuals. Across the income distribution, however, we observe an inverse U-shaped distribution in the elasticity that ranges from -1.4 to -0.18. We also find differences in the elasticity across age groupings, and that for the population as a whole the elasticity is driven more through the intensive than extensive margin (full paper is available [here](#)).

Reducing Tax Evasion through Real-time Verification: Evidence from a Self-reporting Instrument in Denmark **By Kristian Hedeager Bentsen and Peer Skov**

Abstract

The introduction of third-party reporting of taxable income and tax deductions is an effective way to curb tax evasion but far from every item on a tax return has a natural third-party. As some information on most tax returns remains self-reported, tax authorities are forced to look elsewhere for new effective tools to increase tax compliance. This paper study the effects of novel real-time

verification module to the Danish online personal tax-filing system. Introduced in 2013, the simple cross-validation module allowed the Danish Tax Authority to link information across registries to corroborate basic taxpayer background information. Prior to 2013 deductions for alimony and child support payments (CSA) were entirely self-reported and only verifiable upon an audit. The 2013 real-time verification module linked address and marital status information between the claimant and recipient and e.g. invalidated alimony deduction where no divorce was recorded. Using full population administrative data, we show that the introduction of the reporting module reduced both the number of taxpayers claiming the CSA deduction (extensive margin) and the average size of the claimed deductions (intensive margin). Comparing affected versus not-affected taxpayers we show that the treated group did not disproportionately increase other line item deductions. In other words, by excluding unsubstantiated CSA deductions the 2013 cross-validation module lowered the tax expenditure on the CSA line item and increased tax revenue overall.

Estimating Elasticities of Taxable Income and Adjustment Costs from Tax Kink Bunching: Evidence from Register Data for New Zealand

By Nazila Alinaghi, John Creedy and Norman Gemmell

Abstract

Using the well-established connection between the elasticity of taxable income and the excess bunching of individuals at income tax thresholds, or kink points, this paper obtains ETI estimates from administrative taxable income data for the New Zealand taxpayer population over the period, 2000 to 2017. Results are based on observed bunching at two kink points in the income tax schedule and for various taxpayer decompositions. This includes investigation of differences in ETIs obtained from persistent bunching at kink points when the tax regime is unchanged, from transitory effects associated with specific tax reforms. Results suggest relatively large responses by the self-employed, and adjustment costs and/or inattention biases associated with a shift in a tax threshold equivalent initially to around 18 per cent (declining to 6 per cent) of the observed excess mass at the post-reform kink. In addition, using census data to match individual taxpayers who are partnered provides strong support for the hypothesis that ETIs are larger for individuals in couples than for singles (full paper is available [here](#)).

New Research

Tertiary Education Commission's PBRF Review 2019

By Bob Buckle and John Creedy

In 2019 the Tertiary Education Commission (TEC) commissioned a review of the Performance-Based Research Fund (PBRF) scheme. The scheme was introduced in early 2000 and was designed to unbundle the research component of Government funding of New Zealand tertiary education organisations and allocate the funding on the basis of research performance rather than on the basis of the numbers of students. Bob Buckle and John Creedy, having carried out a research programme analysing the scheme, submitted a summary of their research to the Review Panel. Here is a summary of that research.

The purposes of the research were: to evaluate whether the introduction of the PBRF scheme achieved its objective of ensuring that excellent research in the tertiary education sector is encouraged and rewarded; to analyse how universities and disciplines have responded in terms of research staff dynamics and other effects; to test whether there has been a tendency for research

quality to become more or less concentrated amongst universities, and more or less diversified in terms of subjects. Another purpose of their research was to evaluate the methods used in the PBRF process to measure research. Their research has been published in four peer-reviewed journal papers, and the most recent research paper is in working paper form. The main lessons from those papers are as follows.

Paper 1: **“The evolution of research quality in New Zealand universities as measured by the performance-based research fund process”**. *New Zealand Economic Papers*, 53 (2), 144-165.

This paper examines the way research performance, measured in terms of Average Quality Scores (AQSs) over all discipline groups, improved over the PBRF period, 2003 to 2012. This paper also compares staff dynamics, in terms of turnover and quality transitions. They found that:

- The PBRF had a significant impact on improving research quality across NZ universities;
- The rate of growth of AQSs and movement of staff into higher-quality categories does not appear to be sustainable in future.
- A substantial component of the improvement arose from a large reduction of non-research active academics;
- Universities can be divided into two groups. Differences in research quality have narrowed and ranks have changed within groups, but the composition of the two groups remains unchanged.
- There was relatively high recruitment and low exit rates of higher-quality academics from among the higher-ranking universities, and relatively high recruitment of lower-quality staff and higher losses of higher-quality academics from among the lower-ranked universities.

Paper 2: **“The disciplinary effect of the Performance Based Research Fund in New Zealand”**. *New Zealand Economic Papers*, 2019 <https://doi.org/10.1080/00779954.2019.1636122>.

This paper evaluates the change in the research quality of discipline groups between 2003 and 2012. It also evaluates staff turnover and quality transitions within disciplines. They found that:

- There was significant research quality improvement across all discipline groups;
- The difference between the highest and lowest discipline AQSs fell substantially.
- Staff dynamics differed significantly across most disciplines. Some improved by achieving a higher proportion of recruitment and retention of higher-quality researchers than others.
- There were substantial changes in the composition of subject categories.
- However, there was little change in the concentration of discipline groups across universities.
- Changes in the discipline compositions of universities contributed a small proportion of the improvement in AQSs. The predominant source of improvement came from improving the research quality of staff in all disciplines.

Paper 3: **“An evaluation of metrics used by the Performance-based Research Fund process in New Zealand”**. *New Zealand Economic Papers*, 53 (3), 270-287.

This paper examines the metrics used by the PBRF. A summary of the findings is as follows:

- A complex multi-stage process is used in which individuals are given numerical scores for three components of research quality, used to produce a total weighted score. Individuals are then placed into discrete Quality Categories (QCs), with each category assigned a cardinal value. However, after the initial assignment of scores, the scores are subject to adjustments which are found to be strongly influenced by the threshold used in placing researchers into QCs.

- Since individuals are ultimately placed into 4 discrete categories (A, B, C, and R), it is not clear why a total weighted score, with unusual numerical properties, is first produced and then discarded.
- No rationale for the approach has been provided, and its unusual properties do not seem to have been recognised.
- The distributions of scores are roughly symmetric, contrasting strongly with the distribution of metrics used by other performance evaluation methods.

Paper 4: **“The Impact on Research Quality of Performance-Based Funding: The Case of New Zealand’s PBRF Scheme”**. *Agenda*, 25 (1), 25-48.

This paper provides a broad policy discussion, and suggests some avenues for possible improvement. It also shows that:

- The total number of Evidence Portfolios (EPs) submitted declined, but the proportion of non-administration staff submitting portfolios increased. The increase in this proportion varied substantially among universities.
- The decision by the TEC, on the eve of the 2012 deadline for submission of portfolios, to allow universities not to submit portfolios for (anticipated) R-quality researchers, and remove them from the calculation of aggregate university and discipline metrics, compromised the PBRF process and distorted incentives.

Paper 5: **“Is External Research Assessment Associated with Convergence or Divergence of Research Quality Across Universities and Disciplines: Evidence from the PBRF Process in New Zealand”**. Victoria University of Wellington, *Working Papers in Public Finance* No. 05/2019.

This paper, co-authored with Norman Gemmill, considers whether there was convergence among universities and discipline groups in research performance. It was found that, with few exceptions, rates of convergence have been substantial and uniform across universities and disciplines. This result was robust to the introduction of several additional control variables, such as initial scale (number of portfolios), the interaction between scale and average quality, and the median age of researchers.

In summary, considering future research evaluations, the following points are worth noting:

- The introduction of PBRF has had a significant positive impact on the average quality of NZ university researchers in all universities and all discipline groups.
- Universities and disciplines are in a very different situation today compared with the early 2000s. The rate of improvement over the last 15 years is unlikely to persist.
- Nevertheless, there are benefits in maintaining a funding scheme that maintains incentives for universities to continue to improve research quality.
- There is considerable merit in peer-review-based evaluation, rather than one based on the use of bibliometric data sources.
- Each university should submit Evidence Portfolios for all non-administration staff.
- The submission and evaluation process should be considerably simplified.
- The current process imposes huge compliance costs on academics, university managers and PBRF Panels, in addition to TEC administration costs.
- The metrics used are unnecessarily complex, lack a clear rationale, and have unusual numerical properties which distort the reported quality measures.
- The use of three components of quality should be abolished. Academics cannot all be expected to contribute over all these components, and contributions vary over the life cycle of

an academic. Furthermore, the impact of research may take many years to be realised. Furthermore, any form of self-assessment should be eliminated.

- The biggest single factor contributing to quality improvement is the large reduction in non-research-active academics. Strong incentives can remain with a considerably streamlined assessment, which perhaps places researchers into only three categories (low, medium and high quality), and look at the proportions of these in each university. Submission of up-to-date CVs should be sufficient.
- It is not clear what use is made of journal rankings such as the Australian Business Deans Council (ABDC) list. However, it is argued that these should not be used by Panels in the evaluation of evidence portfolios. The emphasis should be on the quality of the contributions. In addition, the use of such a list strongly discourages research on New Zealand topics.

Public finance news from overseas

Incentivising public servants: evidence from the UK's welfare reforms



Performance rewards for public employment service staff can be a cost-effective way to help people on disability benefits find jobs. This is the conclusion of new research of the impact of the UK Jobcentre Plus reform by Felix Koenig, Barbara Petrongolo, John Van Reenen and Nitika Bagaria. They find that among the disabled, the outflow rates from disability benefits increased by 10% in the longer run. ([Here](#) is the media briefings and the full paper is available [here](#)).

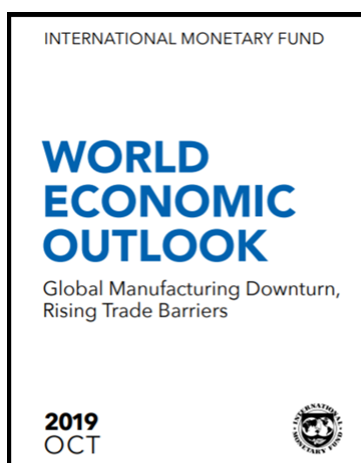
ESRI Annual Geary lecture—tax and welfare reform: the challenge of labour market inequality (by Professor Richard Blundell)

The structure of work and of families is changing, reflecting growing earnings inequality for men and women, with evidence of adverse labour market 'shocks' for the low educated and low-skilled, especially men. When we place people in families in local labour markets, with childcare, marriage, savings and human capital decisions we get a different take on some key tax and welfare design questions. It is increasingly clear that we can't address all the concerns about (earnings) inequality through tax and welfare reform alone. The challenge is how to design the best balance of policies. How do we reform the tax and welfare



system in the new work environment, acknowledging the changing role of families and human capital? How do we balance tax and welfare-benefit policy with other policies: minimum wages, with regulation in the product and labour markets, and with human capital policies? (Slides from the lecture is available [here](#)).

Fiscal monitor: How to mitigate climate change



According to the IMF this report emphasises the environmental, fiscal, economic, and administrative case for using carbon taxes, or similar pricing schemes such as emission trading systems, to implement climate mitigation strategies. It provides a quantitative framework for understanding their effects and trade-offs with other instruments and applies it to the largest advanced and emerging economies. Alternative approaches, like 'feebates' to impose fees on high polluters and give rebates to cleaner energy users, can play an important role when higher energy prices are difficult politically. At the international level, the report calls for a carbon price floor arrangement among large emitters, designed flexibly to accommodate equity considerations and constraints or national policies. The report estimates the consequences of carbon pricing and redistribution of its revenues for inequality across households. Strategies for enhancing the political acceptability of carbon pricing are discussed, along with supporting measures to promote clean technology investments. (Read the full report [here](#)).

People news

Matt and Gulnara Nolan



Special congratulations to two of our economist colleagues who married last month. Matt recently completed his PhD in economics at Victoria University, supervised by Prof John Creedy, and is now working for the Policy and Strategy team at Inland Revenue. Gulnara (nee Huseynli), is a former analyst at The Treasury, and currently works at the Ministry of Business, Innovation and Employment (MBIE).

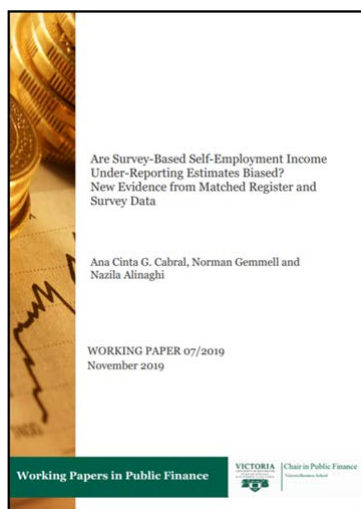
Penny Mok

Congratulations to Penny on her appointment as Principal Adviser at the Productivity Commission. Previously Penny worked on tax microsimulation modelling, and co-authored a number of papers on the subject, over several years whilst at The Treasury, and subsequently joined MBIE as a migration and labour market researcher. Penny will continue to be involved in tax microsimulation modelling and will lead the LBD microdata research at the Commission.



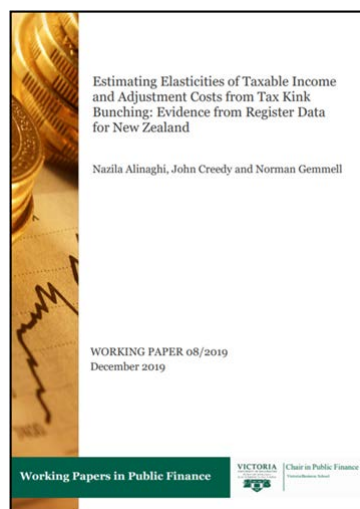
Recent working papers

Links to recent research and working papers from the chair in Public Finance.



A working paper by Cabral, Gemmill and Alinaghi estimates self-employment income gaps (the proportion of undeclared to true income) in New Zealand – updated version of WP07/2018.

[Download this paper](#)



A working paper by Alinaghi, Creedy and Gemmill obtains elasticity of taxable income estimates from administrative taxable income data for the New Zealand taxpayer population over 2000 to 2017.

[Download this paper](#)

Recent published papers

Alinaghi, N. (2019) Mobile money, risk sharing, and transaction costs: a replication study of evidence from Kenya's mobile money revolution. *Journal of Development Effectiveness*. Available at <https://doi.org/10.1080/19439342.2019.1684343>.

Creedy, J. (2019) JHET interviews: Denis O'Brien. *Journal of the History of Economic Thought*, 41 (4), 599-621.

Creedy, J. and Gemmell, N. (2019) Income inequality in New Zealand: Why conventional estimates are misleading. *Agenda: A Journal of Policy Analysis and Reform*, 26 (1), 5-22.

Creedy, J. and Gemmell, N. (2019) Illustrating income mobility: new measures. *Oxford Economic Papers*, 71 (3), 733-755.

Creedy, J. and Gemmell, N. (2019) The elasticity of taxable income of individuals in couples. *International Tax and Public Finance*. Available at <https://doi.org/10.1007/s10797-019-09581-6>.

Creedy, J. Gemmell, N. and Laws, A. (2019) Relative income dynamics of individuals in New Zealand. *New Zealand Economic Papers*, available online at <https://doi.org/10.1080/00779954.2019.1665574>.

Media and commentary

Recent featured commentary and media articles are as follows:

Do the rich really pay lower taxes than you?



The New York Times provides some interesting statistics on the distribution of the tax burden across the US from 1950 to 2018, though once again demonstrating their fixation with the performance of the 'very wealthy' (top 1% or 0.1% or 'top 400' of US earners). Who are these people? And are the same or different people each year? [Here](#) is the link.

Nobel Prize in Economics for poverty research

Economists Banerjee and Duflo of MIT and Kremer of Harvard University are awarded the 2019 prize. Duflo (married to Banerjee) is the youngest, and the second female, recipient of the Economics Nobel. Read the Washington Post's article [here](#).



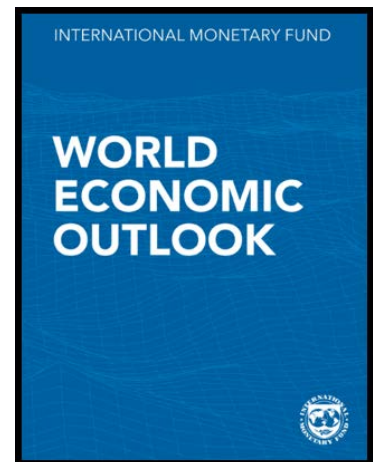
GST on online shopping



Changes are coming to the way GST is charged on goods sold by overseas businesses to Kiwi consumers online. Read [here](#) for a summary from consumer.org.nz.

The IMF's global outlook

World Economic Outlook, October 2019: Global Manufacturing Downturn, Rising Trade Barriers.



Events

Forthcoming events

TARC annual conference



The *8th Annual TARC Conference* will be held at the University of Exeter, UK from April 23 through 24, 2020. More details about the Congress can be found [here](#).

OFS tax compliance workshop

Workshop on Empirical Analysis of Tax Compliance, 2-3 June 2020. Organised by Oslo Fiscal Studies, University of Oslo, Norway, joint with the Norwegian Research Council. For more information, contact gaute.torsvik@econ.uio.no or oddbjorn.raaum@frisch.uio.no.



Oslo Fiscal Studies (OFS) is a centre for public economics based at the Department of Economics at the University of Oslo, in collaboration with Statistics Norway, and the Ragnar Frisch Centre for Economic Research (Check [here](#) for more information).

Chair in Public Finance

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