

What is Growth?

What is sustainable growth?

Describe what the specific policy objectives are.

Policies to promote sustainable growth.

Policy 1.....

Policy 2....

Policy 3....

Explain how three different government policies relate to real GDP growth.

Justify how and why the three policies could achieve the specific policy objectives of Growth throughout the summary, integrating the AS/AD and PPF models into detailed explanations of the short-term direct impacts and long-term flow-on effects of the policies.

You may need to explain in detail why an additional contractionary monetary policy is needed to minimise negative flow-on effects on inflation.

Remember to integrate the money supply and demand diagram and the AS/AD model into the explanation to explain how monetary policy could work to ease inflationary pressure.

**Example**

In 2013, the NZ Transport Agency estimated the **cost** of traffic **congestion** at about \$1.25 billion a year. By 2017, NZIER estimated the value of de-congesting Auckland alone at \$900 million to \$1.3b a year.

**Policy – building more highways and improving NZ roads.**

The government spending more on roading and increasing the number of highways and expressways in NZ will initially cause AD to increase from AD to AD2 as government spending increases + explanation.

**Short – run** Increase in employment as construction of roads occurs – increase in household incomes so increase in consumption as incomes increase also increase in roading firms profits, so AD increases from AD to AD 2 + description on impact on inflation employment etc.

**Long term** – increase in efficiency as congestion decreases, productivity increases, production costs decrease – production increases and employment increases – less inflationary.

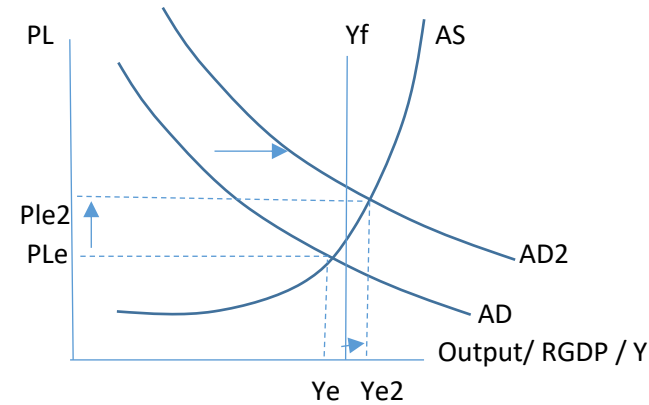
So AS increases from AS to AS2 + description.

Include PPF + explanation of what is happening.

**Impact of policy: Initial impact Increase in AD**

**Growth with Demand Pull Inflation.**

Caused by an increase in AD.



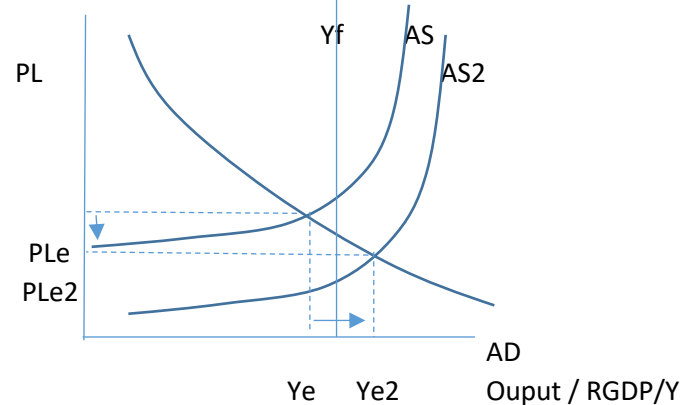
An increase in AD caused by an increase in C – government spending + explanation of this.

Also look at flow on impact – increase in employment so increase in consumption etc....

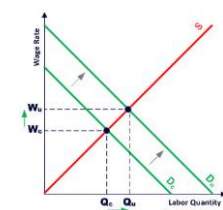
**Impact: Long term impact – increase in AS**

**Increase in productivity and efficiency + decrease in production costs.**

Caused by an increase / shift right in AS.



Initially - Nominal Wages: are likely to rise in response to increase in demand for workers. Cost push inflation

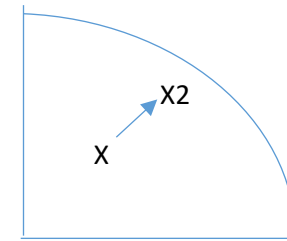


Productivity: rises through improved transportation and falling production costs

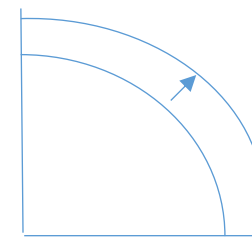
Production Costs: Any factor that causes a change in the cost of production for a large number of firms such as a decrease in the cost of electricity, improved roading etc.

**Impact on PPF.**

**Short Run**



**Long-run**



Initially increase in employment of resources but long term shift of PPF as productivity/efficiency increases.

+ explanation.

**Impact on inflation - initial.**

Price stability is currently defined as keeping the rate of inflation as measured by the CPI between 1 and 3%

Price stability is considered important to try and stop the negative effects of inflation such as

- Inflationary expectations.
- Make it easier for business planning and business confidence.
- help NZ products to remain competitive.
- help make investment by firms more likely.

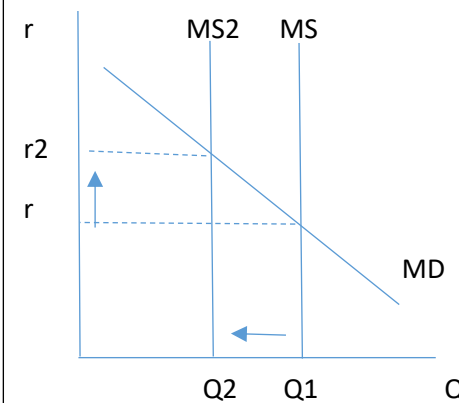
**Influence Of Inflation in NZ**

This done by the RBNZ through two main methods.

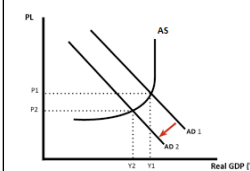
- the OCR (Official Cash Rate)
- OMO (Open Market Operations)

The OCR is the interest rate set by the RBNZ

An increase in the OCR or the selling of Reserve Banks Bonds will influence the Money Supply to decrease.



+ explain diagram and impact of this – then include AS/AD diagram to explain the impact of increase in OCR to reduce inflation.

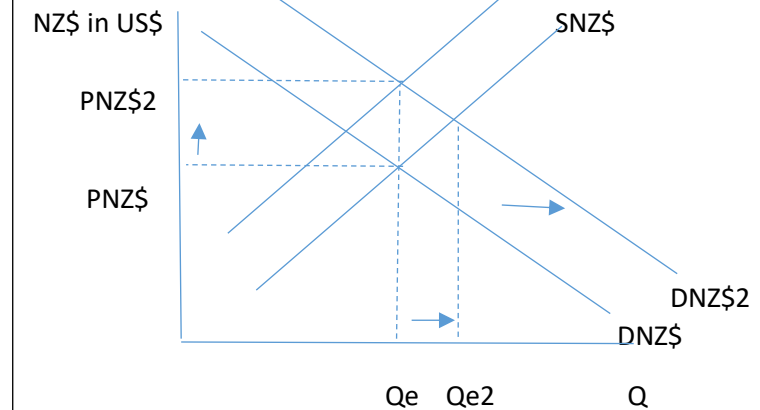


**Impact of increase in OCR on other areas.....**

So ↑OCR → ↑rw → ↑retail interest rates.

So Savings ↑, Borrowing ↓ → Consumption ↓ Investment ↓

Value of NZ\$ ↑



Increase demand and decrease supply NZ\$ + explanation.

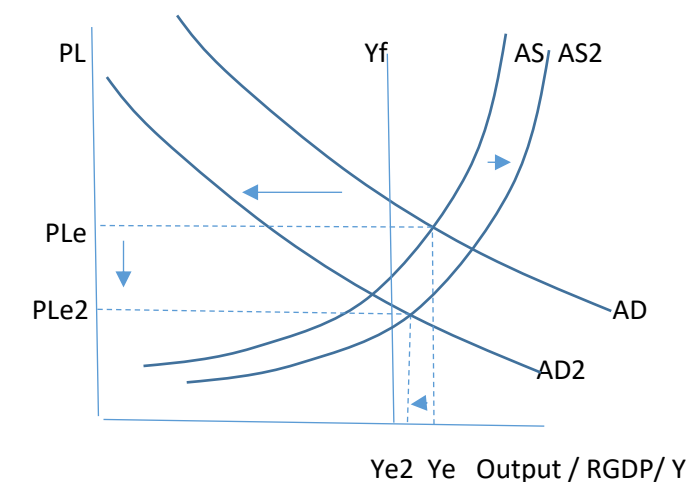
Appreciation of NZ \$ so

Exports (X) decrease.

Imports (M) Increase.

Decrease in Net Exports (X-M)

This causes a decrease in AD and increase AS.



So increase in OCR / Selling Reserve Banks Bills causes AD to fall from AD to AD2 which will cause a decrease in the rate of inflation – reducing the inflation rate from PLe to Ple2

**Negative Impacts**

Fall in exports as NZ products become more expensive.

Increase unemployment.

Decrease growth.

Decrease in investment so no new capital and not replacing old capital.

Inequality may increase.

+ explanation of these.

### Supply side policies:

Supply side economic policies look at ways for the government to shift the Aggregate Supply curve to the right – increasing output and growth but reducing inflationary pressures.

Supply side policy includes any policy that improves an economy's **productive potential** and its ability to produce. There are several individual actions that a government can take to improve supply-side performance.

### Improving productivity of factors

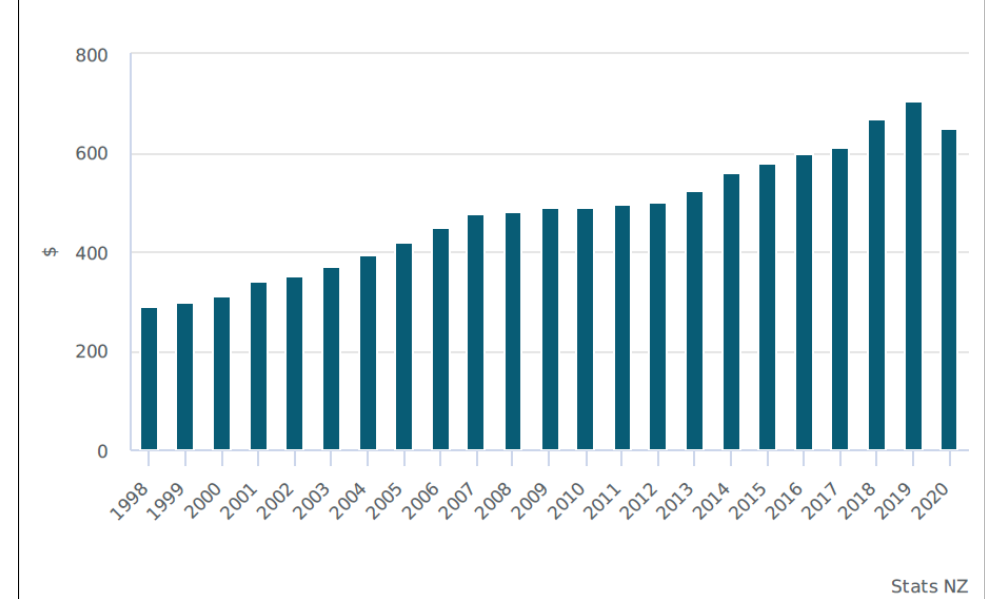
Measures to improve factor productivity, which is the marginal output generated by factors inputs, include the following:

1. Using **the tax system**
2. Government investment in infrastructure such as roading and transport – this will help to increase efficiency and productivity – shifting the AS curve to right. Currently a lot of government funding is being spent on improving the transport network in Auckland.
3. Government investment in UFB – this will help to increase the efficiency of firms, open up new opportunities increasing productivity and firms profits, shifting the AS curve to the right.
4. Better **education** and training to improve skills, flexibility, and mobility – also called human capital development. Spending on education and training is likely to improve labour productivity and is an essential supply-side policy option, and one favoured by recent NZ governments.
5. Other supply-side policies include the promotion of *greater competition in labour markets*, through the removal of restrictive practices, and **labour market rigidities**, such as the protection of employment. For example, as part of supply-side reforms in the 1980s, trade union powers were greatly reduced by a series of measures including limiting worker's ability to call a strike, and by enforcing secret ballots of union members prior to strike action.
6. Measures to improve **labour mobility** will also have a positive effect on labour productivity, and on supply-side performance. This improves labour market **flexibility**.

## Current Situation

Median weekly incomes were lower in the June 2020 quarter than they were a year ago, down 7.6 percent to \$652 a week, in the wake of COVID-19, Stats NZ said today.

Median weekly income from all sources (\$), June quarter, 1998-2020



## GDP

Quarterly growth

**-1.6%**

March 2020 quarter  
Annual growth

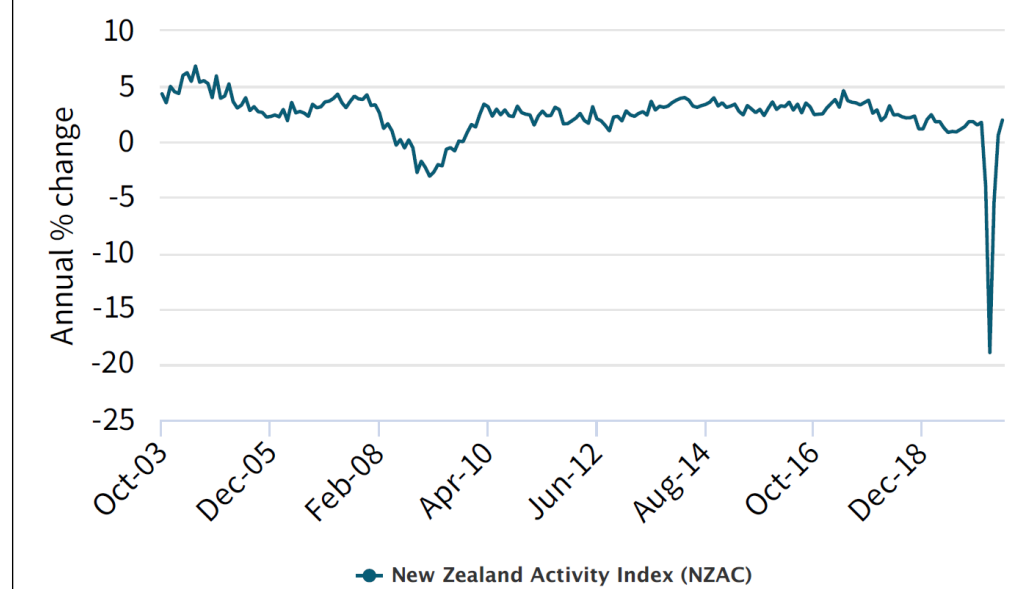
**+1.5%**

March 2020 year  
Size of the economy in current prices

**\$314 billion**

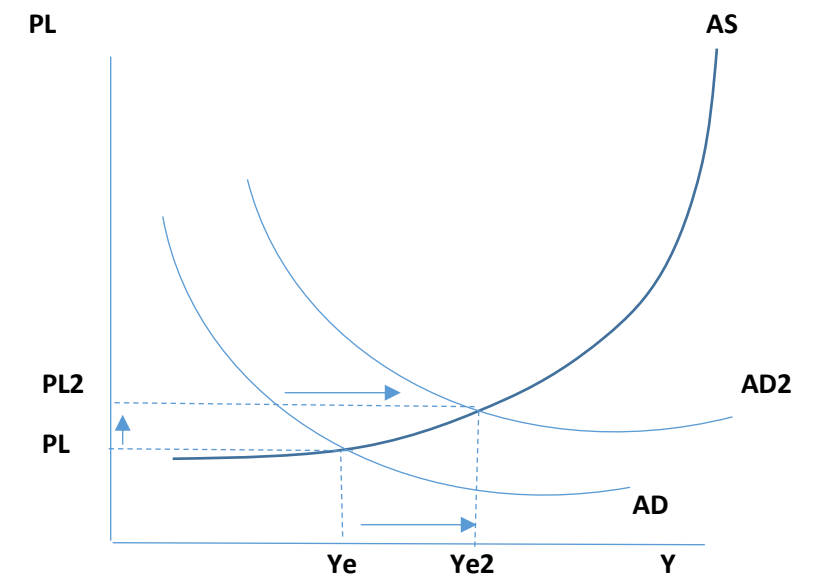
March 2020 year

New Zealand Activity Index – monthly

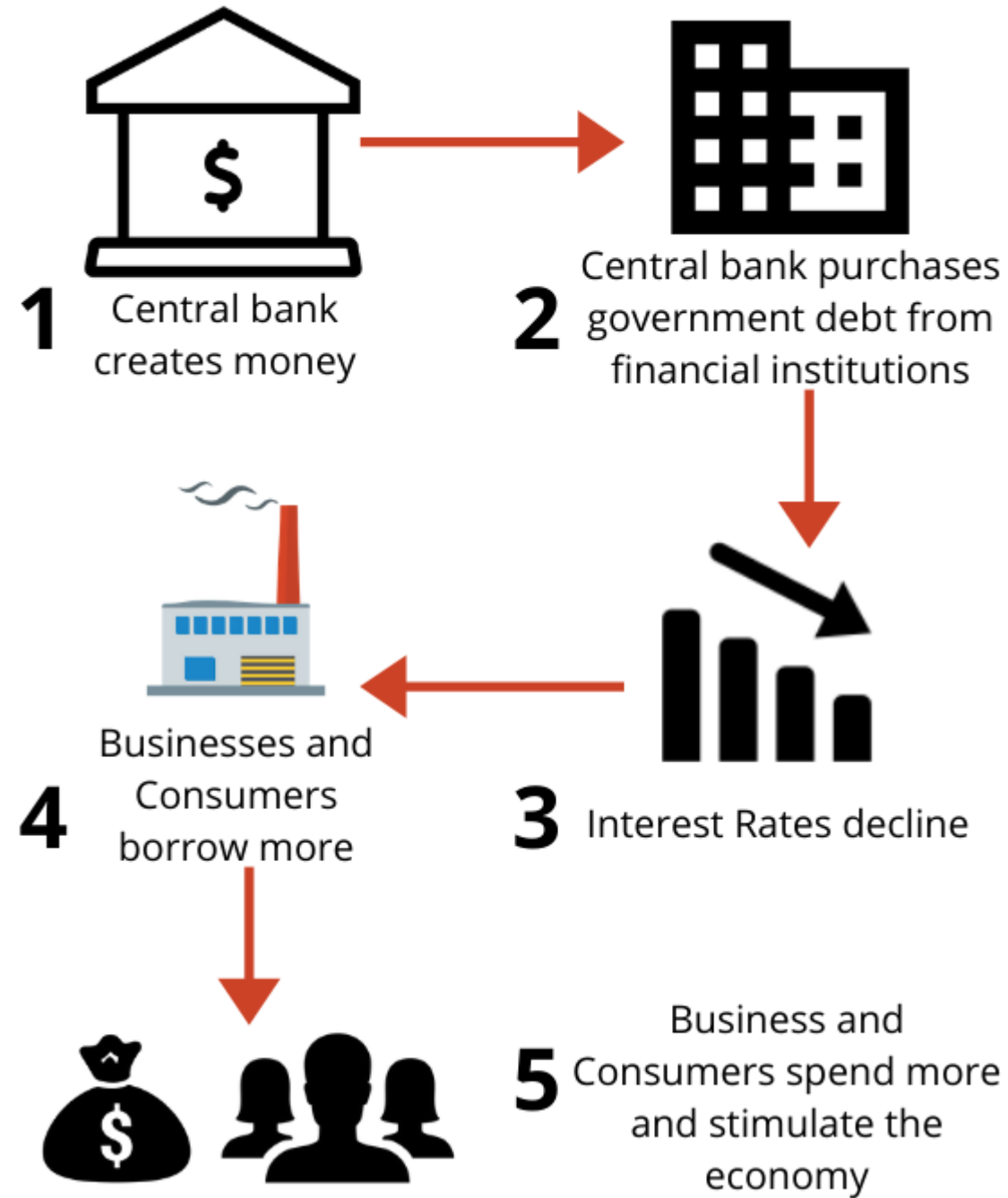


- 1) Card transaction spend - A modified version of this series has been utilised in the compilation of the NZAC.
- 2) Electricity grid demand - A comparable indicator based on electricity generation has been utilised in the compilation of the NZAC.
- 3) New jobs posted online - A modified version of this series has been utilised in the compilation of the NZAC.

So due to the corona virus – impact of any growth policies may not be so inflationary.

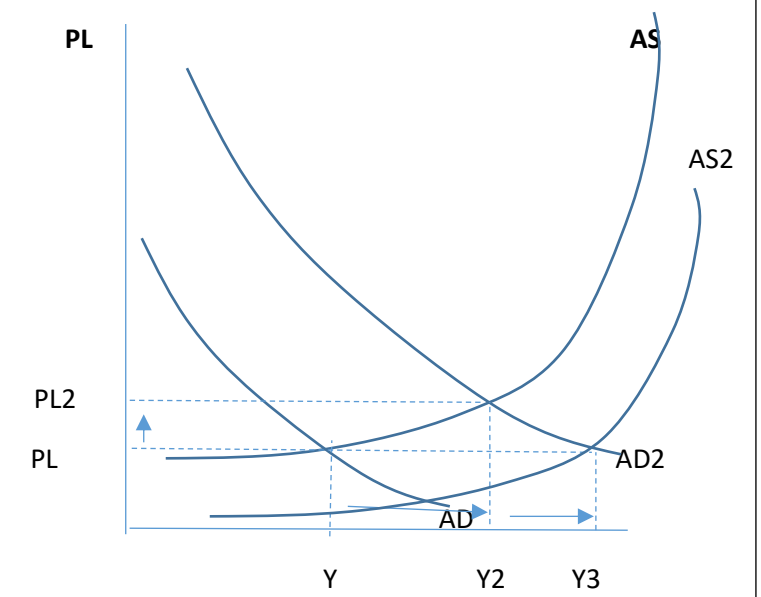
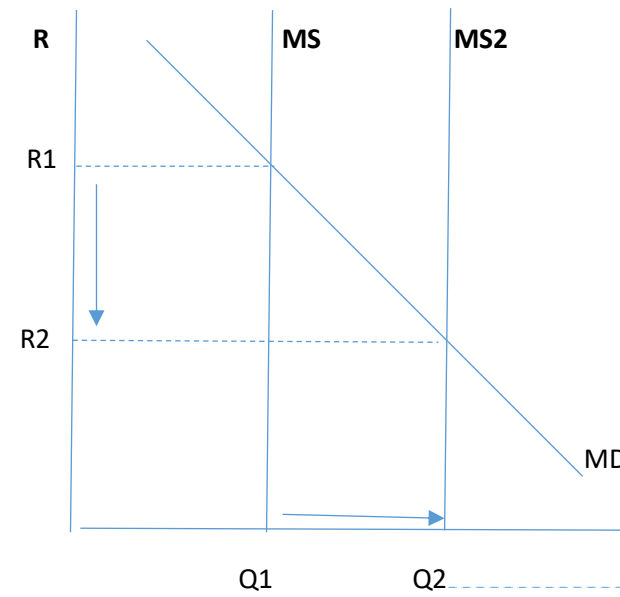


# Quantitative Easing.

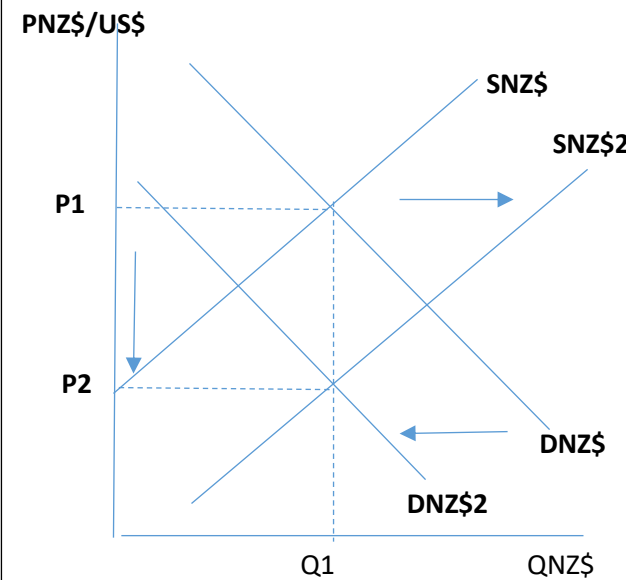


So the Reserve Bank of NZ prints money and then uses that money to buy Government Bonds.

This increases the amount to money in the economy.



## FOREIGN EXCHANGE MARKET



Quantitative easing will cause an increase in the money supply from MS to MS2.

This will cause interest rates to decrease from R1 to R2.

The decrease in interest rates will cause an increase in AD from AD to AD2, because both firms and consumers will borrow more money for investment and consumer spending.

Because the economy is in recession, AD can increase without much impact on inflation, so output (growth) increases from Y to Y2 but the price level (inflation) increases a small amount from PL to PL2.

Due to the increase in investment – AS may increase in the future from AS to AS2 as efficiency and productivity increase cause a further increase in output from Y2 to Y3.

Because of the decrease in interest rates the demand for the NZ\$ decreases and the supply of the NZ\$ increases causing a decrease (depreciation) of the exchange rate.

This will cause an increase in demand for NZ exports causing AD to increase further.

This may have a negative impact on AS as the cost of imported raw materials (oil) increases causing an increase in the cost of production.

However due to the impact of the corona virus – world demand for oil and other raw materials are low so prices may not increase.

## **Medium-term Outlook from June 2017 to 2020**

### **Growth increases in 2018 before declining later in the forecast...**

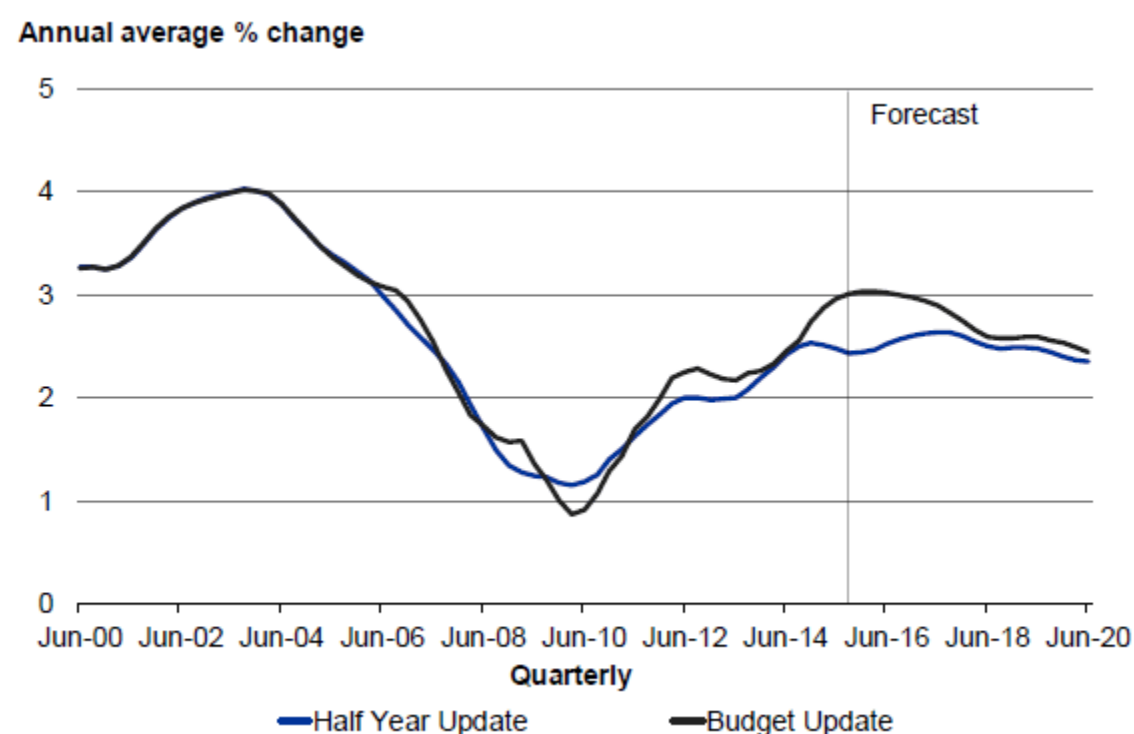
June year annual average real GDP growth is forecast to lift from 2.9% in 2017 to 3.2% in 2018, and then decline to 2.8% in 2019 and 2.5% in 2020. Key drivers of growth are expected to steadily return to their long-run average levels. Growth in goods exports is forecast to pick up in the 2018 June year owing to a recovery in soft commodity prices as trading partner growth gains traction and dairy supply growth slows. Rising terms of trade are expected to support business investment growth, while previous high population growth boosts residential investment growth. However, the decline in net migration from previously elevated levels and softening real income growth in 2017 are expected to lead to slower private consumption growth, while real public consumption growth

moderates as inflation rises and growth in government spending slows. The slowdown in GDP growth over the last two years of the forecast reflects lower net migration inflows, a steady rise in interest rates and the levelling-off in the terms of trade after a period of increases.

Annual growth in the labour force is expected to slow from 1.9% in June 2017 to 1.1% by June 2020. A relatively solid outlook for GDP growth is expected to support employment growth, which encourages people to seek work, and the participation rate is projected to rise from 68.4% in the June quarter 2017 to 68.9% in June 2019.

The economy's potential growth rate is expected to be high over the first half of the forecast period (Figure 1.10), owing to historically high population growth boosted by net migration inflows. Potential growth is expected to fall in annual average terms from 2.9% in June 2017 to 2.4% by the end of the forecast period, as net migration inflows taper off. Potential growth has been revised up across the forecast period from the *Half Year Update* (Figure 1.10), owing to a higher projection for population growth.

**Figure 1.10 - Potential growth**



Source: Statistics New Zealand, the Treasury

### ...as export prices recover as a result of adjustment in global supply and demand...

The goods terms of trade are expected to recover following a forecast pick-up in late 2016, driven by commodity export prices rising from a low level. An anticipated slowdown in global supply growth is a key driver for some commodities, including dairy, lamb and forestry, alongside broad-based higher demand as world growth regains momentum. Accommodative monetary conditions are expected to support the recovery in advanced economies, while higher commodity export prices lift growth in emerging economies.

Dairy prices are projected to increase steadily towards their assumed long-run average level of around US\$3,400/mt by June 2018. On the other hand, rising import prices over the forecast period, as crude oil prices rise from a low level, will be a partial offset to the strengthening export prices. Oil prices are assumed to trend incrementally higher to reach US\$63/barrel by June 2020. Owing to a continued rise in import prices, the terms of trade are expected to ease again after 2018 following a recovery.

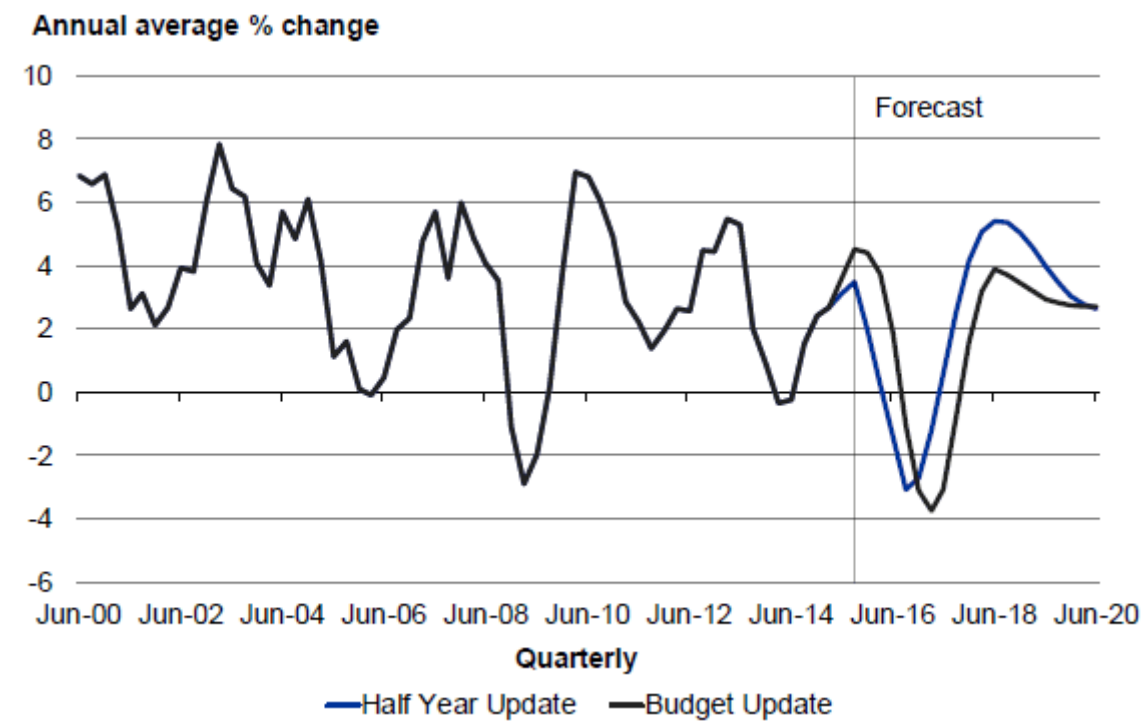
### ...leading to a pick-up in commodity exports...

Goods exports are expected to rebound strongly in 2017 (Figure 1.11). Agricultural production is expected to recover in the 2016/17 season, as rising dairy prices stabilise milk production and meat production normalises. The assumed depreciation of the New Zealand dollar over 2016 is also expected to support exports from the middle of 2017. Rising exports growth is



expected to be sustained into 2018 before moderating. Services exports are projected to grow steadily over the forecast period, on the back of travel services exports (chiefly tourism), supported by solid income growth in the source countries of tourist arrivals to New Zealand.

**Figure 1.11 - Real goods exports**

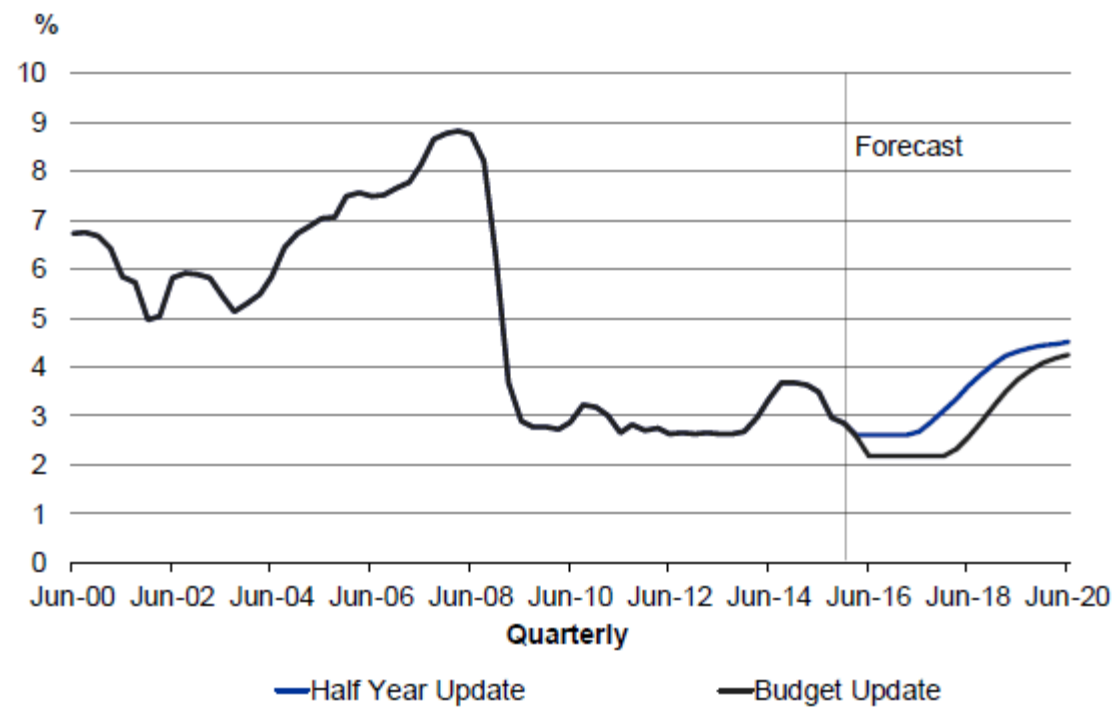


Source: Statistics New Zealand, the Treasury

### ...and monetary policy is expected to remain accommodative...

After remaining at low levels in 2016 and 2017, short-term interest rates are assumed to gradually rise to 4.2% by June 2020 (Figure 1.12), still below their assumed long-run level of 4.5%, as monetary policy is tightened in New Zealand in response to higher inflation. However, short-term interest rates are expected to be lower than in the *Half Year Update* over the forecast period, owing to the OCR reduction in March and one additional reduction this year. Long-term interest rates are expected to rise from late 2017, to 4.4% by June 2020, as monetary policy is expected to be tightened in New Zealand and the US. However, the long-term interest rate forecast has been revised lower, as the US Federal Reserve slowed its anticipated pace of policy tightening in early 2016 from its previous projections.

**Figure 1.12 - 90-day interest rates**



Source: Reserve Bank, the Treasury

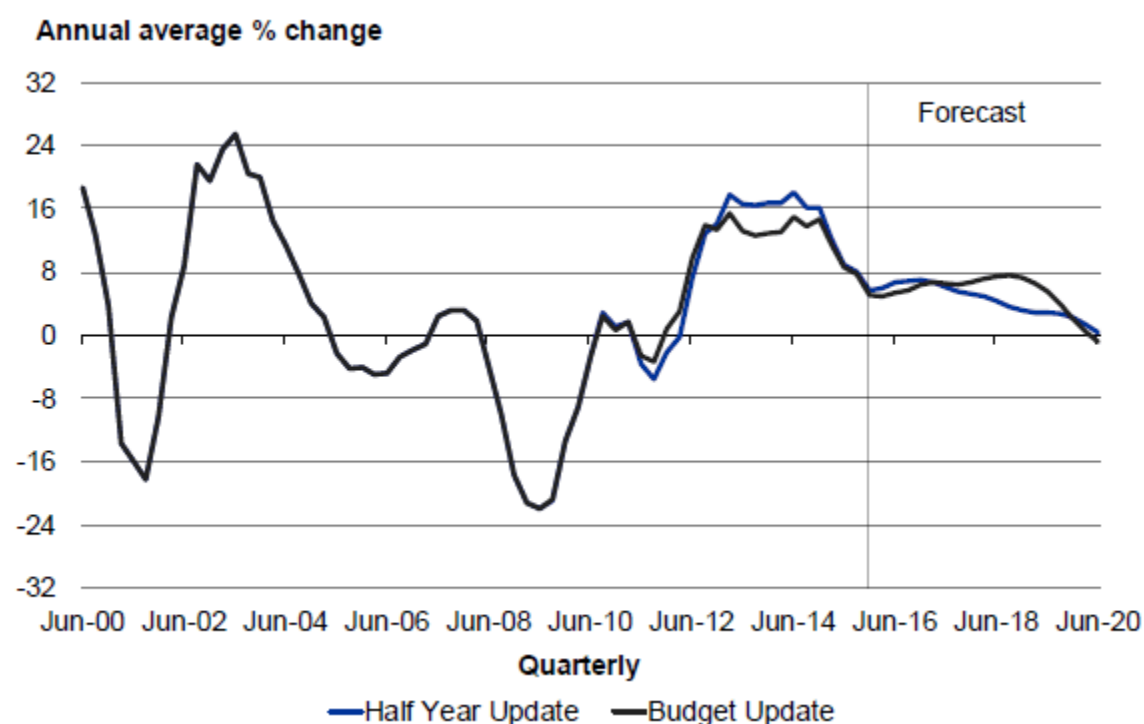
### ...together supporting investment growth...

Annual average growth in market investment is expected to begin to rise in late 2016, to 6.4% in 2017 and 7.3% in 2018. The pick-up partly reflects increased capital spending by farmers after several seasons of deferred investment and maintenance, and is supported by low interest rates and a recovery in farm incomes. Low interest rates are also expected to support business investment in other industries. The commercial and public sector elements of the Canterbury rebuild will also increase market and non-market investment respectively. However, non-market investment growth is expected to fall after the middle of 2017, reflecting the assumption of lower capital spending than the previous year and the relatively low dollar value of public infrastructure construction projects commencing over the next two years. See the Fiscal Outlook chapter for details on the capital allowance.

### ...including residential investment

House prices are expected to remain elevated in many parts of the country, particularly Auckland, after strong growth in 2016 and 2017, reflecting limits in the housing supply response to growth in housing demand. High house prices continue to underpin strong residential investment growth in the second half of 2017 and in 2018, but residential investment growth is expected to slow from 2019 (Figure 1.13), as declines in net migration inflows and higher interest rates lead to slower growth in housing demand.

**Figure 1.13 - Residential investment**



Source: Statistics New Zealand, the Treasury

## Positive domestic drivers more than offset declining net migration inflows

Net migration is projected to decline from its forecast peak of 70,700 in the middle of 2016, and return to its assumed long-run level of 12,000 per year in 2019, leading population growth to fall from 2.0% in 2016 to 0.9% in 2019. Reflecting slower population growth and rising interest rates, private consumption growth slows to 2.9% in 2017 and 2.5% in 2018, from 3.5% in 2016, and continues to ease for the rest of the forecast period. Real income growth is expected to slow as inflation picks up, and households are assumed to lower their saving rates to buffer reduced incomes and smooth their consumption to an extent.

Real public consumption growth begins to slow slightly in the second half of 2017 as inflation is expected to rise and growth in nominal government spending slows. The fiscal impulse is expected to be mildly contractionary in the last three years of the forecast, and to be broadly neutral over the period as a whole. See the Structural balance indicators box on page 38 for details on how discretionary changes in the fiscal position impact the economy.

## Relatively low productivity growth...

Growth in labour productivity over the forecast period is projected to average 1% per year, slightly below its historical average. Below-average labour productivity growth reflects firms using a high proportion of labour in their input mix as growth is expected to be driven by the relatively labour-intensive industries. Below-trend labour productivity growth is expected to contribute to slowing growth in the productive capacity of the economy and to higher inflation. While per capita GDP growth is expected to pick up from 2017, it is forecast to decline again after mid-2019 as growth in labour productivity slows. (The box on page 24 examines in detail the relationship between labour productivity and per capita GDP.)

## ...contributes to a reduction in spare capacity in the economy...

The degree of spare capacity in the economy is expected to fall over the medium term, as growth in the labour force slows and labour productivity growth remains relatively subdued. The negative output gap, a measure of this spare capacity, narrows through 2017 and 2018, before closing fully in early 2019. This is reflected in a decline in the unemployment rate to 5.1% in June 2018 and 4.6% in June 2019, from a peak of 5.7% in 2016, as growth in the labour force falls below employment growth.



## Population growth and GDP per capita

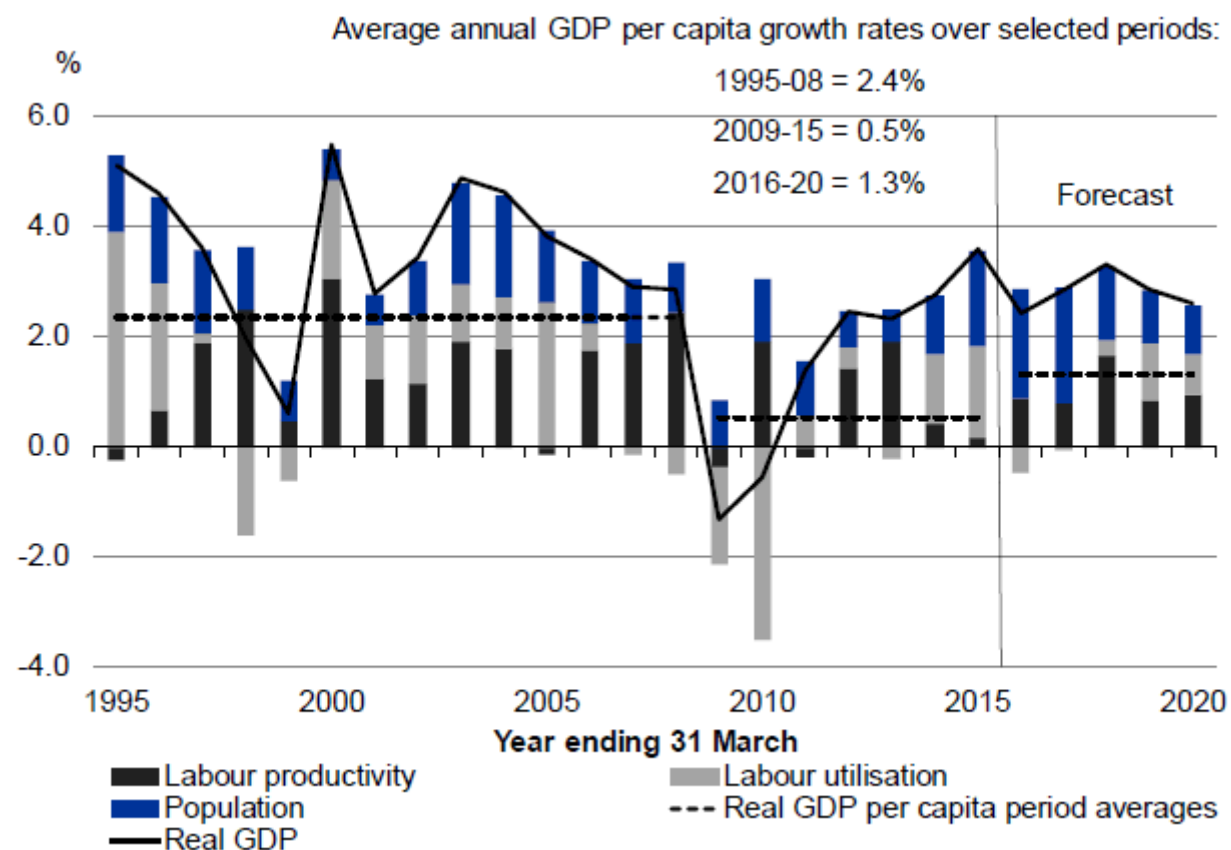
The population is growing at its fastest pace in over 40 years. To employ a growing population and maintain incomes requires the total size of the economy to keep increasing. Growth in the total size of the economy is positive for nominal GDP and for tax revenue. However, growth in average income (or output) per person (ie, GDP per capita) is what matters for achieving higher material living standards. This box discusses the outlook for GDP per capita and the implications of revisions in the assumptions underpinning the outlook.

GDP growth can be divided into contributions from population growth and growth in GDP per capita. Growth in GDP per capita can be further decomposed into contributions from labour productivity (output per hour worked) and labour utilisation (average hours worked per person).

Increases in labour utilisation come from three main sources: growth in the share of the working-age population in the total population; increases in the proportion of the working-age population in employment (the employment rate); and increases in the average hours worked per employee.

Figure 1.15 shows that real GDP growth is forecast to be around 2.8%, similar to the average growth rate over the 1995-2015 period. It also shows that, over the forecast period, the contribution from population growth (1.5 percentage points per year) is higher than usual (1.1 percentage points per year), reflecting the strength of the current migration cycle. The corollary is that, over the forecast period the contribution from growth in real GDP per capita, of 1.3 percentage points per year, is below its 1995-2015 average of 1.8 percentage points per year, and its 1995-2008 average of 2.4 percentage points per year. However, the contribution from per capita growth is forecast to be higher than the post-2008 average of 0.5%.

**Figure 1.15 - Contributions to GDP growth**



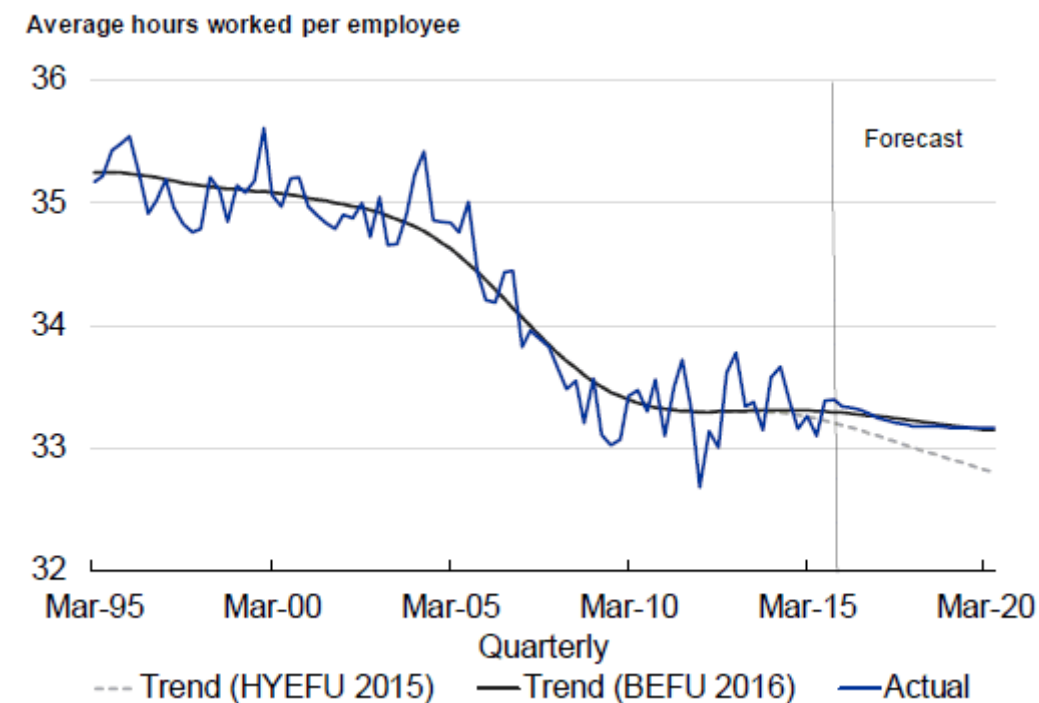
Source: Statistics New Zealand, the Treasury

Much of the forecast increase in average per capita GDP growth reflects the reversal of the large fall in labour utilisation that occurred in 2009 and 2010. Excluding this fall, GDP per capita grew at an average rate of 1.5% per year over 2011-2015. Prior to the fall in labour utilisation, the employment rate had been trending up, from around 60% of the working-age population in 1995 to a peak of 66% in 2008, and was the major contributor to increasing labour utilisation. Over this pre-2008 period, increases in labour utilisation contributed around 0.9 percentage

points to the average GDP per capita growth rate of 2.4%; increases in labour productivity provided the balance. The employment rate fell to 63.5% in 2010 and remained around this rate until 2013 and subsequently increased to 65.1% in the March 2016 quarter. The employment rate is forecast to rise to 66% by the end of the period, contributing around 0.2% per year to growth in GDP per capita.

In contrast, average hours worked per person have trended down over much of the past 20 years, although they have been more stable in recent years (Figure 1.16). Reflecting this stabilisation, the Treasury has revised up its assumption of average hours worked per employee over the forecast period. By the end of the forecast period average hours worked per employee are around 1.0% higher than previously assumed, which flows through to increases in the Treasury's estimate of the productive capacity (or potential output) of the economy.

**Figure 1.16 - Trends in average hours worked**



Source: Statistics New Zealand, the Treasury

Partly offsetting the impact of increased average hours of work, growth in labour productivity is assumed to be lower than previously. This reflects both the strength of recent employment growth and the expected sources of growth underpinning the outlook. In particular, growth in construction, retail trade and accommodation, and other tourism-related sectors, which are expected to support growth, are relatively labour-intensive and tend to have relatively low levels of productivity. Labour productivity growth contributes around 1.0 percentage point per year to growth in GDP per capita over the forecast period, compared to a contribution of 1.2 percentage points over the 20 years from 1995 to 2015.

The net impact of the increase in average hours worked and slower labour productivity growth is a slight reduction in GDP per capita growth to 1.3% per year from 1.4% per year in the *Half Year Update*.