Labour force participation in New Zealand: Recent trends, future scenarios and the impact on economic growth

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Abstract

This paper examines labour force participation trends in New Zealand, how we compare to the rest of the OECD and how participation and economic growth might be affected in the future by population ageing. Participation has risen significantly over the past 20 years despite an increase in the average age of the working-age population. We have looked at how participation has changed by age, gender and ethnicity. By contrast, average hours worked has declined over the past 20 years and we consider the reasons for that. Population ageing means the recent growth seen in labour force participation is likely to come to an end, with the participation rate projected to decline over the medium term. Falling participation will have a dampening effect on economic growth. We have investigated the impact of declining participation on gross domestic product using official labour force projections and identified a range of scenarios for what participation might look like in the year 2029. In each scenario, we discuss the impact on economic growth. Most other OECD countries are in a similar situation to us with respect to population ageing. We have looked at the latest Australian projections for economic growth in the long term and the increased growth in New Zealand's productivity that would be necessary to begin to close the gap on Australia.

Introduction

We examine labour force participation trends in New Zealand, how we compare to the rest of the OECD and how participation is likely to be affected in the future by population ageing.

We have looked at official labour force projections and identified a range of scenarios for what participation might look like in the year 2029. In each scenario, we discuss the impact on economic growth.

As well as long-term demographic issues, participation is also affected by short-term economic factors. The report examines the impact of the recent economic downturn and provides a forecast of participation for the next two years.

Population ageing means the recent growth seen in labour force participation is likely to come to an end, with the labour force participation rate[1] (LFPR) projected to decline over the medium term. Falling participation will have a dampening effect on economic growth. Throughout the report, we investigate the impact of declining participation on gross domestic product (GDP) – the value of what New Zealand produces.

New Zealand is not alone in facing the issues outlined in the report. Most other OECD countries are in a similar situation to us with respect to population ageing. The report also discusses the latest Australian projections for economic growth in the long term and the increased growth in New Zealand's productivity that would be necessary to begin to close the gap on Australia.

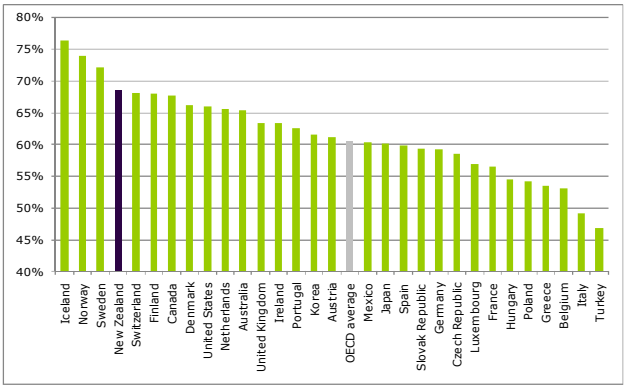
International comparisons

New Zealand had the 4th highest rate of labour force participation in the OECD in 2008 (see Figure 1). Our LFPR was 68.6%, compared to the OECD average of 60.6%, with the difference being largely due to higher participation rates for people over 45 years old.

However, our economic performance is affected by our relatively low level of labour productivity (GDP per hour worked), where we rank only 25th in the OECD. In comparison, Australia has a lower rate of participation (65.4% in 2008) but much higher labour productivity. We are 27% below the OECD average for labour productivity, while Australia is 6% above the OECD average.

To close the economic gap with countries like Australia and the United Kingdom, we need to improve our productivity while maintaining our relatively high level of participation.

Figure 1: Participation rates across the OECD, 2008

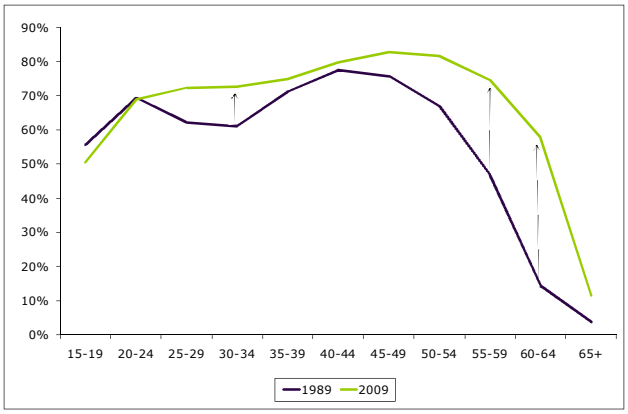


Source: OECD

Trends in labour force participation

The labour force participation rate has increased from 63.8% to 68.2% over the 20 years from 1989 to 2009. This increase was driven entirely by females (see Figure 2), for whom participation rose from 53.2% to 62.2% over the period, while male participation fell slightly from 75.1% to 74.6%.

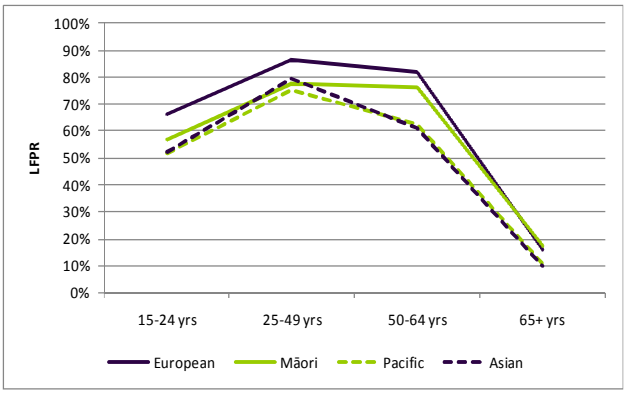
Figure 2: Changes in female participation by age, 1989-2009



There has been a big increase in the participation of older workers (55+ years) while the participation of young people (15–24 years) has declined, partly due to spending more time in education.

Labour force participation also varies by ethnicity (see Figure 3). Europeans have the highest participation rate in each age group except for 65+ years, where they are marginally behind Māori (at 16% compared to 17%). Participation rates for Māori, Pacific peoples and Asians are similar in younger age groups (up to 49 years), but Māori stay in the labour market for longer, with Māori aged 50–64 years having an LFPR of 76% compared to only 62% for Pacific peoples and 61% for Asians.

Figure 3: Participation rates by ethnicity, 2009



Source: Household Labour Force Survey, Statistics New Zealand

Over the past 20 years, the LFPR has risen for Europeans (from 64% to 70%) and for Māori (from 59% to 67%) but has fallen for Pacific peoples (from 65% to 62%) and for Asians (from 68% to 66%). Asian participation has been climbing since hitting a low point of 54% in 2000.

The LFPR only tells part of the story, as intensity of participation (hours worked) is also important. For employed people in New Zealand, average usual weekly hours fell from 38.8 hours in 1989 to 37.0 hours in 2009. This decline in hours is related to the increased participation of females and older workers, with both groups on average working for fewer hours than prime-aged males (25–54 years).

The ageing population

The labour force has aged over the past 20 years, and overall participation would have declined by 1.6 percentage points if age-specific participation rates had stayed at their 1989 level. In fact, the LFPR rose by 4.6 percentage points over this period, due to increased participation by females and older workers.

Population projections show that there will be increased downward pressure on participation rates over the next 20 years as the population continues to age. The share of the working-age population who are aged 65+ years is projected to increase from 16% in 2009 to 25% in 2029.

Not only will the LFPR fall, but an increasing concentration of older workers also means that the average hours worked is likely to decline.

The long-term outlook for participation and economic growth

New Zealand's economic growth over the last business cycle was boosted by increases in population size, the participation rate and labour productivity. Over the next 20 years, we will need to focus on increased productivity growth, as population ageing will put downward pressure on participation.

We have used Statistics New Zealand's medium participation series (5M) as our baseline labour force projection series for this report. These projections result in some substantial increases in participation rates, within older age groups, which are shown in Table 1 below.

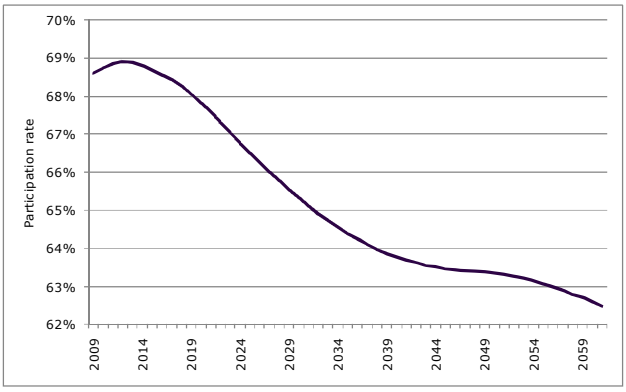
The increase in participation between 2009 and 2029 is broadly equivalent to ageing the participation profile by around 2 ½ years.

Table 1: Projected labour force participation rates in 2029 for those aged 64–76 years

Age	64	65	66	67	68	69	70	71	72	73	74	75	76
	Labour force participation rate (%)												
2009	59	46	38	33	29	26	22	19	16	14	13	11	10
2029	67	57	52	47	43	38	32	28	24	20	18	15	13

Although Statistics New Zealand projects further increases in the participation of older workers, population ageing means the overall participation rate is still expected to fall by 3.1 percentage points by 2029 (see Figure 4).

Figure 4: Projected total participation rate, 2009-2061



Population and labour force projections

Methodology

We used a slightly simplified version of the Treasury's Long-Term Fiscal Model[2], in combination with Statistics New Zealand's labour force and population projections[3], to assess the impact on GDP growth for a range of scenarios. We focused on the effect of different migration outcomes and have also modelled the impact of raising participation for particular age groups. Each scenario describes the necessary growth in annual average labour productivity to maintain our recent growth in GDP per capita of 1.9% per year.

In the increased participation scenario we have taken Statistics New Zealand's projections of participation rates by single year of age for those aged 55-70 years, and then advanced these forward by 2 and 5 years of age. This means, for example, that the projected 2029 participation rate for 60-year-olds is applied to 62-year-olds.

The increased migration scenario models the impact of net migration of 25,000 per annum, compared to 10,000 in the baseline scenario. The population and labour force projections were published in Statistics New Zealand's commentary to the release of the latest 2009-base projections.

We describe the gap between the projected labour force and the labour force required to maintain our current participation rate as the 'ageing population gap'.

The gap between the projected labour force and the labour force required to maintain the current growth in our GDP per capita (assuming labour productivity growth continues at its current rate) is described as the 'economic growth gap'. This includes the ageing population gap (the additional labour force needed to maintain our current participation rate in 2029) and the much larger gap that arises from the challenge of continuing to increase participation rates and labour productivity.

Results of baseline projection

Table 2 and Table 3 present the results of the baseline and alternative scenarios. Following the baseline projection, we would need to increase the growth of labour productivity from 1.2% to 1.9% per year in order to maintain our recent average growth in GDP per capita of 1.9% per year. If labour productivity growth continues at 1.2% per year, growth in GDP per capita will fall to an average of 1.2% per year over the next 20 years.

Just under 30% of this gap is due to the downward pressure from the ageing population. The remainder comes from the challenge of continuing to raise overall participation rates along the path they have travelled for the past decade. To bridge the economic growth path with no increase in productivity would require the overall participation rate to rise to 76% by 2029, from the base of 68.6% in 2009.

Table 2: Bridging the ageing population gap

Demographic path	Real GDP/capita growth 2009-2029 % per year	Participation rate in 2028/29 %	Productivity growth required to make up ageing population % per year	Productivity rise % change
10,000 net migration	1.17	65.5	1.39	20
25,000 net migration	1.21	66.3	1.36	17
10,000 net migration and LFP profile moved out by 2 years	1.31	67.4	1.25	8
10,000 net migration and LFP profile moved out by 5 years	1.49	69.7	1.08	-7

Table 3: Bridging the economic growth gap

Demographic path	Required participation rate in 2029 %	Required participation rate rise percentage point increase	Productivity growth required to match historical GDP/capita rate % growth per year	Productivity rise % change
10,000 net migration	76.0	10.5	1.91	65
25,000 net migration	76.3	10.0	1.88	62
10,000 net migration and LFP profile moved out by 2 years	76.0	8.7	1.77	53
10,000 net migration and LFP profile moved out by 5 years	76.0	6.3	1.60	38

Results of alternative scenarios

Increasing net immigration reduces the effect of population ageing, due to the younger average age of immigrants when compared to the resident population, but its impact on the overall participation rate is limited, rising by only 0.8 percentage points in 2029.

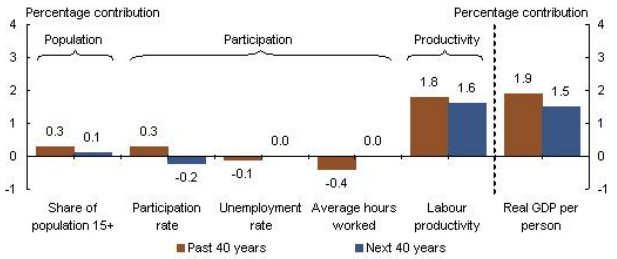
Increasing the participation rates of older workers makes a much bigger difference than increasing net immigration. Moving the participation profile out by two years removes around two-thirds of the ageing population gap, and moving it out by 5 years results in a participation rate that is 1.1 percentage points higher in 2029 than in 2009.

None of the scenarios makes a substantial impact on the economic growth gap. Even under the most optimistic participation scenario, the productivity growth increase required to maintain economic growth only falls from 65% in the baseline to 38%. Over the long term, falling participation may generate economic conditions that are conducive to increasing productivity. This would at least partly compensate for the fall in participation. An increasingly tight labour supply and upward pressure on labour costs could lead to more investment in capital. This would boost growth in labour productivity and GDP per capita.

Ageing across the ditch – the situation in Australia

Australia's annual average growth of GDP per capita over the next 40 years is projected to be 1.5%, down from 1.9% over the past 40 years. Much like New Zealand, future growth will be driven by increases in labour productivity as participation declines due to population ageing (see Figure 5).

Figure 5: Sources of Australian economic growth



Source: *Intergenerational Report 2010*, Australian Treasury

We have projected that New Zealand's growth in GDP per capita over the next 40 years will fall from the recent average of 1.9% per year to an average of 1.1% per year if labour productivity continues to grow at an average of 1.2% per year.

New Zealand will need to increase its annual average growth in labour productivity from 1.2% to at least 1.5% to begin closing the economic gap with Australia. Productivity increases can come from a more highly skilled workforce, better matching of people to jobs, incentives for employers to invest more in their capital, better infrastructure and reduced business costs.

Participation through the economic downturn and recovery

Due to the recent economic downturn, the LFPR fell by 0.9 percentage points in the year to December 2009. The most significant falls in participation were for young people, women aged 25–34 years and older workers aged 65+ years.

As part of our analysis, we have produced a forecast of labour force participation, by age and gender, over the 2 years from March 2010 to March 2012, based on HLFS data to December 2009.

Methodology for short-term forecasts of participation

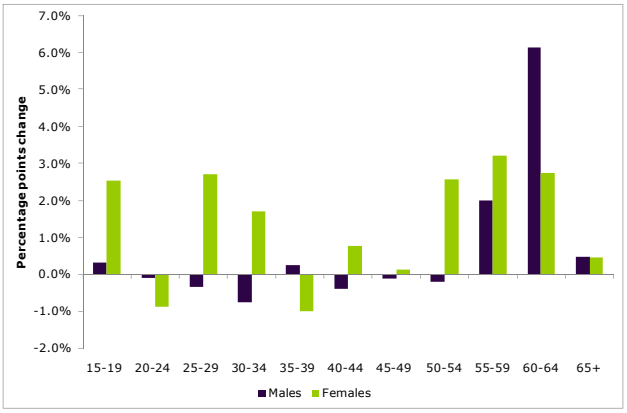
In order to forecast participation, by age and gender, over the next 2 years, we carried out a regression analysis of each series of participation rates. This analysis looked at the trend over time and the relationship with the total level of employment (not split by age or gender). Total employment was found to be a better predictor of participation than other potential indicators such as the employment rate or GDP. Some groups have shown a clear trend in their participation rates over time, while the participation of other groups is likely to be more sensitive to the economic climate (as shown by shifts in overall employment).

Both the time and employment variables turned out to be statistically significant in the regression for the large majority of groups. The regression analysis also made use of 'autoregressive errors', which assumes that the regression error in one period is related to the error in the previous period to improve the fit. This step significantly improved the regression statistics for each group, which is unsurprising for time-series data.

Having completed the regression analysis for each group, it was possible to forecast their participation rates, based on a forecast of total employment until March 2012. This forecast was based on the March 2010 NZIER Consensus forecast for employment growth towards the upper end of expectations following the better than expected result for the March 2010 quarter.

We assumed employment growth of 2% in the year to March 2011 and then 3% in the year to March 2012. Figure 6 shows the projected change in participation rates by age group and gender between March 2010 and March 2012. These are not official Department of Labour employment forecasts and were only produced to inform the longer term outlook for participation discussed earlier.

Figure 6: Projected change in participation rates by age group and gender, March 2010 to March 2012



Source: Department of Labour forecasts

For males, all of the 50+ year age groups are forecast to see some increase in participation over the next 2 years. The biggest increase is in the 60–64 years age group, reflecting the historical trend of increased participation.

There is very little overall change in the participation of males aged under 55 years. A small rise in the participation of males aged 15–19 years is forecast but not enough to recover from the dip during the downturn.

The overall forecast for males is that their participation rate will drop by 0.3 percentage points in the year to March 2011, then increase by 0.4 percentage points in the year to March 2012. Therefore, in 2 years, the participation rate is forecast to be roughly where it is now, but this will have been driven by a further slight fall in the participation of younger age groups and an increase in the participation of the older age groups (55+ years).

The forecast for females is generally more positive than for males, reflecting the trend of increased participation for females. This is partly because the generally higher rates for males mean there is less potential for growth.

As with males, there is a forecast of increased participation over the next 2 years for the older age groups (50+ years), but there are also forecast participation increases for young females (15–19 years) and females around their peak child-bearing years (25–34 years). In both cases, this would represent a recovery from falls in 2009.

This forecast suggests participation is likely to stay around its March 2010 level (68.1%) till March 2011 and then increase by 0.5 percentage points in the year to March 2012.

In the short term then, the economic recovery is forecast to lead to a rise in participation. The downward pressure on participation due to population ageing will be felt in the longer term.

Future research

This research has used a simple economic model to project the labour market and economic impacts of the ageing population and some alternative scenarios. However, clearly labour force participation is not homogenous. We have noted, for example, that as participation by older workers and women has increased, average hours have reduced due to the greater incidence of part-time employment. Further research could explore the likelihood that this trend will continue, potentially increasing the downward pressure on the labour supply.

Older workers and migrants bring a different skill set compared to the current labour force. For example immigrants are much more likely to hold degrees than the New Zealand born population. These factors will affect the ability of the economy to raise productivity levels and would be a useful subject for future research.

In addition, the projected labour supply constraints are likely to raise the price of labour relative to that of capital. This could be expected to lead to greater capital investment and enhanced productivity. However, the extent of this potential self-correction is unclear. There was strong capital investment growth leading up to the recession, with little apparent impact on productivity, although this may be a lagged effect.

Conclusions

By OECD standards, New Zealand has a high rate of labour force participation but is below average for labour productivity (GDP per hour worked). Over the last 20 years, New Zealand's economic growth has been supported by an increasing labour force participation rate. This was driven by rising participation for women and older workers.

Over the next 2 years, we expect to see participation rise again, to somewhere near 69%, as the economic recovery draws people back into the labour market. Over the next 20 years, New Zealand's population is projected to get older, with the share of the working-age population (aged 15+ years) who are aged 65+ years increasing from 16% to 25%. This makes it highly likely that the overall participation rate and average hours worked will decline in the long term.

Further increases in participation and hours worked for those aged 65+ years can reduce the effect of population ageing but will not eliminate it.

To maintain the growth in our standard of living (real GDP per person), we will need to accelerate growth in labour productivity and also encourage further increases in the labour force participation of older workers.

Two factors that may support further increases in the participation of older workers are:

- cohorts of more highly educated workers, with a stronger attachment to the labour market, moving through into the older age groups
- an increasing share of work being knowledge intensive, rather than manually intensive, which is beneficial to older workers.

Older workers can be encouraged to stay longer in the labour force by:

- employers offering more flexible working options, including part-time work – this also helps some younger workers, such as those with caregiver responsibilities
- provision of support and training to help them refresh their skills and open up more options for moves into new roles.

Labour productivity can be improved in the long-run by:

- improving the skills and education of the labour force
- improved matching of skills with jobs
- investment in national infrastructure, including transport, energy, communications, education and health services – one current example of this is the Government's national broadband initiative
- economic reforms that reduce business costs
- incentives for businesses to increase their capital investment
- development of businesses with a high value-added component, which is linked to the knowledge economy (highly skilled workers providing high value goods and services).

It is likely that growth in real GDP per person will slow down unless there are very significant gains in labour productivity. The rest of the OECD is in a similar position, however, so New Zealand's relative standard of living will not necessarily drop down the OECD ladder. There is a potential concern over the fact that New Zealand already has relatively high participation rates for older workers aged 65+ years, ranking at 8th out of 30 OECD countries (well ahead of Australia at 14th), which means that other OECD countries have more potential to increase participation in this age group.

Out of the 35 OECD countries for which data on GDP per capita is available, New Zealand is ranked at 25th while Australia is 8th (OECD Statistics 2008). This is despite New Zealand having higher labour force participation

rates than Australia for older workers and more average hours worked per person.

To make inroads on the gap with Australia, New Zealand must improve its productivity. To do this, we will need to maximise the labour force contribution of people at all ages by providing them with the right incentives to work and with the skills and tools to work more productively.

Notes

1. To participate in the labour force, a person must either be working or actively seeking work. The labour force participation rate (LFPR) is the percentage of the working-age population (aged 15+ years) who are in the labour force.

2. Treasury's model uses known or estimated economic results from 2009–2015 and then forecasts out from there based on demographic and economic assumptions. In order to incorporate a range of labour force participation, productivity and population scenarios, we have had to start the forecast in 2009 rather than 2015. In effect, this removes the impact of the recession and recovery, and all economic impacts are the result of the projections and the economic assumptions. The Long-Term Fiscal Model (Jan 2010) is available from: http://www.treasury.govt.nz/government/longterm/fiscalmodel/index.htm.

3. Based on medium assumptions of fertility and mortality. Participation rates are derived from labour force and population projections and differ slightly from those produced by the HLFS (used elsewhere in this report and also from those in the published version of the Long-Term Fiscal Model (which are an amalgam of the two).

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