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email: [econz@otago.ac.nz](mailto:econz@otago.ac.nz)



## FROM THE EDITORS

Immigration has become one of the most controversial topics in both academic and policy circles. We begin this issue with an article that shows that feelings towards 21st-century immigrants are more positive in parts of England that were home to a Jewish community in the Middle Ages. Our second article reports on an empirical analysis of the 'non-use value' of cold water corals in Norway and considers how such values should affect fisheries management decisions. New Zealand has some of the most over-priced houses in the world; our third article looks at little-discussed tax changes in 1989 that sowed the seeds for New Zealand's housing crisis. Our fourth article reviews recent trends in global population ageing, noting the challenges that arise. We conclude with Alan King's regular commentary on the NZ economy.

PAUL HANSEN, MURAT ÜNGÖR  
Department of Economics  
University of Otago  
Dunedin 9054

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## Back to the future: the long-run persistence of social attitudes

David Fielding

[david.fielding@otago.ac.nz](mailto:david.fielding@otago.ac.nz)



*The expulsion of English Jews in the 13th century<sup>1</sup>*

Although New Zealand has seen quite a few political parties come and go over the last 100 years, some things haven't changed very much at all. The Labour Party and the National Party (originally the United / Reform Party) have been the two largest parties in Parliament since 1931. These two parties compete for a political centre ground defined by moderately high levels of taxation and public expenditure with some redistribution of income, and a socially liberal society with equal rights for all people. Labour favours somewhat higher levels of taxation and public expenditure than does National, but competition for the centre ground has tended to erode this difference.

1. Marginal illustration. The British Library Board, Cotton MS Nero D II, f.183v. Unfinished marginal drawings of the coronation of Pope Nicholas IV, and the expulsion of the Jews from England, in the Rochester Chronicle. ([bl.uk/onlinegallery/onlineex/illmanus/cottmanuocoll/u/011cotnerd00002u00183v00.html](http://bl.uk/onlinegallery/onlineex/illmanus/cottmanuocoll/u/011cotnerd00002u00183v00.html)) (Copyright©The British Library Board).

## VIVE LA REVOLUTION!

Until recently, similar descriptions to the ones above could be applied to the Western European countries whose democratic political traditions New Zealand has inherited. However, European politics have changed dramatically over the last few years.

In France earlier this year, the candidates of the traditional centre-left and centre-right parties both failed to make it into the second round of the presidential elections. In the subsequent parliamentary elections, the centre-right party lost 93 of its 239 seats while the centre-left party lost 286 of its 331 seats. Their place has been usurped by two parties that are defined by characteristics other than taxation and public expenditure: the maximally socially liberal Republic Going Forwards Party and the National Front, a party whose members would regard Winston Peters as dangerously liberal.

In the UK, the Labour Party and the Conservative Party still survive (at least at the time of writing), but both parliamentary parties are made up of MPs with radically different views on the issues that have become most salient to voters. These issues – immigration, minority rights and the strength of Britain's links with the rest of Europe – relate to the same socially liberal / socially conservative spectrum that defines the new French parties. According to one anonymous Conservative MP, "We will split. We hate each other."<sup>2</sup> Similar trends are observable all across Western Europe.

There are alternative interpretations of this revolution in European politics. One interpretation is that voters today are concerned about issues that are completely different from those which exercised previous generations: or as an economist might put it, preferences have changed.

Another interpretation is that the things people care about are just the same as ever, but circumstances have changed, increasing the magnitude of the perceived costs or benefits of some dimensions of policy (e.g. policy on immigration) relative to others (e.g. public expenditure): or as an economist might put it, the budget constraint has changed.

These two interpretations are not mutually exclusive, but in this article we will discuss some evidence from England which suggests that there is some persistence in the pattern of people's preferences over very long time horizons, so the second explanation is at least partly correct.

## EVIDENCE FOR PERSISTENCE (I): 1066 AND ALL THAT

Modern opinion polls such as the British Election Study ([britishelectionstudy.com](http://britishelectionstudy.com)) provide a wealth of evidence about contemporary attitudes, but this type of polling has been in existence for only a few decades. What kind of evidence can we look for if we wish to examine whether social attitudes have persisted across several generations? For example, how do we find out if the modern inhabitants of town X have attitudes that have been influenced by the attitudes of previous generations in town X?<sup>3</sup>

One approach is to look at the historical characteristics of towns that might plausibly have been associated with attitudes there, and to see if these characteristics are associated with modern attitudes. One research paper which does this is Fielding (2017), and in this article we will look at some evidence based on this paper's results.<sup>4</sup>

How far back in history should we go? If there really is some inter-generational persistence in attitudes, and if this is a consistent feature of human nature (or at least of English people's nature), then we should be able to go back as far as we like.

So let's go back to the Norman Conquest of 1066. One consequence of the Norman Conquest was an increase in the ethnic diversity of England: this was not so much because of the influx of Norman French nobles, who made up only a tiny fraction of the English population, but because of the people who came with them.

The most distinctive group of immigrants to England were the French Jews, who played a key role in the economic system that the Normans introduced to England (Mundill, 2010). Because of the way that medieval scholars interpreted the Bible, Christians were not permitted to earn interest on money that they lent to each other, and this restriction had the potential to depress savings and investment.

However, Jews were permitted to earn interest on loans to Christians – indeed Jews were not allowed to work in any sector other than financial services – and so the immigration of the French Jews in the late-11th and 12th centuries facilitated the investment that turned the wooden towns of Anglo-Saxon England into the stone cities of the later middle ages.

The Jews faced a great deal of ethnic and religious prejudice, and they were not welcome everywhere, but they did manage to settle in about 30 English towns, principally towns that were already financial centres because of a local royal mint. These financial centres may already have been more cosmopolitan than the average English town, and the Jewish immigration certainly reinforced this difference.

However, the Jews became caught up in the power politics of 13th-century England: because they could only be taxed by the king, they were a target for the barons who opposed him. Barons such as Simon de Montfort promoted anti-Semitism as a way of undermining the king's power base, and the king finally had to agree to the expulsion of all Jews from England in 1290. Jews were not allowed to resettle in England until the 17th century; they never again made up such a large proportion of the English population, and a large majority of the modern Jewish community live in London.

Therefore, we can look for intergenerational persistence by comparing modern attitudes in locations that had a medieval Jewish community with attitudes in locations that did not. Figure 1 provides an example of such a comparison, using data from just under 25,000 English respondents in the 2015 British Election Study.<sup>5</sup> One question that respondents were asked is "Do you think immigrants are a burden on the welfare state?" The possible answers were: strongly disagree, disagree, don't know, agree and strongly agree.

Figure 1 shows the proportion of respondents giving each answer, making a distinction between those respondents who live in a parliamentary constituency where there was a medieval Jewish settlement and those who do not. It can be seen that disagreement with the statement above is far stronger among the inhabitants of towns with a Jewish heritage, which suggests that something of their medieval cosmopolitan character has persisted to the present day.

2. "Who will win the Conservatives' battle of Brexit?", *The Guardian* newspaper, 17 June 2017.

3. Here we are interested in the persistence of attitudes within a particular location rather than of attitudes within a particular family. In other words, we are interested in the extent to which young people acquire the attitudes typical of their home town rather than the attitudes of their parents and grandparents. There has been so much migration within England over the centuries that any town-specific persistence that we find in the data can safely be attributed to the former.

4. Fielding (2017) presents evidence incorporating data from the 2010 round of the British Election Study; in this article we use data from the 2015 round that has recently become available.

5. Respondents in Scotland, Wales and Northern Ireland are excluded, as are respondents in London, which has grown so much over the last 700 years that it is difficult to compare the modern mega-city with the little medieval settlement on the Thames.

Similar results can be found using other questions in the British Election Study, including questions about equal rights for ethnic minorities, gays / lesbians and women. Inhabitants of the constituencies with a Jewish heritage are also much more likely to have said that they would vote Remain in the Brexit referendum.

It is important to recognise that Figure 1 is not in itself proof of intergenerational persistence in attitudes. Constituencies with a Jewish heritage might differ from other constituencies in a variety of ways.

For example, because the constituencies with a Jewish heritage were once important financial centres, they might still be wealthier, on average, or more urbanised; higher wealth is associated with higher education levels and urbanisation is associated with higher immigrant population densities.

All of these factors could explain a difference in responses that has nothing to do with inter-generational persistence in attitudes *per se*. In Fielding (2017), I present a statistical analysis that deals with this concern, finding that even when we control for a wide variety of other personal and constituency characteristics, the differences in Figure 1 remain largely intact; moreover these differences are highly statistically significant.

### EVIDENCE FOR PERSISTENCE (II): THE ENGLISHMAN ABROAD

Are there any other medieval characteristics that might be associated with a cosmopolitan character? The Jews were the only large ethnic minority in medieval England, but there was one other way in which Englishmen got to meet large numbers of foreigners: the crusades.

In looking at the effect of the crusades, it is important to realise that the bulk of a crusading army comprised servants, foot soldiers and low-ranking knights who (with the possible exception of the First Crusade) had little or no choice about where they were going, and were not expected to have an opinion about anything.

That a man went on crusade tells us that his (earthly) lord was probably more xenophobic than average (or greedier, or more desperate), but it tells us little about the man himself. Once he was in the Holy Land, the fighting itself might not have encouraged positive thoughts about Arabs and Muslims, but this fighting made up a tiny proportion of his total time, especially after

the establishment of the Crusader Kingdoms. Most of his time was spent making a living, getting married and raising a family, all of which were likely to involve close – or even intimate – contact with the indigenous population.

Documentary evidence suggests that within a few years, the European inhabitants of the Crusader Kingdoms had acquired a reasonable understanding of local religions, languages and cultures, while the people back home remained completely ignorant of all of these things (Hamilton, 1997; Attiya, 1999).<sup>6</sup> As the Crusader Kingdoms began to lose ground in the late-12th and 13th centuries, their first-, second- and third-generation migrant families made their way back to Europe, bringing their experience of the Middle East with them.

In which towns did they settle? One indication of the presence of a returning crusader population, or at least of the salience of the crusades to a local community, is an inn named the Saracen's (i.e. Arab's) Head.

Some care must be taken in interpreting the Saracen's Head design: in a minority of cases this heraldic device does appear to have represented a decapitated head, implying an excessive degree of xenophobia on the part of the noble family which bore it on their arms. However, coats of arms are described in sufficient detail to be able to distinguish such cases from the more common case in which the head is depicted in the style of the Queen's head on a New Zealand coin, which is certainly not a republican symbol.

Heraldic records indicate that the violent depictions make up no more than 10% of all Saracen's Heads on English arms, so it is likely that the vast majority of Saracen's Head inn signs were originally modelled on heraldic devices which reflected respectful interest in a foreign culture. Therefore, constituencies that contain (or contained) a Saracen's Head inn might be expected to be more cosmopolitan than average.

Using census records, it is possible to compile a list of towns with a Saracen's Head inn and produce Figure 2, which uses the same British Election Study data as Figure 1 but splits respondents according to whether their constituency has ever contained a Saracen's Head inn.

Figure 2 shows a similar pattern to that in Figure 1, although the differences are slightly less marked. Statistical analysis that

Figure 1: Proportion of responses to statement: "Immigrants are a burden on the welfare state"

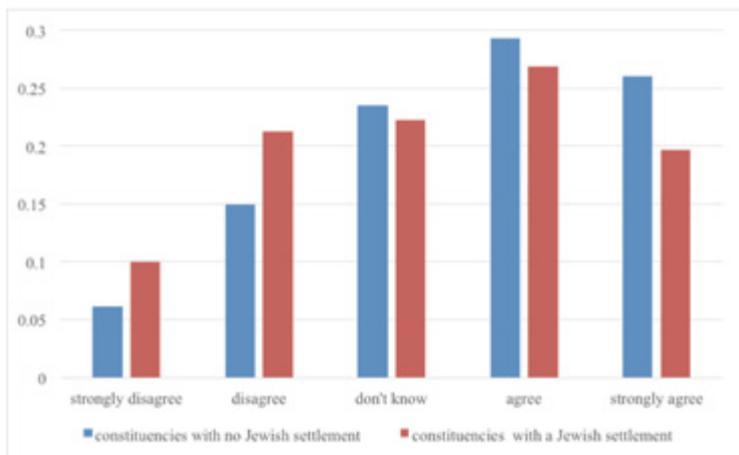
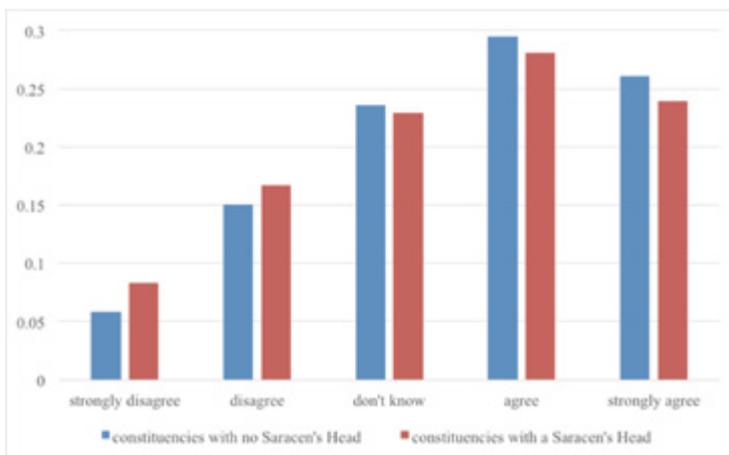


Figure 2: Proportion of responses to statement: "Immigrants are a burden on the welfare state"



6. This evidence relates specifically to the crusades in the Holy Land, not to wars of religion elsewhere. For example, the crusade against the Cathar religious minority in the south of France, which was led by the father of our old friend Simon de Montfort, appears to have been unremittingly vicious and soul-destroying.

I haven't yet published suggests that these differences are statistically significant and robust to controlling for other personal and constituency characteristics, and for the presence of a medieval Jewish community. Returning crusaders appear to have made their local communities more cosmopolitan, and this effect has persisted over time so that today these communities have more positive attitudes towards immigrants.

## TWO FINAL QUESTIONS

The first question is: through what specific mechanisms are attitudes transmitted from one generation to the next? Research that I haven't yet published suggests that educational institutions have played a key role.

The invention of the printing press in the 15th century led to a substantial reduction in the cost of education, manifested in the 16th, 17th and 18th centuries by exponential growth in the number of libraries and bookshops. These libraries were not publicly funded (the legislation for public libraries was passed in 1851), but were instead maintained by private subscription: they were not teaching institutions but they were most certainly institutions of learning.

Statistical analysis suggests that the density of libraries and bookshops was significantly higher in towns that had at some time been home to a Jewish community and/or Saracen's Head inn; this effect is robust to controlling for a wide range of other town characteristics, including the total number of inns. In other words, medieval contact with a Middle Eastern culture opened a town's mind to the extent that when the opportunity later arose, it had a significantly higher demand for institutions of learning.

Moreover, the geographical variation in the density of educational institutions persists to the present day: locations that had a large number of libraries now have significantly larger universities.

Finally, attitudes towards immigrants, equal rights and a closer relationship with the rest of Europe are significantly more positive not only among respondents with a higher level of education, but also, for a given level of education (and of other personal characteristics), among respondents who live in locations with larger universities. I hypothesise that taxi drivers, for example, have significantly different attitudes if they spend most of their day talking to students and lecturers from the local university.

The second question is: does the recent revolution in European politics necessarily represent a permanent change in political culture? My answer to this question is a tentative no.

To use the economic terminology in the introduction to this article, the evidence discussed here suggests that there is a great deal of inter-temporal persistence in preferences, so recent changes in political culture are likely to be at least partly due to changes in the perceived budget constraint. If perceptions change again, so will political culture.<sup>7</sup>

7. It may be, for example, that the Grenfell Tower fire disaster in London will lead to an increase in the perceived importance of public expenditure on social housing and therefore a resurgence in the importance of the economic left-right spectrum in the UK.

## QUESTIONS TO THINK ABOUT

1. "Boring politics are the best politics. A staid political culture is a sign of a healthy society" ([fee.org/articles/the-only-good-politics-are-boring-politics/](http://fee.org/articles/the-only-good-politics-are-boring-politics/)). Do you agree?
2. Could we expect a New Zealander with English ancestors in a town that had a medieval Jewish community to have attitudes that are different from those of the average New Zealander with English ancestors?
3. Dunedin has a large university and Tauranga does not. How likely is it that this has had an effect on attitudes in the two towns?

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# How do people's values for cold water corals affect fisheries management?

Claire W. Armstrong,<sup>1</sup> Viktoria Kahui,<sup>2</sup> Godwin K. Vondolia,<sup>1</sup> Margrethe Aanesen,<sup>1</sup> Mikołaj Czajkowski<sup>3</sup>  
claire.armstrong@uit.no, viktoria.kahui@otago.ac.nz, godwin.k.vondolia@uit.no, margrethe.aanesen@uit.no, mik@czaj.org

Marine habitats support fisheries but also provide benefits to the public in general, something that is often overlooked in bioeconomic models of fisheries. In our work, we augment a bioeconomic model that describes connections between a fishery and a natural habitat. The example used is cod, which like to aggregate on cold water coral. We add an equation that includes public value for cold water coral to this model to see how fisheries management decisions are affected.

## CWCs, A COOL PLACE TO HANG OUT!

The aggregation of cod on cold water coral (CWC) makes it an attractive location for fishers using both coastal gear and bottom trawling because the cost of catching fish is lower. Unfortunately, however, bottom trawling destroys the coral habitat irreversibly.

By combining the results of a survey of Norwegian households and our bioeconomic model, we show that the optimal stock of CWC habitat is significantly higher when we include the value of coral protection to the Norwegian public. This suggests fisheries management needs to be more holistic by accounting for the negative effects of bottom trawling.

## WHAT IS BIOECONOMIC MODELLING ANYWAY?

There are two branches in fisheries economics that in the past have been separate from each other: bioeconomic modelling and environmental valuation. In our work, we try to bring them together (Armstrong et al., forthcoming).

Bioeconomic modelling involves equations that describe the profit-maximising behaviour of a person or organisation that has the exclusive right to harvest a fishery. This usually involves a cost equation – e.g., the cost of operating a fleet – and a revenue

equation – e.g., income from the fish harvested. The difference between cost and revenue is the profit from fishing.

By maximising this profit, we can derive an 'optimal' fish stock level and an 'optimal' harvest rate, which give us a benchmark of the most efficient way to exploit a fishery in a given timeframe. (Of course, though, fisheries management is more complicated than this in practice!)

Bioeconomic models of fisheries have been around since the 1970s. They have also been applied to forestry and wildlife, but in fisheries the habitat is usually assumed to be constant. And yet it's well known that some fishing gear or methods, such as bottom trawling, damage ocean habitat, which in turn has an effect on the life cycle of a fish species. One such case was studied by Kahui et al. (2016), who built a bioeconomic model for a fish stock and its habitat, CWCs.

CWCs are complex habitats in cold waters that occur at different depths, ranging from 40 metres in Norwegian fjords to 2000 metres in the East Galician Reef (Rogers, 1999). CWCs grow extremely slowly – just a few millimetres each year – and can be considered non-renewable in the sense that once they are destroyed, they do not grow back on a time scale relevant to us relatively short-lived humans.

Nobody understands exactly what role CWCs play in marine ecosystems, but they are known to attract aggregations of fish. CWCs are usually linked to highly productive fishing areas in the North Atlantic, the Mediterranean and the Indian and Pacific Oceans (Husebø et al., 2002). Figure 1 shows CWCs before and after bottom trawling – i.e. the damage inflicted by trawling.

Figure 1: Damage to CWCs caused by bottom trawling



Source: Institute of Marine Research, Norway.

1. Norwegian College of Fishery Science, UiT The Arctic University of Norway, Tromsø, Norway.
2. Department of Economics, University of Otago.
3. Department of Economics, University of Warsaw.

Figure 2: Fish aggregating on CWCs



Source: Institute of Marine Research, Norway.

Kahui et al. (2016) model a habitat-fishery connection between CWCs and the North East Arctic cod fishery, which is harvested in a non-destructive way using coastal gear, as well as in a destructive way by bottom trawling. Optimal habitat and fish stock levels depend on the type of habitat connection; one type of connection simply assumes fish like to aggregate on CWCs, making them a preferred habitat (see Figure 2). Fishers are attracted to CWCs because such aggregations reduce the cost of catching fish.

We extend the above-mentioned model by attaching an additional value to the CWC habitat, something called a 'non-use value'. A non-use value arises from the fact that, although people may never see CWC habitats in their lifetime, they may still derive value (pleasure) simply from knowing that corals are protected and still out there.

### PEOPLE CARE ABOUT COLD WATER CORALS

As part of a large project, researchers in Norway surveyed about 400 individuals to find out whether such non-use values exist, and if so, how large they are. CWCs are relatively unknown, so the survey was carried out in workshops of 12-22 people using a method called a 'discrete choice experiment'. Figure 3 shows an example of a choice card used in the choice experiment where participants had to choose between Alternatives 1, 2 and 3.

Alternative 1 allows for the size of CWC protection to be extended to 5000 km<sup>2</sup> in an area attractive for both oil/gas and fisheries, but that's not important as a nursery or hiding place for fish, at a cost of 100 Norwegian kroner (NOK) per year: i.e. approximately NZ\$17.

Participants have to trade-off Alternative 1 against Alternative 2, which allows for a larger protection size (10,000 km<sup>2</sup>), no attraction for industry, important habitat for fisheries but at an increased cost of 1000 NOK a year. Participants can also choose the status quo (Alternative 3), which implies no change to the area of protected corals.<sup>4</sup>

Figure 3: An example of a choice card used in the discrete choice experiment

Characteristics		Alternative 1	Alternative 2	Alternative 3 (status quo)
Size of protected area		5000 km <sup>2</sup>	10,000 km <sup>2</sup>	2445 km <sup>2</sup>
Attractive for industry		Attractive for both oil/gas and the fisheries	No, not attractive for any industry	To some degree attractive for both oil/gas and the fisheries
Importance as nursery and hiding area for fish		Not important	Important	Not important
Cost per household per year		100 NOK per year	1000 NOK per year	0
I prefer (please tick one box)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Source: Armstrong et al. (forthcoming).

4. The survey and its results are described in LaRiviere et al. (2014) and Aanesen et al. (2015).

## EMPIRICAL APPLICATION TO NORWEGIAN CORALS

In our work, we apply the data from the discrete choice experiment to a so-called 'random utility model', which assumes that the utility (pleasure) a person receives from coral protection depends on both observed characteristics (see the 'Characteristics' column in Figure 3), and unobserved, random variations (McFadden, 1974).

Using statistical analysis, we estimated that, on average, each household is willing to pay almost 3400 NOK (~\$560) for coral protection to be extended to 5000 km<sup>2</sup>, and 6500 NOK (~\$1090) to extend coral protection to 10,000 km<sup>2</sup>.

We use these numbers to estimate a non-use valuation equation, which we feed back into our bioeconomic model. The analysis is mathematically and statistically complex, but by applying data from the Northeast Arctic cod fishery to the model, we can see how including *use* values for the fishers and *non-use* values for the public would affect optimal fisheries management and habitats.

## RESULTS AND DISCUSSION

Our results reveal that the optimal size of CWC habitat is strongly affected by whether or not we include the Norwegian public's non-use values of CWC protection. When non-use values are included, the optimal coral habitat increases by about 25% and the optimal fish stock decreases by 7%.

This increase in the optimal CWC stock is worth approximately 1000 million NOK (~\$164 million) in non-use benefits to Norwegians, whereas the increase in coral combined with a reduction in the optimal cod stock is equal to a cost reduction in the fishery equal to 630 million NOK (~\$105 million), leading to a more profitable fishery. This is because the large increase in the optimal CWC stock reduces costs more than the corresponding smaller decrease in the optimal cod stock. It's a win-win situation!<sup>5</sup>

Our results provide support for a more holistic framework for ocean management: where more than just fishers' interests are considered. Ordinary people value charismatic ocean habitats such as cold water corals, but these values are very rarely reflected in fisheries management decisions.

Most countries, including Norway and New Zealand, have already protected CWC reefs against bottom trawling. Nonetheless, our study points to the need for a more holistic approach that also considers habitat when fisheries management decisions are being made.

## QUESTIONS TO THINK ABOUT

1. What are cold water corals (CWCs)? Why are they important?
2. What kind of human activities threaten CWCs?
3. How can we measure people's values of CWCs?
4. How does the analysis in the article compare to other habitat structures on land (e.g. wetlands, natural forests, etc.)?

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"Our results provide support for a more holistic framework for ocean management: where more than just fishers' interests are considered."

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5. We also conduct a sensitivity analysis to see how robust our model is to the assumed biological and economic parameter values. Our results are fairly robust to a 10% increase in each of the parameter values, except for the parameters representing the growth rate of the fish stock, the fish stock's maximum growth potential and the equilibrium coastal gear harvest level.

# Housing and taxes<sup>1</sup>

Andrew Coleman  
andrew.coleman@otago.ac.nz

## BIGGER THAN TAXES!



Source: [treehugger.com/economics](http://treehugger.com/economics)

Housing and house prices are always in the news. Though house prices in Auckland seem to be dropping at the moment, since 1990 New Zealand has experienced the largest increase in house prices of any country in the industrial world.<sup>2</sup> Average house prices, adjusted for inflation, are now more than three times as high as they were in 1990.

It is little wonder then that, on the one hand, older people pride themselves on how rich they are thanks to their capital gains. And, on the other hand, young people wonder how they'll ever afford to buy their own place and commiserate with their friends about high rents.

The Government doesn't know what to do. It's caught between celebrating the wealth of older voters and sympathising with the plight of potential homebuyers. Nor is it sure how much of the price increase is due to 'good' factors such as low interest rates and a strong economy, or 'bad' factors such as land restrictions imposed by city councils. Either way, the Government says little about the effects of New Zealand's tax system on the housing market.

### DO TAXES MATTER?

Since 1989, New Zealand has had one of the *most distortionary* tax environments for housing in the world. *In the world!*

This claim may sound nuts to people used to hearing that New Zealand has one of the least distortionary overall tax systems in

the world. It may also sound nuts to those who quite correctly observe that housing is taxed in New Zealand in a similar fashion to how it is taxed in many other countries. Finally, it sounds nuts because housing taxes weren't changed in 1989.

Yet the way housing is taxed – or not taxed – is likely to matter a lot. In general, taxes cause the most distortions to people's behaviour and hence to the economy when some things are taxed differently from other things. Though the government didn't change how housing is taxed in 1989, it did change something else: the way retirement income savings are taxed.

### A KEY DISTINCTION

In general, income can be taxed when it is earned, or it can be taxed when it is spent. The former taxes are called *income* taxes, whereas the latter taxes are called *expenditure* taxes. Both types of tax raise revenues, and both cause distortions by altering the way people behave. It has long been understood that income taxes distort investment decisions more than expenditure taxes, partly because not all capital income is taxed at the same rate.

In order to have a non-distortionary income tax, these four things are necessary: (1) tax labour income when it is earned; (2) tax interest, dividends, and other business income when it is earned; (3) tax property rents, including the implicit rent you gain from owning your own home, when they are earned; and (4) tax capital gains on an accrual basis, that is, when the actual capital gains occur.

1. Parts of this article are based on Coleman (2017).

2. Data on house prices can be obtained from the International House Price Database provided by the Federal Reserve Bank of Dallas, based upon methodology described in Mack and Martínez-García (2011). Their database includes all members of the G-10 (the largest members of the OECD) as well as several smaller countries including Australia, Denmark, Finland, Ireland, Israel and Norway.

New Zealand only manages to do the first two of these four things. This creates a tax incentive for people to over-invest in housing, particularly their own house, relative to investing in other assets.

### EXEMPT-EXEMPT-TAXED

Expenditure taxes work differently, as income is taxed when it is spent, not when it is earned. Most of us are familiar with retail taxes and the Goods and Services Tax (GST). But there is another way of applying expenditure taxes, going back to an observation first made by Irving Fisher (1937).

Fisher recognised that what you *spend* is the difference between what you *earn* and what you *save*. Thus, if you were taxed on your income net of new savings, you would be taxed on your consumption. For example, if you earned \$100,000 and saved \$20,000, you would only be taxed \$80,000 when you earned the money.<sup>3</sup>

In practice, comprehensive cash-flow taxes are hard to implement because it's hard to track all savings – and people tend to 'forget' to tell the tax department when they sell assets. But most OECD countries have come up with a practical alternative by taxing savings placed in special retirement saving accounts on an expenditure basis.

This means the money you place in a retirement saving account isn't taxed when you earn it, and the interest and dividends you earn aren't taxed as they accumulate. Instead, the money is taxed when it is withdrawn in retirement, as it is assumed to be spent.

This tax system is sometimes known as an EET or Exempt-Exempt-Taxed system, as income placed in retirement savings accounts is *exempt* from taxes when it is earned, *exempt* when it accumulates, but *taxed* when it is withdrawn. Over 20 OECD countries use this system, including the UK, US, Germany, Japan, France and Canada. New Zealand also had a version of this system until 1989 (but not now).

### SAVING FOR RETIREMENT?

Why does the taxation of retirement saving matter so much? Because the way New Zealand and most other countries tax owner-occupied housing is a form of expenditure taxation. Housing is taxed on a TEE basis, meaning you buy a house (or pay

off a mortgage) from after-tax income (T), the implicit rent you earn by living in your own house is exempt from tax (E), and you don't pay tax on any capital gains you might have when the house is sold (E).

If housing and retirement savings are both taxed on an expenditure basis – as in most OECD countries – the tax system does not bias your choice between one of these forms of saving. But if housing is taxed much less than other forms of saving – as in New Zealand – then the tax system creates an incentive to spend more on housing.

### TAXATION OF HOUSING

What are the effects of taxing housing differently from other assets? Standard analysis<sup>4</sup> suggests that taxing housing on an expenditure basis *when other assets are taxed on an income tax basis* leads to larger houses and higher prices. It's easy to see why.

Suppose you are considering spending an extra \$100,000 buying a house or, alternatively, putting the money in your KiwiSaver account and earning a 4% return. After 30 years with compound interest, the money in KiwiSaver would have increased to \$324,000 under an EET expenditure tax system if we had one, but only \$229,000 under New Zealand's current tax system – \$95,000 less! This lower return induces people to spend more on housing – e.g. by purchasing or building a larger house, or by buying a house close to town or nice amenities like beaches.

Theoretical calculations suggest that in a low interest rate and low inflation environment – like we have now – the current tax system might induce people to build houses that are 20-25% larger than they would build if retirement savings were taxed on an expenditure basis. Similar calculations suggest that people might double the premium they otherwise would pay to buy properties close to desirable amenities.

### UP, UP AND AWAY!

Since 1989, house prices have increased by 220% in inflation-adjusted terms. There are other factors behind this increase, including lower interest rates and higher incomes, but prices have gone up in New Zealand faster than in other countries with lower interest rates and higher incomes.



Some solutions to the housing crisis don't involve changing the tax system

Source: [yahoo.com/news/illegal-sleep-car-173037499.html](http://yahoo.com/news/illegal-sleep-car-173037499.html)

3. Alternatively, if you earned \$100,000 and sold assets worth \$20,000, you would pay tax on \$120,000.

4. Supported by the OECD, the 2001 McLeod Review (McLeod Committee, 2001) and the 2010 Tax Working Group (Victoria University of Wellington Tax Working Group, 2010).

The average size of new houses has gone up quickly too, from 135 m<sup>2</sup> to nearly 200 m<sup>2</sup> – a bigger increase than either Australia or the US, the only other countries that collect data on a yearly basis.<sup>5</sup>

Unfortunately, because so many other things changed in the early 1990s, it's impossible to determine how much of this house size increase is due to the 1989 tax change and how much is due to other factors. But it would be very strange if tax had no effect, given how much bigger the increases in New Zealand house sizes and prices are than elsewhere.

### SO, WHAT ARE THE RESULTS OF THESE DISTORTIONS?

Does it matter if New Zealand house prices are artificially high because of a distortionary tax system? It might not matter to the people who have owned houses for a long time, because they have made unusually large capital gains. But it does matter to current and future generations of young people, who have to borrow more to buy a house and have to pay extra interest on the mortgage.

Standard economic theory suggests that if you tax land less than other assets you impose a large intergenerational cost on all future generations. This also leads to a higher foreign debt than otherwise (Feldstein, 1977).

These issues were not well understood when the tax system was changed in 1989. Twenty-eight years down the track it might be time to reassess whether New Zealand's great income tax experiment turned out as intended.

### WHAT CAN BE DONE?

Is there any good news if you are under 30? Maybe.

If the tax distortion that is causing house prices to be artificially high occurs because housing is taxed differently from other assets, there are two possible solutions.

One solution is to raise taxes on owner-occupied housing until it is taxed in the same way as other assets. However, politically this might be difficult to do as it means raising taxes on a large number of property owners.

The other possible solution is to reduce taxes on other forms of saving, for example by taxing savings placed in retirement income accounts on an expenditure basis. This is the solution adopted by many OECD countries around the world, and by New Zealand until 1989. It's likely to be much easier to do politically than raising taxes on housing; and it will be especially easy for a government with a budget surplus and that's already considering tax cuts.

Of course, there is a third option: Do nothing. Unfortunately, this option will result in young New Zealanders continuing to be victims of one of the most distortionary tax environments for housing in the world.



Source: [davebymla.ca/in-the-community/issue-housing-crisis/](http://davebymla.ca/in-the-community/issue-housing-crisis/)

### QUESTIONS TO THINK ABOUT

1. Why might lower interest rates cause an increase in the size of houses and an increase in the price of land?
2. What are the distributional consequences of the 1989 tax change?
3. How can the tax system be reformed so that it does not encourage over-investment in housing?

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5. New houses in New Zealand are now so big that they are nearly twice as large as houses in most European countries.

# Global population ageing

Murat Üngör

murat.ungor@otago.ac.nz



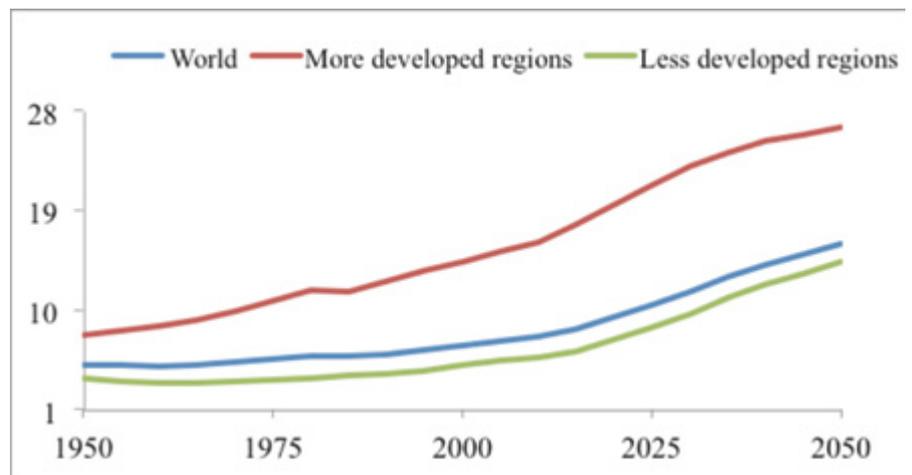
Source: [www.flavourmag.co.uk/the-uks-ageing-population](http://www.flavourmag.co.uk/the-uks-ageing-population)

In recent years, the effect of demography on the global economy has received a lot of attention due to major changes in the age structure of the global population, in particular the increasing proportion of people over the age of 65. The possible consequences of an ageing global population are among the most hotly debated topics in academic and policy circles.<sup>1</sup> Many countries face the problem of how to finance retirement consumption for older people, and how to reform social services to cope with the increased burden.<sup>2</sup>

## WE'RE ALL GETTING OLDER

Figure 1 shows the proportion of elderly people – defined as aged 65 years and over – for selected country groups during 1950-2050.<sup>3</sup> The share of the global population that is elderly is increasing in both “more developed” and “less developed” regions.

Figure 1: Population aged 65+ as percentage of total population (%)



*More developed regions:* Europe, Northern America, Australia, New Zealand and Japan.  
*Less developed regions:* all regions of Africa, Asia (except Japan), Latin America and the Caribbean plus Melanesia, Micronesia and Polynesia.

Source: United Nations, World Population Prospects, the 2015 Revision.

1. See, for example, Beard et al. (2011), Bloom and Luca (2016) and the references therein.  
2. See McGrattan and Prescott (2016) for a recent discussion of this problem for the United States.  
3. The data used in this article is drawn mainly from population estimates and projections from the United Nations' World Population Prospects (2015 revision). I use the table "Percentage total population (both sexes combined) by broad age group, major area, region and country, 1950-2100", which is available at: [esa.un.org/unpd/wpp/Excel-Data/population.htm](http://esa.un.org/unpd/wpp/Excel-Data/population.htm). Data are available for every five years, starting in 1950. The projections are based on the medium fertility assumption of the database during 2015-2050. Bloom and Luca (2016) discuss the reliability of population projections.

At the global level, the proportion of the population aged 65 years and over (65+) was about 8.3% (more than 600 million people) in 2015, up from 5.1% (more than 120 million people) in 1950.

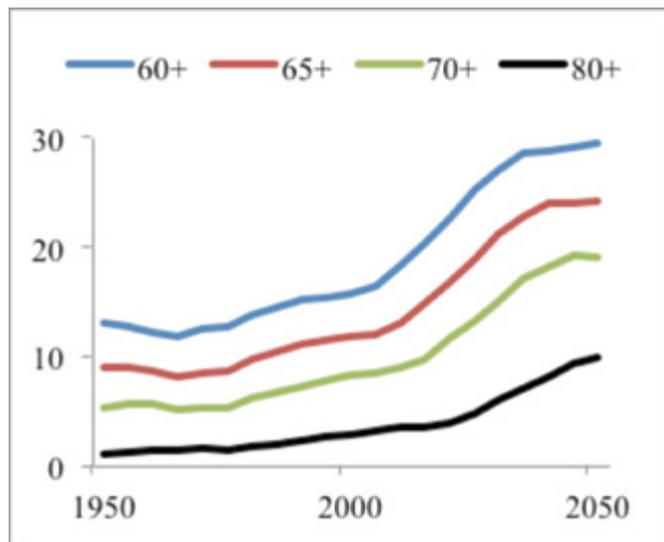
This ageing trend will speed up, with the United Nations forecasting the share of people aged 65+ will reach 16% (close to 1.6 billion people) by 2050. According to UN projections, the share of people aged 65+ rose from 7.7% of the population in more developed regions in 1950 to around 17.6% in 2015, with further dramatic increases predicted whereby the share of people aged 65+ reaches 26.5% by 2050.

Figure 2 plots population shares for NZ, Australia, China and Japan over a 100 year period starting in 1950 for four age groups: 60+, 65+, 70+ and 80+. Older age cohorts are beginning to account for a substantial proportion of the total population.

As can be seen in the figure, the fraction of the NZ population aged 59+ was slightly more than 20% in 2015, compared to 13.1% in 1950. In Australia, the proportion of people 65+ was 15% in 2015 and is expected to jump to 22.5% by 2050. In Japan, people 65+ made up more than a quarter of the population in 2015. Japan's population is forecast to fall to about 107 million by 2050 (from more than 126 million in 2015), with 36% of Japanese aged 65+.

Figure 2: Share of older people (%)

(a): New Zealand



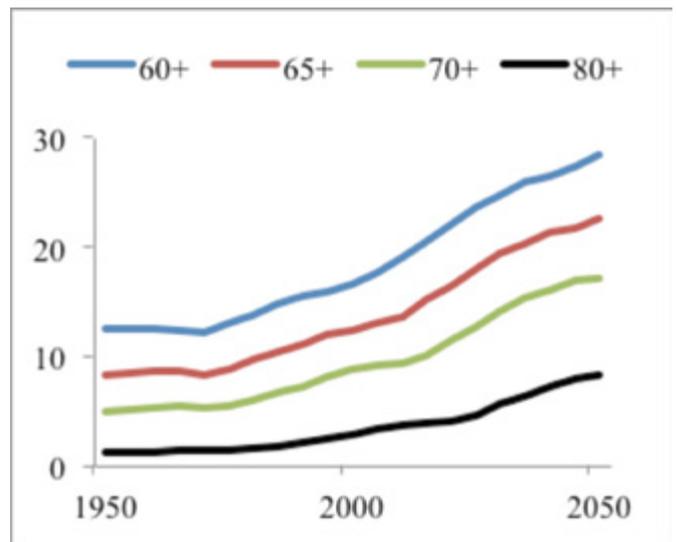
## CROUCHING TIGER, AGEING DRAGON

China is the most populous country in the world and, like most countries, its population is ageing. According to UN projections, in the 50 years between 2000 and 2050 the share of the Chinese population 60+ will more than triple from 9.9% to 36.5%. The fraction of people 80+ will begin to accelerate after 2025 and reach 8.9% in 2050.<sup>4</sup>

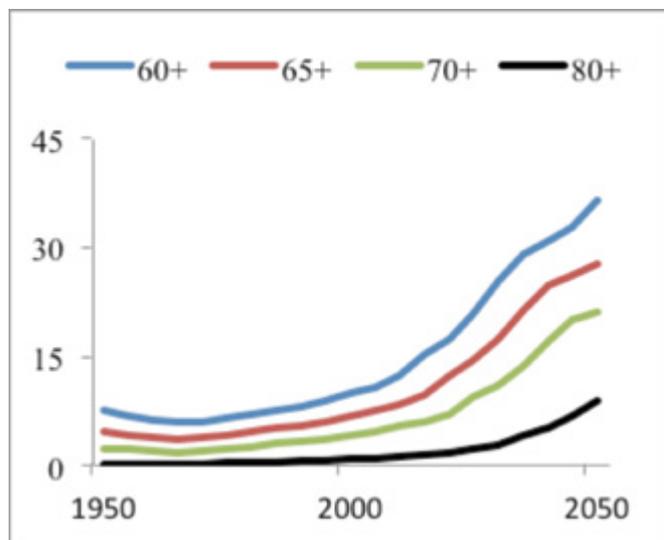
At the same time as its population has been ageing, China's fertility rate has been falling dramatically. In 1965 the fertility rate was 6.4 – meaning that women then gave birth to 6.4 children on average. The fertility rate was more than 5 until 1973, when it started to decline, and the rate dropped sharply after the mid-1980s. In 1990, it was 2.4, and in 2015 it was just 1.6 (World Bank, 2017) – less than the “replacement rate” of slightly more than 2 at which women give birth to just enough babies to sustain population levels.

4. See Smith et al. (2014) for an insightful review of ageing in China.

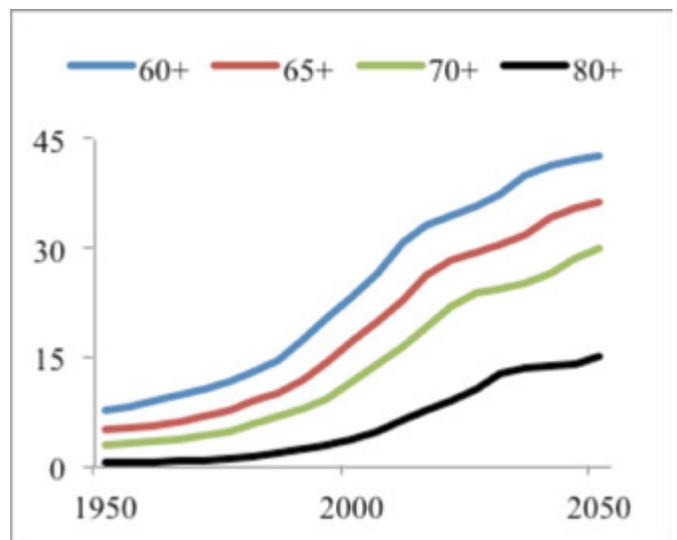
(b): Australia



(c): China



(d): Japan



Source: United Nations, World Population Prospects, the 2015 Revision.

## ON THE BACKS OF YOUNGER PEOPLE

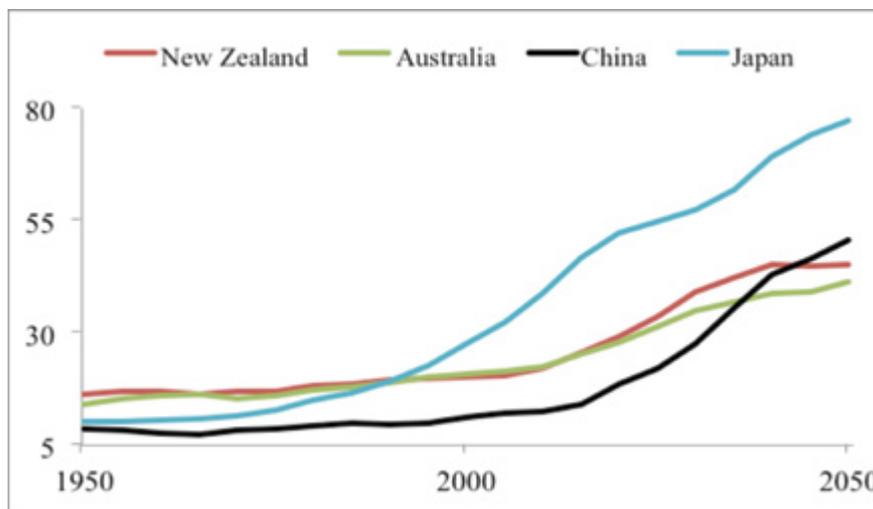
One important statistic for characterising population ageing is the “old-age dependency ratio”: usually defined as the number of individuals aged 65+ per 100 people of working age, defined as those aged 20-64. The old-age dependency ratio tells us how many retired people a potential worker has to sustain. The higher the ratio, the more elderly people there are to be supported by younger working adults.<sup>5</sup> The ratio is rising around the world.

Figure 3 shows the dramatic rise in Japan's old-age dependency ratio. In 2015 the ratio was 47.0%, already the world's highest. By 2050 it is forecast to exceed 77% – i.e. 77 elderly people for every 100 people of working age.

Continued increases in longevity will ensure that the old-age dependency ratio rises sharply in China as well. There was one elderly person for every 10 working-age people in China in 1995 (10% dependency ratio); by 2050 the ratio is expected to increase to 1 for 2 (50%).

In New Zealand, the old-age dependency ratio was 16.3% in 1950, increasing to 25.6% in 2015. By 2050 the ratio will reach 45.1% in NZ – and 41.2% in Australia.

Figure 3: Old-age dependency ratios (%)



Source: United Nations, World Population Prospects, the 2015 Revision.

## LIVE LONG AND PROSPER!

As populations grow older, increases in old-age dependency ratios are indicators of the added pressures that economies have to withstand. Population ageing has important policy implications for health and social welfare systems, income distribution and immigration. For example, the burden on hospital waiting lists and the affordability of public superannuation schemes will continue to grow.

As life expectancy increases and treatments for life-threatening disease become more effective, the issue of maintaining wellbeing at advanced ages is growing in importance (Steptoe et al., 2015). How governments, individuals and financial institutions should share responsibilities for sustaining income security at old age is a major policy issue. Policies that can sustain income security for people in disadvantaged groups such as women, low-skilled individuals and immigrants are also important.

Maintaining older people's wellbeing is not only related to protecting their living standards by providing income security, but also related to issues including subjective wellbeing,<sup>6</sup> satisfaction with daily activities, physical and mental health, availability of high-quality long-term care and other health care issues. Policy responses should combine insights from health, sociology, psychology, economics and public policy.

### QUESTIONS TO CONSIDER

1. What is demographic change?
2. Why does demographic change matter to politics? Should politicians and policy-makers attempt to influence the population directly?
3. Why and how does population ageing matter? What are the main challenges of an ageing society?
4. What are the major demographic shifts facing New Zealand in the coming decades?

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5. Old-age dependency ratio is one of the most widely used metrics to measure the degree to which a nation is considered to be aged. Sanderson and Scherbov (2005, 2010) suggest a new method to measure ageing prospectively to take into account both improved life expectancy and health across the life-course. As life expectancies increase and people remain healthy longer, measures based solely on fixed chronological ages can be misleading.

6. Steptoe et al. (2015) distinguish three aspects of subjective wellbeing: (i) evaluative wellbeing (or life satisfaction), (ii) hedonic wellbeing (feelings of happiness, sadness, anger, etc.), and (iii) eudemonic wellbeing (sense of purpose and meaning in life).

# Commentary on the New Zealand economy

Alan King

alan.king@otago.ac.nz

	Mar 2017	Dec 2016	Sep 2016	Sep 2015	Sep 2014
GDP (real, annual growth rate, %)	3.0	3.1	3.0	3.0	2.6
Consumption (real, annual growth rate, %)	4.2	3.7	3.4	2.8	3.3
Investment (real, annual growth rate, %)	4.2	5.2	3.3	2.2	7.5
Persons Employed (full- and part-time, 000s)	2539	2510	2492	2348	2313
Unemployment (% of labour force)	4.9	5.2	4.9	5.6	5.2
Net Migration (year to date)	71,932	70,588	69,954	61,234	45,414
Consumer Price Inflation (annual rate, %)	2.2	1.3	0.4	0.4	1.0
Food Price Inflation (annual rate, %)	1.6	0.6	-0.2	0.8	-0.2
Producer Price Inflation (outputs, annual rate, %)	4.1	2.5	0.1	0.2	-1.0
Producer Price Inflation (inputs, annual rate, %)	4.2	2.3	0.1	-0.2	-2.2
Salary and Wage Rates (annual growth rate, %)	1.6	1.6	1.7	1.6	1.7
90-day Bank Bill Rate (% p.a.)	1.98	2.03	2.23	2.85	3.71
10-year Govt Bond Rate (% p.a.)	3.28	3.33	2.40	3.29	4.19
2025 Inflation-Indexed Bond Rate (% p.a.)	1.91	1.87	1.45	1.95	2.28
Lending to Households (annual growth rate, % [1])	8.4	8.8	8.7	6.5	4.8
Real Exchange Rate (trade-weighted index [2])	75.5	76.7	76.5	68.2	78.4
Exports (volume, annual growth rate, %)	-3.4	-0.1	4.5	6.8	5.6
Imports (volume, annual growth rate, %)	6.8	5.3	5.3	3.2	9.9
Terms of Trade (June 2002 = 1000)	1433	1363	1289	1303	1351
Merchandise Trade Balance (\$m, year to date)	-3671	-3134	-3354	-3169	667
Visitor Arrivals (annual growth rate, %)	8.9	11.8	11.4	8.5	4.9
Current Account Balance (% of GDP, year to date)	-3.1	-2.8	-3.0	-3.5	-2.6

Notes: [1] Housing and consumer loans made by registered banks and non-bank lending institutions. [2] Average index value over March 1985-March 2005 = 62.2.

Sources: Statistics New Zealand ([stats.govt.nz](http://stats.govt.nz)), Reserve Bank of New Zealand ([rbnz.govt.nz](http://rbnz.govt.nz)).

New Zealand's terms of trade (ToT) index – i.e., the ratio of export prices to import prices, which represents the quantity of imports we can buy with a given amount of exports – is on the verge of passing an important milestone. Its current value is the highest seen in almost 44 years. But, as the recent rises in commodity export prices and softness in the price of imported oil have yet to be reflected in the official series, the ToT is almost certain to exceed its 1973 peak later this year and reach a level not seen since the Korean War wool boom of 1950/51.

The ToT is a very important economic variable. It is, in effect, a measure of the real wage for the entire nation, as an increase in the ToT has much the same effect as getting a raise: it enables us to afford more imports without the need to work any harder at producing exports. Put another way, the growth rate of gross domestic product (GDP) gets a lot of attention, but ultimately it is the value of the ToT that determines how much we can buy with what we have produced. Hence, it is a key determinant of our material standard of living.

The importance of the ToT is also underlined by the fact that its strength has been a significant contributor to the ongoing strength of the New Zealand dollar. Although the strong dollar has limited the extent to which farmers directly benefit from rising world prices for their produce and penalises domestic producers of manufactured goods, it has ensured that most New Zealanders benefit from our rising ToT through cheaper imported goods.

Cheaper imports, in turn, have helped keep inflation and interest rates low.

Past highs in New Zealand's ToT were the result of one-off events (i.e., the outbreak of war, crop failures elsewhere in the world, etc.) and proved to be short-lived. However, the ToT have been on a fairly steadily rising trend since the early 2000s. This is largely thanks to reductions in the use of export and production subsidies on agricultural goods achieved in the Uruguay Round of multilateral trade negotiations and China's ongoing growth in demand for protein.

Because New Zealand is so heavily dependent on commodity-based exports, our ToT are quite volatile and the large changes that can occur over short timeframes sometimes make it easy to overlook the bigger picture. For example, the low dairy prices in 2015/16 pulled the ToT down significantly, but only to a level that was 20% above the post-Global Financial Crisis low point reached in the third quarter of 2009 – and even that low was almost 10% above the index's average value during the 1990s.

The ToT index is currently about 45% above its 1990s average and more than 60% above its average level during the grim decade that followed the first oil shock in 1974. Even though the index will continue to be volatile and may well soon slip back from the 66-year high it will reach later this year, in the absence of (say) a dramatic reversal of Chinese economic fortunes, its underlying strength should continue for some time to come.



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