

The Treasury

Budget 2017 Information Release

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In preparing this Information Release, the Treasury has considered the public interest considerations in section 9(1) and section 18 of the Official Information Act.

Treasury Report: Budget 2017 Preliminary Economic and Tax Forecasts

Date:	3 March 2017	Report No:	T2017/381
		File Number:	BM-3-6-1

Action Sought

	Action Sought	Deadline
Minister of Finance (Hon Steven Joyce)	Note the Treasury's preliminary Budget economic and tax revenue forecasts	Fiscal Issues meeting, 5.00pm Tuesday 7 March
Associate Minister of Finance (Hon Simon Bridges)	Note the Treasury's preliminary Budget economic and tax revenue forecasts	Fiscal Issues meeting, 5.00pm Tuesday 7 March
Associate Minister of Finance (Hon Amy Adams)	Note the Treasury's preliminary Budget economic and tax revenue forecasts	Fiscal Issues meeting, 5.00pm Tuesday 7 March

Contact for Telephone Discussion (if required)

Name	Position		Telephone	1st Contact
Phillip Mellor	Senior Analyst, Forecasting	[39]	N/A (mob)	✓
Angela Mellish	Manager, Forecasting		[23]	

Actions for the Minister's Office Staff (if required)

Return the signed report to Treasury.
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Note any feedback on the quality of the report

Enclosure: No

Treasury Report: Budget 2017 Preliminary Economic and Tax Forecasts

Executive Summary

This report informs you of the Treasury's preliminary economic and tax revenue forecasts, the judgements underpinning them, and the risks around them. These forecasts, alongside preliminary fiscal forecasts due to be communicated to you on 28 March, will form the basis of fiscal policy advice you will receive on 31 March.

Economic outlook

Faster economic growth is forecast than in the Half Year Update, driven by population growth. GDP per capita growth averages 1.4%, the same as in the Half Year Update.

The latest data show GDP increased by 3.0% in the year to September and partial indicators suggest this momentum has persisted into 2017. Employment growth has kept pace with the rapid expansion of the labour force and the unemployment rate has changed little over the year. There remains some degree of spare capacity in the labour market, which is reflected in subdued wage and price inflation. However, there are some pockets of price pressure, most notably in construction, that is leading to a gradual increase in core inflation pressures, which we expect to rise to around 2% over the next year.

The main economic drivers remain broadly similar to the Half Year Update, with migration inflows, construction, exports (particularly tourism) and low interest rates expected to underpin an acceleration in growth to 4.1% in early 2018 (Table 1). Growth remains above 3.5% until the middle of 2019 before easing to 2.5% in 2021 as a number of tailwinds in the economy subside, including net migration flows coming off their peak, interest rates lifting from late 2018, slowing growth in construction as the existing pipeline is completed, and the using up of spare capacity in the economy. The current account deficit is forecast to widen as higher oil prices and higher global interest rates lead to a deterioration in the trade and income balances respectively, but it remains below 4% of GDP.

Higher levels of economic activity and higher terms of trade support nominal GDP, which is cumulatively \$24 billion higher across the five years to June 2021. Some of this increase reflects historical revisions to GDP; allowing for this the net change compared to the Half Year Update is closer to \$17 billion. The net change is the main driver of revisions to the tax forecasts.

While the growth outlook in New Zealand's key trading partners remains broadly similar, uncertainties around the outlook have increased. Growth has slowed in Australia but this has been offset by faster growth in other advanced economies, notably in the US where we have followed IMF and *Consensus* and revised growth higher on expected fiscal stimulus. However, trading partner growth in 2017 and beyond is little changed overall, primarily reflecting the impacts from slower growth in Australia over 2016 and 2017. In many countries, previous downward pressure on inflation has given way to upward pressure, partly a reflection of energy prices. There is some suggestion that higher headline rates are impacting on core inflation, but it is too early to say whether this will be sustained in light of continued moderate growth and spare capacity.

Table 1: Economic and tax forecast summary (refer to appendix for further details)

June years		2016	2017	2018	2019	2020	2021	5-year totals
		Actual	Forecast	Forecast	Forecast	Forecast	Forecast	
Economic growth ¹	HYEFU16	2.8	3.6	3.5	2.9	2.4	2.3	
	BEFU17	2.7 (R)	3.7	4.1	3.5	2.4	2.0	
Unemployment rate ²	HYEFU16	5.0	4.8	4.6	4.2	4.3	4.3	
	BEFU17	5.0	5.1	4.9	4.4	4.3	4.3	
CPI inflation ³	HYEFU16	0.4	1.5	2.0	2.1	2.0	2.1	
	BEFU17	0.4	1.7	1.5	2.1	2.2	2.1	
Current account balance ⁴	HYEFU16	-2.9	-3.0	-3.8	-4.1	-4.4	-4.4	
	BEFU17	-2.9 (R)	-2.6	-3.0	-3.4	-3.8	-3.9	
Nominal GDP ⁵	HYEFU16	4.2	5.2	5.6	5.0	4.1	3.9	
	BEFU17	4.2 (R)	6.0	5.5	5.5	4.4	3.6	
Nominal GDP (\$billions)	HYEFU16	251.8	264.8	279.5	293.4	305.5	317.4	
	BEFU17	253.1 (R)	268.2	282.9	298.5	311.8	323.0	
	change	1.3	3.4	3.4	5.1	6.3	5.6	23.8
Tax revenue (\$billions)	HYEFU16	70.4	74.2	78.0	82.0	85.8	89.9	
	BEFU17	70.4	74.8	78.6	83.3	87.4	91.2	
	change	0.0	0.6	0.6	1.3	1.6	1.3	5.4

R - revised 1. Production GDP, annual average % change 2. June quarter 3. Annual % change 4. Annual as % of GDP
5. Expenditure measure

Implications for tax revenue

In total, across the five June years 2017 to 2021 inclusive, core Crown tax forecasts have been increased by \$5.4 billion compared to the Half Year Update. The main influence on the tax forecasts is macroeconomic, i.e. the tax forecasts have moved upwards in line with nominal GDP forecasts. There have also been upwards movements from the impact of interest rates on interest RWT and timing effects related to corporate tax, other persons tax and source deductions. These are partly offset by a smaller fiscal drag contribution than in the Half Year Update.

Implications for the Fiscal Strategy

The degree to which fiscal forecast improve will depend not only on these upgrades to tax revenue forecasts but also changes to expenditure forecasts. Whilst higher population feeds through into tax forecasts, it does not automatically feed through into higher expenditure, except in the case of a handful of items e.g. benefits payments and some education spending. We have previously estimated how higher migration feeds through into higher spending in the social sector, which suggested that migrants have a positive impact on net debt but there is significant uncertainty as to the impact. Therefore, it may be prudent to limit any tax cuts or spending increases that do not directly address higher population, so as to reserve some fiscal headroom should pressures materialise. We will provide some tax and expenditure scenarios to illustrate what can be achieved within the fiscal headroom implied by these forecasts.

Risks and uncertainties

The outlook for the international economy remains a key area of forecast uncertainty. Considerable uncertainty remains around the economic, trade and fiscal policies of the new US administration, which could have positive or negative impacts on global growth, inflation, trade and monetary policy. Political uncertainty remains high in Europe, with the implications of Brexit still unclear and elections scheduled in France, Germany and the Netherlands. The extent of the potential impacts from these uncertainties and the precise channels through which they might impact on New Zealand are difficult to ascertain at this time. Consequently we treat these as risks to the central forecast and caution that the domestic economic and tax outlook could significantly alter should these risks materialise.

Closer to home, income and consumption growth has slowed in Australia, which could influence trade and people flows with New Zealand if the slowdown persists. China remains at risk of a potential disorderly period of economic and financial market adjustment due to high levels of debt and excess industrial capacity.

Domestic risks are more balanced and are closely linked to a number of key forecast judgements. The scale of net migration inflows and how they impact on the economy pose both upside and downside risk. Household behaviour could differ from the balanced saving path we have assumed, which could increase or decrease consumption growth and potentially impact on monetary policy. If construction capacity is more of a constraint than assumed, this may increase construction cost pressures faster than expected and/or result in a construction cycle with a lower peak but longer length.

Next steps

Treasury's Forecasting team will meet with analysts at MBIE and the Reserve Bank in early March to discuss these forecasts. This will be followed by business talks in mid-March where we will refine our sector specific narrative. The Treasury's fiscal strategy advice will be provided to you on 31 March. The Budget economic forecasts will be updated in April with relevant Budget decisions, economic data and any other new information available, and finalised on 18 April 2017. Tax forecasts will be finalised on 21 April.

Recommended Action

We recommend that you **note** the Treasury's preliminary economic and tax forecasts.

Angela Mellish
Manager, Forecasting

Steven Joyce
Minister of Finance

Purpose of Report

1. This report informs you of the Treasury's preliminary economic and tax revenue forecasts and the risks around them. These forecasts, alongside preliminary fiscal forecasts due to be communicated to you on 28 March, will form the basis of fiscal policy advice you will receive on 31 March. The Budget economic forecasts will be updated in April for relevant Budget decisions, economic data and any other new information, and finalised on 18 April 2017. Tax forecasts will be finalised on 21 April.¹
2. This report includes:
 - a A discussion of international developments and an update on the international outlook;
 - b A discussion of domestic developments;
 - c A discussion on the key forecast judgements we have made, further to what we previously communicated to you (see Treasury Report T2017/120). These judgements have been tested with an external panel;
 - d The economic outlook;
 - e Tax revenue forecasts;
 - f A discussion on the risks and uncertainties related to the forecasts; and
 - g Summary tables of key economic variables.

Economic Outlook

3. Faster economic growth is forecast than in the Half Year Update, driven by population growth. GDP per capita growth averages 1.4%, the same as in the Half Year Update. The global economic growth outlook is broadly similar but set against a background of increased uncertainty.

International developments and outlook

4. Growth in New Zealand's major trading partners over 2016 was generally better than previously anticipated, particularly in advanced economies. However, this was offset by slower growth in Australia. In many countries, previous downward pressure on inflation has given way to upward pressure, partly a reflection of energy prices. There is some suggestion that higher headline rates are impacting on core inflation, but it is too early to say whether this will be sustained in light of continued moderate growth and spare capacity.

¹ Our ability to incorporate fiscal policy decisions after this time is constrained and will depend on the nature and scale of any changes.

5. A significant repricing of assets occurred following the US Presidential election, consistent with an improved outlook for advanced economies. Bond yields increased markedly, equities rose and the US dollar appreciated as markets priced in the prospect of reduced regulation (particularly in the financial sector), corporate and personal tax cuts, increased infrastructure spending and higher inflation.
6. Improved performance over the second half of 2016 is expected to be sustained over 2017. However, trading partner growth in 2017 and beyond is little changed overall (Table 2), primarily reflecting the impacts from slower growth in Australia over 2016 and 2017. That said, uncertainty has increased around the global economic outlook – see the Risks and Uncertainties section for further details. If some of these uncertainties materialise they could have significant impacts on the global outlook with consequent flow-on effects to New Zealand through trade and financial channels.

Table 2: Trading partner growth (year ended December, annual average % change)

	2015 (actual)	2016	2017	2018	2019	2020	2021
BEFU17	3.6	3.3	3.4	3.6	3.6	3.6	3.6
HYEFU16	3.6	3.4	3.4	3.6	3.6	3.6	3.6

7. Growth in Australia slowed over 2016 as the economy continued to transition away from mining investment towards other sources of growth. The extent of the slowdown has been exacerbated by weakness in the September quarter, which reflected some temporary factors. Year-ended growth is expected to increase over 2017, but to remain below potential. Growth in activity is expected to be supported by dwelling investment, public investment and increased export volumes, including tourism. The outlook for growth in household incomes and consumption remains subdued. The unemployment rate is expected to be broadly stable around 5.8% and wage growth is expected to remain low. The Reserve Bank of Australia remains concerned about low levels of inflation, with the drivers unlikely to dissipate soon. Beyond 2017, growth continues to recover as mining investment is no longer a drag on growth and low interest rates continue to provide support.
8. In the major advanced economies, growth strengthened over the second half of 2016 and is running at or above potential in the US, euro area, Japan and the UK. This is expected to continue over the forecast horizon, which should reduce spare capacity. Unemployment rates have declined substantially in these economies and, with the exception of the euro area, are similar to their pre-GFC levels. Monetary policy stimulus is expected to continue, and fiscal policy is expected to become less of a drag on growth. In the US, a significant fiscal stimulus is anticipated in late 2017/early 2018. Brexit has not had a material effect on the UK economy so far but remains a significant source of uncertainty given the timing and nature of exit remains unclear.
9. Economic growth in China picked up in mid-2016 supported by fiscal stimulus and more accommodating financial conditions. Growth over the first half of 2017 is expected to receive support from the authorities in anticipation of the 19th National Congress of the Chinese Communist Party in the second half of the year. Growth in 2017 is revised to 6.5%, from 6.3% in the Half Year Update, but continues to trend lower over the forecast horizon, offsetting stronger growth in the advanced economies.
10. Developments in China continue to influence outcomes in other East Asian economies, which account for over 20% (excluding Japan) of New Zealand's exports. Growth in these trade-exposed countries rose over the end of 2016 and is expected to rise a little further, supported by increased global trade and ongoing monetary and fiscal stimulus.

Domestic developments

11. Recent domestic data show that growth in aggregate economic activity in New Zealand remained strong over the second half of 2016. Annual average GDP growth was 3.0% in September and partial indicators suggest this momentum will persist into the December quarter and early 2017.
12. Growth is being underpinned by ongoing high levels of net migration, a solid pipeline of construction projects, and low interest rates, which is expected to drive growth in construction and household consumption. Growing numbers of overseas visitors have driven growth in tourism and export services with numbers likely to remain high in 2017, particularly with the Lions tour later in the year.
13. The September quarter GDP release included significant revisions to earlier data as updated annual benchmarks were incorporated. In addition to affecting growth rates, these revisions change the level of nominal GDP and lower the tax-to-GDP ratio to 27.8% in the 2015/16 fiscal year, from 28.0% previously. Comparisons of nominal GDP to previous forecasts need to bear in mind this \$1.3 billion “base effect”.
14. Net migration flows have continued to strengthen, reaching 71,300 in the year to January, with this strength likely to persist through 2017, reflecting a continuation of a growth in the economy as well as international events which continue to make New Zealand a relatively attractive destination. The outlook for migration remains a key influence on the outlook for the New Zealand economy and we have revised up our assumption, although considerable uncertainty remains particularly in the latter part of the forecast period (see Key Judgements section for further details).
15. Both high net migration and a record participation rate has led to rapid growth in the labour force. Solid employment growth has largely absorbed this labour force growth with the unemployment rate fairly constant over the past year at around 5% (5.2% in the December quarter). Definitional changes made to the Household Labour Force Survey continue to affect annual changes in employment and we consider that growth in the QES measure of employment, at a little above 3%, is more reflective of actual conditions than the 5.8% growth in the HLFS measure.
16. Annual inflation increased to 1.3% in December from 0.4% in September as previous petrol price declines fell out of the annual inflation calculation, broadly in line with the 1.2% Half Year Update forecast. Inflation is now within the 1% to 3% target range for the first time since 2014. Most measures of core inflation and surveys of business pricing intentions show emerging signs of price pressures. Subdued inflation to date, along with relatively balanced expansions in labour supply and demand have resulted in relatively weak nominal wage growth, with annual growth in average hourly ordinary time earnings easing to 1.3% in December. A continuation of subdued price growth is consistent with our view of the existence of remaining spare capacity in the economy, even if there are greater pressures in some industries. We estimate that the economy is currently operating around 0.8% below its potential. Our assumption remains that the long-term unemployment rate (the non-accelerating inflation rate of unemployment, or NAIRU) is around 4¼%.
17. Residential investment has made a substantial contribution to growth in recent quarters, growing at a little under 10% in the year to September. However, the pace of building consents issuance has eased in recent months, pointing to a slight slowing in momentum in mid-2017. Similarly, house price growth has also slowed. We expect these to both be temporary slowdowns reflecting the impact of tighter loan-to-value ratios and uncertainty related to the Auckland Unitary Plan.

18. At the time the Half Year Update forecasts were finalised, dairy auction prices had been increasing but there was considerable uncertainty as to whether the increases could be sustained. So far in 2017 prices appear to have largely consolidated the gains of late 2016, with the price of whole milk powder up about 55% from the start of July 2016. These developments have led us to increase our forecast of world dairy prices, contributing to a stronger terms of trade. World prices for other export commodities such as meat, forestry and horticultural products remain at relatively high levels. Partial offsets come from higher world consumer good prices, possibly reflecting an increase in Chinese producer price inflation.
19. The impact of earlier world dairy price declines, together with an exchange rate that was elevated relative to levels that prevailed in late 2015 are apparent in the balance of payments with export values having fallen faster than import values, contributing to a decline in the goods balance. However, increases to the services balance and income balance have more than offset this widening in the goods deficit, with the annual current account deficit currently running at 2.9% of GDP (in line with the Half Year Update). The services balance is being supported by strong tourism spending on the back of high visitor numbers, while low debt servicing costs are contributing to the smaller income deficit.
20. The exchange rate at a little over 78 on a trade-weighted basis is slightly above the Half Year Update assumption of 77, having retraced some earlier gains ahead of the February Monetary Policy Statement (MPS) when it was briefly trading above 80. As widely anticipated the Reserve Bank kept the OCR at 1.75%. Prior to the MPS markets were pricing in a reasonable chance of a rate rise in September, which has since been pushed back to even odds of an increase in November – earlier than we and a number of economists are predicting. Effective monetary conditions have already tightened slightly as banks pass through higher funding costs to their interest rates.

Key judgements

21. We communicated the nature of several key judgements required to inform the forecasts in Treasury Report T2017/120 *Scene setting for the Budget Economic and Fiscal Update 2017*. This section provides an update on what judgements we have made and the impact they have on the forecasts. One of the judgements regarded the treatment of global risks and uncertainties – this is covered in the Risks and Uncertainties section towards the end of this report.

Net migration

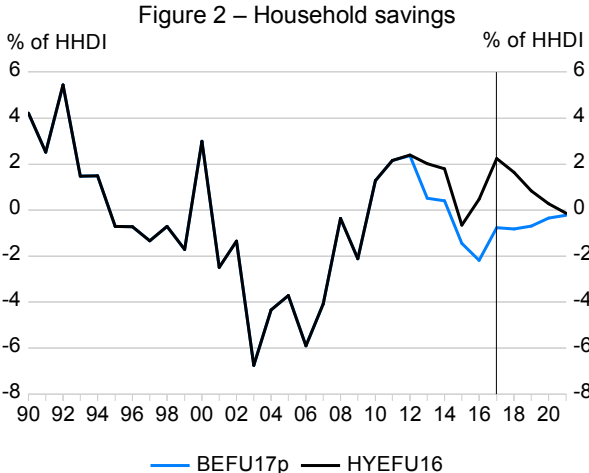
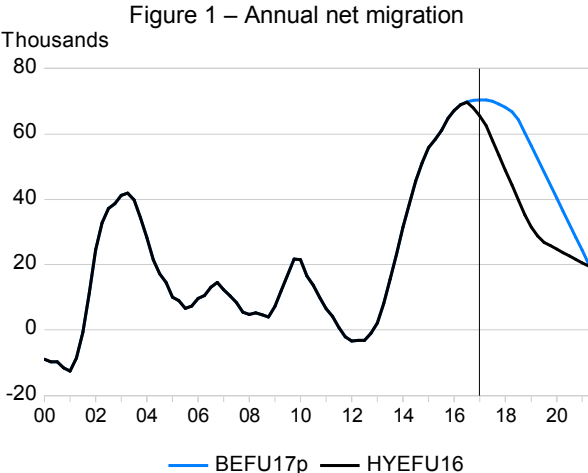
22. Compared to the Half Year Update, the net migration assumption has been revised upwards across the forecast period (Figure 1). Migration is assumed to remain above its long run average over the entire forecast period, owing to New Zealand's economic conditions being relatively favourable compared with elsewhere. Migration adds 210,000 people to the population across the forecast period, the same as the increase over the past 4½ years. The change in the assumption increases the population by 67,000 people compared to the Half Year Update or about 1.4% of the working age population. Compared to the Budget 2016 forecasts, migration is cumulatively 133,000 higher by 2020.
23. The strength of recent net inflows and the positive domestic outlook mean that net inflows are unlikely to decline materially in the short-run. To reflect this we have held quarterly flows broadly flat over the next year.

24. Over the medium term, net migration is assumed to decline towards the Statistics New Zealand long-run median population migration assumption of 15,000 per annum from 2022 (reaching 20,000 at the end of the forecast period in 2021). The factors underpinning the medium term decline include:

- A return in New Zealand/Australian citizen flows to their long run outflow of approximately 20,000, reflecting real wage differentials and slowing income growth in New Zealand relative to Australia;
- An increase in non-New Zealand/Australian citizen departures, the lagged impact of rapid increases in arrivals over the past couple of years; and
- A decline in arrivals of non-New Zealand/Australian citizens, as New Zealand's relative attractiveness reduces.

25. There is a high degree of uncertainty over the forward path of migration and this uncertainty increases further out in the forecast period. This uncertainty could lead to quite different outcomes, in either direction, than assumed, with consequent flow-on effects to the economic outlook and tax revenues. Some of the main sources of uncertainty are:

- Immigration policy changes, both here and abroad
- International geo-political developments that impact on New Zealand's relative attractiveness and/or affordability
- Domestic developments that impact on New Zealand's relative attractiveness e.g. housing affordability and rates of job creation



Potential output and the degree of spare capacity in the economy

26. Ongoing labour underutilisation and sluggish wage growth suggest that spare capacity in the economy persists. Our judgement is that the output gap (the difference between actual output (GDP) and estimates of potential output) was around -0.8% of GDP at the end of 2016.

27. Strong population growth means that the economy has increased its capacity to expand. The economy’s potential growth rate is now projected to peak at 3.3% in the year to March 2018 before easing to 2.4% by the end of the forecast period. In line with recent history, contributions to potential growth from labour inputs are expected to remain high, owing to high participation rates and working age population growth. After several years of labour productivity (GDP per hour worked) growth close to zero, we forecast a modest pick-up to around 1.3% over the last four years of the forecast.² Globally, many countries have experienced markedly lower productivity growth relative to past norms.

Household behaviour

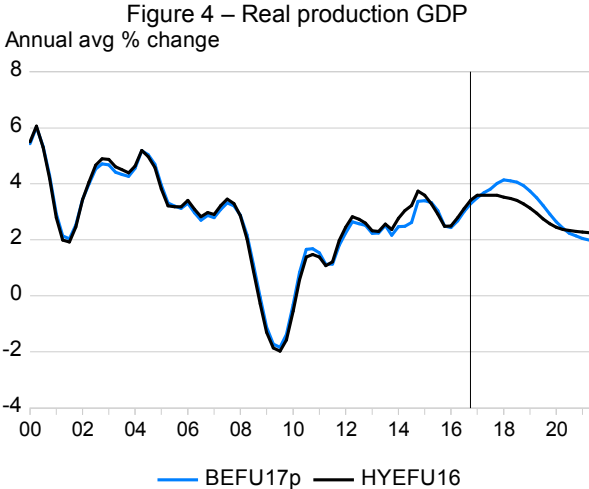
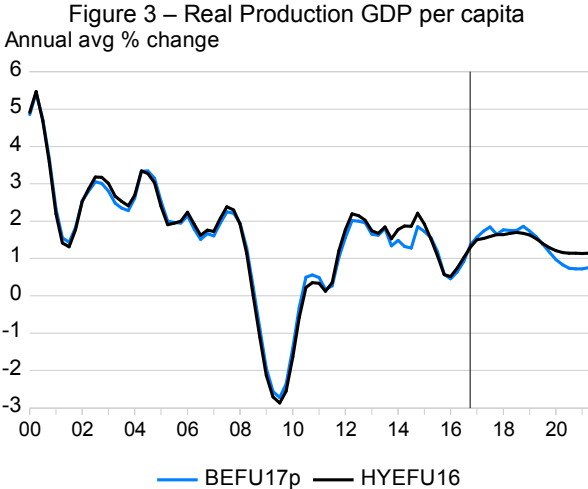
28. A feature of the current economic cycle had been the relatively muted growth in private consumption, particularly on a per capita basis. In the period after the GFC households focussed on saving, in contrast to the mid-2000s when relatively high rates of dissaving were the norm (Figure 2). More recently we have seen a return to dissaving, in part due to lower farm incomes, and debt levels have continued to rise. We expect households to continue the relatively cautious behaviour of recent years, with consumption growth largely matched by income growth, keeping dissaving rates fairly close to zero. There also appears to be less evidence of households using wealth gains from rising house prices to fund their expenditure in the current cycle.

The impact of the Kaikōura earthquakes

29. The forecasts incorporate approximately \$1 billion of additional investment (net) from the response to the Kaikōura earthquakes, unchanged from that incorporated in the Half Year fiscal forecasts. This assumption may change as additional information comes to hand. The impact on quarterly GDP is less certain and reflects offsetting impacts from disruption and the response and recovery as well as issues associated with measurement. We have implicitly smoothed through any impacts but acknowledge that these may add additional volatility to quarterly growth rates.

Economic outlook

30. Forecast growth on a per capita basis is very similar to the Half Year Update, with growth averaging 1.4% per annum, the same as in the Half Year Update (Figure 3). That is, the upward revision to the economic outlook (Figure 4) is from the upward revision to migration and therefore population growth.



² Changes to the Household Labour Force Survey in June quarter 2016 create a break in the data that affects our labour productivity measure in the June 2017 year.
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- 31. The economy is forecast to grow around 1% per quarter throughout 2017 – similar to the average of the two real growth measures (expenditure and production GDP) in each quarter of 2016, and a little stronger than in the Half Year Update. This is broadly consistent with elevated business confidence indicators and also reflects the continued presence of growth tailwinds – namely continued high levels of net migration, further increases in construction, low interest rates, and a more positive outlook for farm incomes.
- 32. Aggregate growth peaks at 4.1% at the start of 2018 before gradually easing as a number of the tailwinds subside:
 - Annual migration flows come off their peak and slow by around 16,000 per year (on average).
 - Interest rates begin rising from late 2018.
 - The terms of trade is fairly constant from mid-2017.
 - The rate of growth in construction declines as the existing pipeline is completed and new demand is more gradual.
 - Spare capacity is used up with the output gap broadly closed in the second half of 2017.
- 33. In the latter part of the forecast period, growth is underpinned by investment and consumption. In the case of investment, the higher population increases the demand for houses and other infrastructure and the larger labour force requires more capital investment such as plant and machinery if capital-to-labour ratios are to be maintained. This results in a relatively sustained investment cycle. Per capita consumption growth is expected to be relatively muted in the latter part of the forecast, reflecting relatively weak household income growth (see below) and rising interest rates, but this is partly offset by the larger population. Underpinning this outlook is the view that households will broadly maintain a balanced rate of saving.
- 34. Stronger aggregate growth relative to the Half Year Update results in faster employment growth, with employment forecast to grow by 200,000 people across the 4½ years to June 2020. Labour force participation is likely to remain elevated which, combined with high working age population growth, increases the size of the labour force. As a result, unemployment takes longer to return to the long-run rate of 4¼% (Figure 5) and wage pressures remain muted (Figure 6).

Figure 5 – Unemployment

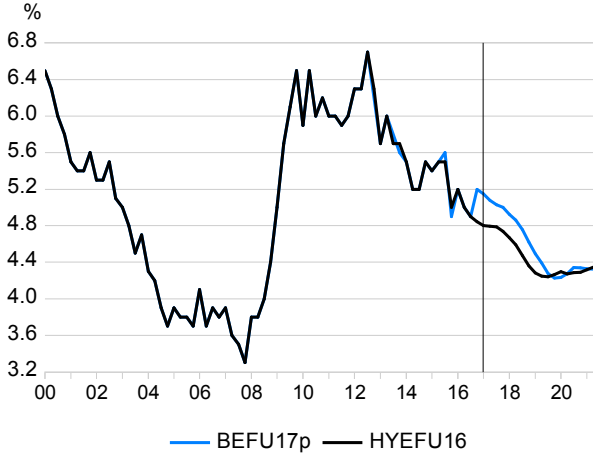
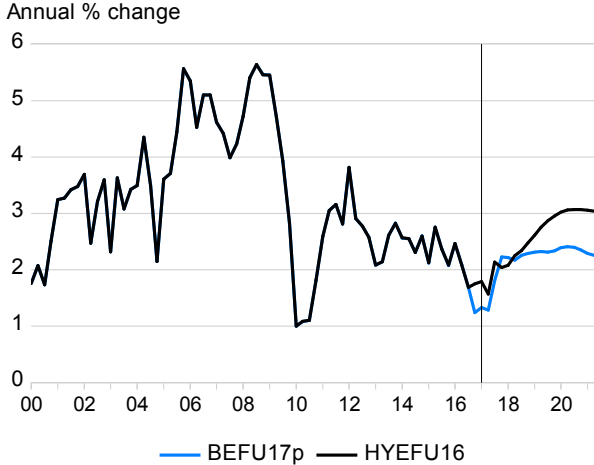
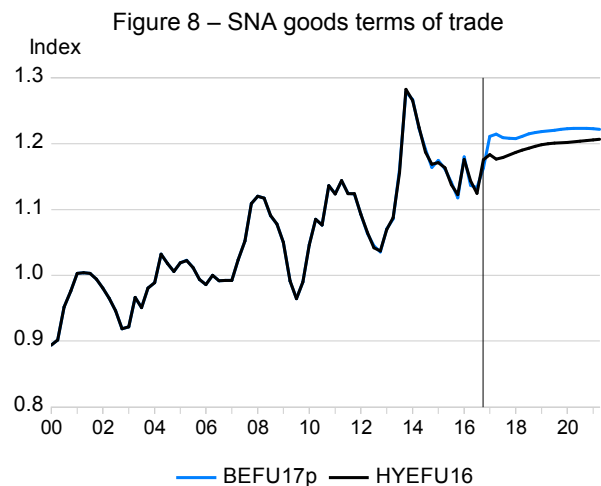
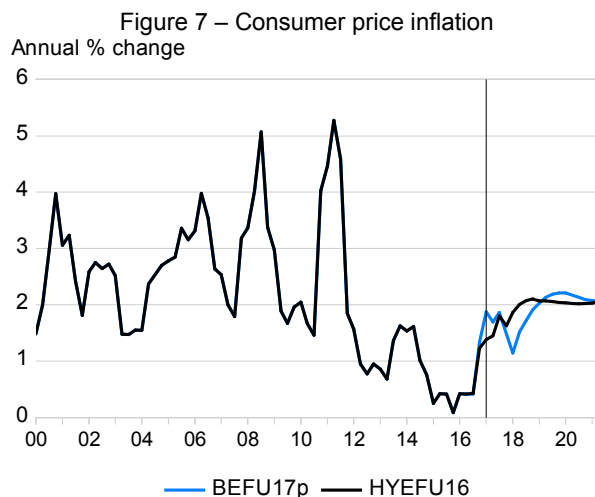


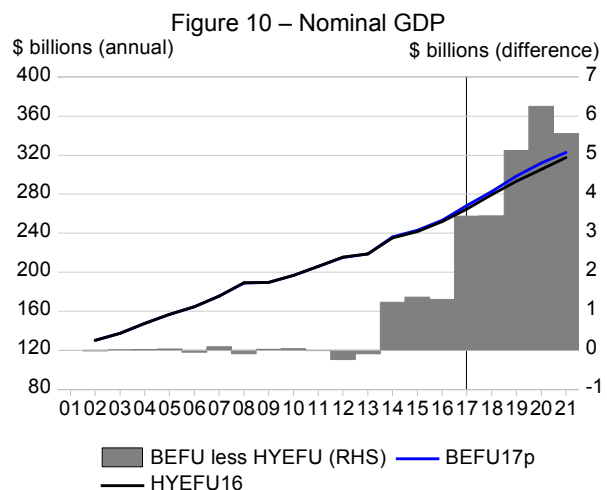
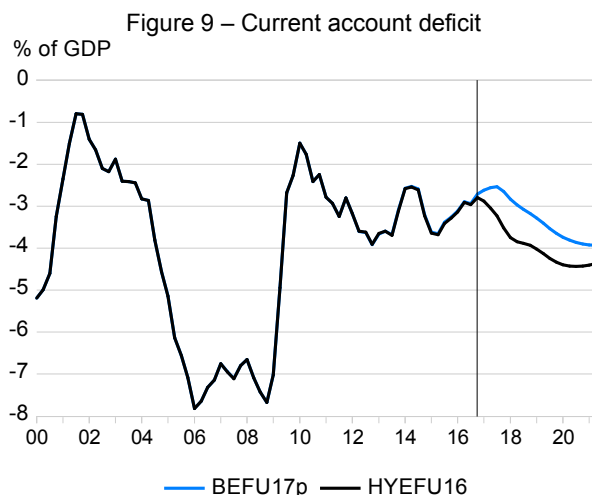
Figure 6 – QES average hourly wages



35. Inflation is expected to pick up over the forecast period as growth uses up spare capacity (Figure 7). However, it is likely that inflation may ease again before sustained increases occur given the impact of an elevated exchange rate, and as the impact of recent petrol price rises drop out of the annual calculation. Given this outlook we see a high likelihood that the Reserve Bank will maintain the OCR at its current level through to the end of 2018, before embarking on a gradual tightening cycle over the final two years of the forecast period.
36. Higher dairy prices contribute to a higher terms of trade which helps support a higher exchange rate as well as supporting demand in the economy (Figure 8). Lower dairy production this season contributes to an initial slowing in export volume growth, despite continued strength in services exports, while strength in domestic demand supports import volume growth. However, the rising terms of trade dominates and sees the current account deficit narrow to around 2.5% in mid-2017 (Figure 9). Rising import demand contributes to a modest widening in the goods deficit and sees the overall current account balance return to around current levels by late 2018. A further widening to just under 4% of GDP is driven by a widening in the income deficit as interest rate increases, both here and abroad, raise debt-servicing costs.



37. The stronger outlook for real activity combined with a higher terms of trade helps drive increases in nominal GDP relative to the Half Year Update (Figure 10). In the five years to June 2021 the cumulative difference is just under \$24 billion. Approximately \$1.3 billion per year reflects historical revisions giving a net change of around \$17 billion (1.2% of cumulative nominal GDP) as a result of changes to our view of the outlook. The net change is the main driver of revisions to the tax forecasts.



Implications for Tax Revenue

38. In total, across the five June years 2017 to 2021 inclusive, core Crown tax forecasts have been increased by \$5.4 billion compared to the Half Year Update. Increases are broad based across all the major tax types (Table 3). The impact of any Budget tax package will be incorporated in the final forecasts. Tax charts are presented in appendix two.

Table 3: Estimated³ change in core Crown tax revenue forecasts since HYEUFU 2016⁴

June years, \$ billions	2016	2017	2018	2019	2020	2021	5-yr totals
2016 HYEUFU	70.4	74.2	78.0	82.0	85.8	89.9	
% of GDP	28.0	28.0	27.9	27.9	28.1	28.3	
<i>Forecasting changes by tax type:</i>							
Corporate tax	-	+0.5	+0.3	+0.6	+0.8	+0.8	+3.0
Source deductions	-	+0.1	+0.3	+0.3	+0.3	-	+1.0
RWT on interest	-	+0.1	+0.2	+0.2	+0.2	+0.1	+0.8
Net other persons tax	-	-	-	-	+0.1	+0.4	+0.5
GST	-	-0.1	-	+0.2	+0.3	+0.1	+0.5
All other taxes	-	-	-0.2	-	-0.1	-0.1	-0.4
<i>Total change</i>	-	+0.6	+0.6	+1.3	+1.6	+1.3	+5.4
2016 Budget prelim	70.4	74.8	78.6	83.3	87.4	91.2	
% of GDP	27.8	27.9	27.8	27.9	28.0	28.3	

39. The main influence on the tax forecasts is macroeconomic, i.e. the tax forecasts have moved upwards in line with the net increase in nominal GDP forecasts (Table 4). The increase in nominal GDP and operating surplus (profits) from a faster growing economy leads to higher corporate and other persons tax. There are also some timing-related effects that have a positive impact on corporate tax, source deductions and other persons tax. Corporate tax revenues are running ahead of forecast in the current fiscal year. Based on examination of taxpayer-level data we have made the assessment that this variance is wide spread (i.e. not the result of behaviour of a handful of large taxpayers) and is therefore part of the base for corporate tax. That is, the effect will persist across the forecast period.
40. Source deductions are higher owing to higher employment across the forecasts which is partially offset by lower wages and a smaller contribution from fiscal drag relative to the Half Year Update. Higher consumption and residential investment increase the GST base, chiefly towards the end of the forecast period.
41. Term deposit rates have been creeping up recently and the gap between term deposits and the 90-day interest rate has increased despite little change in the 90-day forecast. We have made the judgement that some of this widening in the interest rate wedge will persist and consequently RWT on interest is higher across the forecast period despite relatively little change in 90-day interest rates.

Table 4: Main drivers of change in core Crown tax revenue forecasts from HYEUFU 2016

June years, \$ billions	2016	2017	2018	2019	2020	2021	4-yr totals
Macroeconomic effects	-	+0.1	+0.3	+0.9	+1.3	+1.0	+3.6
Interest rates	-	+0.1	+0.1	+0.2	+0.1	+0.1	+0.6
Other factors	-	+0.4	+0.2	+0.2	+0.2	+0.2	+1.2
<i>Total change</i>	-	+0.6	+0.6	+1.3	+1.6	+1.3	+5.4

³ Some elements of the tax forecast, e.g. Crown tax eliminations, have not yet been calculated. The actual preliminary tax forecasts could be higher or lower than the numbers stated here.

⁴ Figures in the table may not add exactly to stated totals owing to rounding of intermediate results.

Comparison with Inland Revenue

42. Inland Revenue has also prepared a set of tax forecasts, based on the Treasury's macroeconomic forecast. In total across the five years of the forecast period, the Treasury's tax forecast is \$2.2 billion higher than Inland Revenue's (Table 5).

Table 5: Comparison of Treasury and Inland Revenue tax revenue forecasts

June years, \$ billions	2017	2018	2019	2020	2021	5-yr total
Inland Revenue forecast	74.7	78.4	82.8	90.6	90.4	
<i>Treasury less Inland Revenue</i>	<i>+0.1</i>	<i>+0.2</i>	<i>+0.5</i>	<i>+0.6</i>	<i>+0.8</i>	<i>+2.2</i>

43. The forecast differences are mainly within the following tax types:

- RWT on interest (Treasury's forecast \$0.4 billion higher by 2021), mainly owing to the selection of interest rates in the forecasting models, in which the Treasury's model uses the 90-day rate plus a funding margin as a proxy for the average term deposit rate and Inland Revenue's model uses a range of interest rates across the yield curve;
- Other persons tax (Treasury \$0.3 billion higher by 2021), in which the Treasury's forecast has assumed a greater (and steadily increasing) wedge between revenue and receipts than has Inland Revenue's; and
- Corporate tax (Treasury \$0.2 billion higher by 2021), where a slightly different choice of macroeconomic driver between the two models results in the Treasury's forecast being generally higher than Inland Revenue's across the forecast period.

44. The current gap between Treasury and Inland Revenue tax forecasts is larger than has been the case in recent years. However, it should be noted that, although the nominal amount is large at over \$2 billion, it represents just 0.5% of total tax forecasts, well within the margin of error. As the forecasts proceed towards finalisation in late April, the gap between Treasury and Inland Revenue forecasts tends to reduce owing to:

- two more months of tax outturn data being available, thereby giving a more-robust indication of where the current year's tax revenue might be heading;
- more taxpayer-level data (e.g. tax returns) being available for forecasters at both agencies to examine; and
- ongoing discussions of the forecast differences between forecasters at the two agencies.

Implication for the Fiscal Strategy

45. The degree to which fiscal forecast improve will depend not only on these upgrades to tax revenue forecasts but also changes to expenditure forecasts e.g. benefits, debt servicing. You will receive our preliminary fiscal forecasts on 28 March.
46. Increased nominal GDP will improve the net debt to GDP position in 2020/21 both directly, as it increases the denominator of the ratio, and indirectly as it increases tax revenue. To the extent that this is driven by higher population, we would expect that this represents a structurally higher level of GDP and tax revenue, as opposed to a cyclical upturn. We would usually recommend against increasing expenditure or cutting taxes following a cyclical upturn so as to avoid pro-cyclical fiscal policy, however the structural nature of the higher tax revenues means it could be appropriate to increase spending or cut taxes.
47. Whilst higher population feeds through into tax forecasts, it does not automatically feed through into higher expenditure, except in the case of a handful of items e.g. benefits payments and some education spending. We have previously estimated how higher migration feeds through into higher spending in the social sector (T2016/2124 refers), which suggested that migrants have a positive impact on net debt but there is significant uncertainty as to the impact. Therefore, it may be prudent to preserve some fiscal headroom should pressures materialise. We would not recommend increasing net debt to above 20 per cent of GDP in 2020/21. There is some flexibility provided by the change in wording of the fiscal target to “around” 20 per cent, but we would recommend this be reserved to provide space should there be a fiscal shock. In addition, these forecasts are still preliminary and are subject to change.
48. We will provide some tax and expenditure scenarios to illustrate what can be achieved within the fiscal headroom implied by these forecasts in the next two weeks. Following this you will receive our fiscal strategy advice on 31 March. Final decisions will be needed before we finalise forecasts on 18 April.

Risks and Uncertainties

Risks to the economic forecasts

49. While these forecasts represent our best judgement of the most likely outcome on the information available, the impact of risks and uncertainties coming to bear could lead to quite different outcomes for the economic outlook and tax revenues.
50. The outlook for the international economy remains a key area of risk. Considerable uncertainty remains around the economic policies of the new US administration. Consistent with *Consensus Forecasts*, these forecasts assume there are significant reductions in personal and corporate tax cuts in late 2017/early 2018 and increased infrastructure spending that boosts growth. With limited spare capacity in the US labour market these policies could be expected to increase inflationary pressure. The impacts on growth, inflation and monetary policy may spill over to other economies. On the other hand, the risks of increased trade protection and more restrictive immigration policies could harm global growth.
51. Political uncertainty in parts of Europe may also weigh on investor sentiment and slow growth. Elections in France, the Netherlands and Germany may reflect similar themes to those driving developments in the UK and the US. The manner and timing of the UK’s exit from the EU is still to be determined.

52. Closer to home, policy stimulus in China has boosted GDP growth but increased imbalances in the housing market and slowed the transition from investment-led to consumption-led growth. Consequently, the potential for a disorderly period of economic and financial market adjustment has likely increased. Australia is also in a transition phase and household income and consumption growth has slowed. Continued weakness in wages could result in slower growth and may prompt a reassessment of household saving and a change in sentiment surrounding the housing market. Unemployment may be higher, sustaining labour inflows to New Zealand.
53. The extent of the potential impacts from these uncertainties and the precise channels through which they might impact on New Zealand are difficult to ascertain at this time. Consequently we treat these as risks to the central forecast and caution that the domestic economic and tax outlook could significantly alter should these risks materialise.
54. Commodity prices and New Zealand's terms of trade will be influenced by many of the global factors and risks outlined above. Additionally, commodity prices are subject to considerable variability based on their own supply and demand dynamics. Dairy and oil prices are perhaps the most salient risks. Dairy prices have improved considerably in a short space of time as milk supply has adjusted in most of the major exporters but significant inventories remain in Europe and the second largest importer (Russia) maintains its ban on European and US agricultural imports. Oil prices have stabilised of late following a supply agreement by OPEC but there remains some risk over the sustainability of this agreement, and US production remains highly responsive to price signals (both up or down).
55. Domestic risks to the forecast are more balanced and are largely concentrated in areas where we have made key judgements. Near term momentum in the economy may differ from the relatively buoyant pace assumed, which could influence the size and duration of the economic cycle expected in these forecasts. Similarly, migration flows may be stronger or weaker than assumed, although the balance of risk in this area likely remains on the upside in the near term. However, in the past when migration cycles have turned they have tended to reverse very quickly. Furthermore, migration could have a different impact on supply and demand in the economy than assumed in these forecasts.
56. We have assumed that household behaviour will remain relatively balanced, with neither strong rates of dissaving nor debt repayment. A return to the behaviour of the mid-2000s could see faster growth in consumption, with flow-on effects to capacity and inflationary pressures and potentially a faster tightening in monetary policy. A focus on debt repayment could dampen consumption growth and may also flow through to dynamics in the housing market. A significant asset price correction could also have a material impact on household behaviour and economic growth more broadly.
57. Capacity in the construction sector is another source of uncertainty. The forecasts include strong growth in both residential investment and market investment (which includes, amongst other construction projects, hotels and other infrastructure for growing tourist numbers), which all require similar resources, particularly of capital and skilled labour. Rebuild activity related to the Kaikōura earthquakes is a further factor, although to some extent the resources needed may come from slightly different areas e.g. roading contractors rather than construction companies. If capacity is more of a constraint than assumed in our forecasts, this may result in faster escalation in construction costs and/or a "queuing" effect which creates a construction cycle with a lower peak but longer length.

Implication of risks to the tax forecasts

58. Forecasts of tax revenue are sensitive to changes in both the size and composition of nominal GDP, as well as other macroeconomic factors such as interest rates. Consequently, realisation of any of the risks above will have a flow-on effect to tax revenues. As a rule of thumb, if nominal GDP growth was 1 percentage point lower in any given year, tax revenues would be around \$0.8 billion lower in that year.
59. If migration was higher than assumed, this would likely increase nominal GDP and lift tax revenues, primarily through the source deduction and GST tax types, with movements in the opposite direction if migration was lower. Tighter construction capacity than assumed may lead to higher GST, corporate tax and other persons tax revenues if it results in faster increases in construction costs, while a flatter construction growth profile would also flatten the profile of these tax types. A different interest rate path than forecast, either higher or lower, has a corresponding impact on RWT on interest.
60. Taxes on farming and agricultural activity more broadly are captured under corporate tax or other persons tax (depending on whether the farm is a corporate entity or family owned). Renewed weakness in the dairy sector would have a direct impact on these tax types and indirect impacts on GST and source deductions depending on how much spill-over impact there is on consumption and farm services, particularly in rural regions.

Appendix 1 – Forecast Tables

Summary of Economic Forecasts – June years (Annual average percentage change, unless specified otherwise)

June Years	2013	2014	2015	2016	2017	2018	2019	2020	2021
					Forecast	Forecast	Forecast	Forecast	Forecast
Private consumption	2.4	3.3	3.1	3.2	4.9	3.9	3.3	2.3	2.0
Public consumption	0.0	3.0	3.0	2.2	2.5	1.5	1.0	1.1	1.0
TOTAL CONSUMPTION	1.8	3.3	3.1	3.0	4.3	3.3	2.8	2.0	1.8
Residential investment	18.0	13.6	5.6	6.3	10.7	7.5	8.9	2.1	-3.6
Market investment*	-0.6	9.8	3.0	1.9	3.9	8.6	8.5	6.9	4.0
Non-market Investment**	12.8	2.8	26.9	12.8	9.7	5.9	-2.8	-6.0	2.4
TOTAL INVESTMENT	4.7	10.0	5.3	3.6	6.3	8.1	7.6	4.6	1.9
Stocks (contribution to GDP growth)	-0.3	0.4	-0.1	-0.5	0.2	0.4	0.0	0.1	0.0
GROSS NATIONAL EXPENDITURE	2.2	4.6	3.3	2.7	5.5	4.9	4.0	2.7	1.8
Exports	3.0	0.1	5.7	5.1	0.3	2.3	3.2	2.7	2.9
Imports	2.6	9.0	6.6	1.2	4.2	5.5	4.8	3.7	2.3
EXPENDITURE ON GDP	2.3	2.1	3.1	3.7	4.3	3.8	3.5	2.4	2.0
GDP (PRODUCTION MEASURE)	2.2	2.5	3.3	2.7	3.7	4.1	3.5	2.4	2.0
- annual % change, June quarter	2.6	2.7	2.4	3.4	4.1	4.0	3.1	2.2	1.9
Other Output Measures									
Real Gross National Disposable Income	2.1	6.0	2.1	2.5	4.9	4.5	3.4	2.2	1.7
Nominal GDP (Expenditure Basis)	1.7	8.0	2.9	4.2	6.0	5.5	5.5	4.4	3.6
Output gap (June qtr,% of potential)	-1.0	-1.0	-1.4	-1.0	-0.2	0.6	0.8	0.3	-0.0
Per Capita Output Measures									
Real GDP per capita (Production basis)	1.6	1.3	1.6	0.6	1.7	1.8	1.6	0.8	0.8
Real Gross Nat. Disp Income per capita	1.5	4.8	0.4	0.5	3.0	2.2	1.4	0.6	0.5
Nominal GDP per capita (Expenditure ba...)	1.1	6.8	1.1	2.1	4.0	3.1	3.5	2.8	2.3
Labour Market									
Employment	0.2	3.2	3.2	2.3	5.1	2.5	2.1	1.6	0.9
Unemployment Rate (June quarter)	6.0	5.2	5.5	5.0	5.1	4.9	4.4	4.3	4.3
Labour Productivity (Hours worked basis)	1.3	-0.7	0.6	-0.3	-2.0	1.7	1.4	0.8	1.2
Wages (QES average hourly ord time ea...)	2.1	2.6	2.8	2.1	1.3	2.2	2.3	2.4	2.3
Unit Labour Costs (Hours worked basis)	1.0	3.4	1.8	2.6	3.4	0.4	0.8	1.5	1.1
Monetary Conditions									
90-day Bank Bill Rate (June quarter ave)	2.6	3.4	3.5	2.4	2.0	2.0	2.5	3.2	3.9
10-year Bond Rate (June quarter ave)	3.5	4.4	3.6	2.7	3.4	3.6	4.0	4.2	4.4
TWI (June quarter ave)	76.3	81.5	76.2	73.6	78.7	78.2	78.3	78.0	76.0
- annual % change (June quarter)	5.3	6.9	-6.5	-3.4	6.9	-0.6	0.1	-0.4	-2.5
Price Measures									
CPI Inflation (ann % change, June quarter)	0.7	1.6	0.4	0.4	1.7	1.5	2.1	2.2	2.1
Consumption Deflator	0.5	0.9	0.6	0.8	0.4	1.0	1.5	1.8	1.7
GDP Deflator	-0.6	5.7	-0.3	0.5	1.6	1.6	2.0	2.0	1.6
House Price Inflation (ann % change, Ju...)	9.1	6.9	11.1	14.0	7.9	9.2	4.1	2.8	2.1
Key Balances									
Current account balance (\$ million)	-7,868	-5,968	-8,892	-7,321	-6,851	-8,391	-10,164	-11,870	-12,704
Current account balance (% of GDP)	-3.6	-2.5	-3.7	-2.9	-2.6	-3.0	-3.4	-3.8	-3.9
Terms of Trade (goods) - SNA Basis	-3.8	16.4	-4.8	-2.5	3.2	2.4	0.7	0.4	0.1
Household saving ratio (% of HHDI, Mar...)	0.5	0.4	-1.5	-2.2	-0.8	-0.8	-0.7	-0.4	-0.2

* Includes Local Government and Non-profit Organisations

** Central Government (includes Crown Entities but not SOEs)

Change in Economic Forecasts from Half Year 2016 – June years
(Annual average percentage change, unless specified otherwise)

June Years	2013	2014	2015	2016	2017	2018	2019	2020	2021
					Forecast	Forecast	Forecast	Forecast	Forecast
Private consumption	-0.0	0.5	0.4	0.5	0.9	0.1	0.0	-0.5	-0.2
Public consumption	-0.3	0.2	0.9	0.6	-0.0	-0.0	0.0	0.0	0.0
TOTAL CONSUMPTION	-0.1	0.4	0.5	0.5	0.7	0.1	0.0	-0.4	-0.2
Residential investment	4.8	-1.4	-2.9	-1.9	-3.6	-0.3	6.8	3.8	-3.4
Market investment*	-0.4	1.5	-2.2	1.3	-5.4	1.9	2.3	3.0	1.8
Non-market Investment**	0.0	0.0	0.0	0.0	7.6	2.6	2.1	-6.2	0.0
TOTAL INVESTMENT	0.8	0.7	-2.4	0.5	-3.8	1.3	3.4	2.4	0.2
Stocks (contribution to GDP growth)	-0.2	0.1	0.2	-0.1	0.4	0.0	-0.2	-0.1	-0.0
GROSS NATIONAL EXPENDITURE	-0.0	0.2	-0.1	0.4	0.4	0.4	0.7	0.3	-0.1
Exports	-0.0	-0.0	-0.0	-0.1	-1.1	0.4	0.1	-0.1	-0.3
Imports	-0.0	0.0	-0.0	0.0	-1.5	0.5	0.8	0.9	0.3
EXPENDITURE ON GDP	-0.0	0.2	-0.1	0.4	0.7	0.3	0.5	0.0	-0.3
GDP (PRODUCTION MEASURE)	-0.1	-0.6	0.1	-0.1	0.1	0.6	0.6	0.0	-0.3
- annual % change, June quarter	0.1	-1.0	0.0	-0.2	0.6	0.6	0.5	-0.2	-0.3
Other Output Measures									
Real Gross National Disposable Income	-0.0	-0.6	0.1	-0.1	0.4	1.1	0.5	0.1	-0.3
Nominal GDP (Expenditure Basis)	0.1	0.6	0.0	-0.0	0.8	-0.1	0.5	0.3	-0.3
Per Capita Output Measures									
Real GDP per capita (Production basis)	-0.1	-0.6	0.0	-0.1	0.2	0.1	0.0	-0.3	-0.4
Real Gross Nat. Disp Income per capita	-0.1	-0.6	0.1	-0.1	0.5	0.5	0.0	-0.2	-0.4
Nominal GDP per capita (Expenditure basis)	0.1	0.6	0.0	-0.0	1.1	-0.8	0.0	-0.1	-0.4
Labour Market									
Employment	0.0	0.0	-0.0	0.0	0.3	0.8	0.6	0.5	-0.0
Unemployment Rate (June quarter)	0.0	0.0	0.0	0.0	0.3	0.3	0.1	0.0	-0.0
Labour Productivity (Hours worked basis)	-0.1	-0.5	0.0	-0.1	-0.8	-0.2	-0.0	-0.5	-0.2
Wages (QES average hourly ord time earnings...)	-0.0	0.0	0.0	0.0	-0.3	-0.1	-0.4	-0.7	-0.8
Unit Labour Costs (Hours worked basis)	0.1	0.6	-0.0	0.1	0.5	0.2	-0.2	-0.1	-0.5
Monetary Conditions									
90-day Bank Bill Rate (June quarter ave)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-0.0	-0.1
10-year Bond Rate (June quarter ave)	0.0	0.0	0.0	0.0	0.5	0.2	0.1	0.1	0.0
TWI (June quarter ave)	0.0	0.0	0.0	0.0	2.2	3.3	3.3	3.4	3.4
- annual % change, June quarter	0.0	0.0	0.0	0.0	3.0	1.4	0.0	0.2	0.0
Price Measures									
CPI Inflation (ann % change, June quarter)	0.0	0.0	0.0	0.0	0.2	-0.5	0.1	0.2	0.0
Consumption Deflator	0.0	-0.0	0.0	-0.0	-0.2	-0.3	-0.2	0.2	0.1
GDP Deflator	0.1	0.4	0.1	-0.4	0.1	-0.4	0.0	0.3	-0.0
House Price Inflation (ann % change, June qu...)	0.0	0.0	0.0	0.5	-1.5	3.1	0.3	-0.2	0.1
Key Balances									
Current account balance (\$ million)	-4	-2	-5	10	1,215	2,348	1,957	1,641	1,158
Current account balance (% of GDP)	-0.0	0.0	0.0	0.0	0.5	0.9	0.7	0.6	0.4
Terms of Trade - SNA Basis	0.0	0.0	0.0	-0.1	1.4	0.7	-0.3	-0.0	-0.2
Household saving ratio (% of HHDI, March year)	-1.5	-1.4	-0.8	-2.7	-3.0	-2.5	-1.5	-0.6	-0.1

* Includes Local Government and Non-profit Organisations

** Central Government (includes Crown Entities but not SOEs)

Key Economic Assumptions for Fiscal Forecasts – June years

June Years	2013	2014	2015	2016	2017	2018	2019	2020	2021
					Forecast	Forecast	Forecast	Forecast	Forecast
Real GDP (production measure)									
\$million in 2009/10 prices	207,477	212,631	219,720	225,617	233,917	243,532	252,075	258,147	263,302
Annual average % change	2.2	2.5	3.3	2.7	3.7	4.1	3.5	2.4	2.0
Nominal GDP (expenditure measure)									
\$million in current prices	218,728	236,185	242,943	253,086	268,196	282,921	298,509	311,756	322,959
Annual average % change	1.7	8.0	2.9	4.2	6.0	5.5	5.5	4.4	3.6
\$m change from previous forecast	-94	1,230	1,358	1,301	3,436	3,440	5,118	6,254	5,554
Headline CPI									
Annual average % change	0.8	1.5	0.6	0.3	1.3	1.5	1.9	2.2	2.1
Annual % change	0.7	1.6	0.4	0.4	1.7	1.5	2.1	2.2	2.1
Interest Rates and Exchange Rate (ann ave)									
90 day bank bill rate	2.6	2.9	3.6	2.7	2.1	2.0	2.2	2.9	3.6
5 year bond rate	2.9	4.1	3.6	2.6	2.4	3.1	3.5	3.9	4.2
10 year bond rate	3.6	4.5	3.8	3.2	3.0	3.5	3.9	4.2	4.3
Trade Weighted Index	75.0	78.9	77.9	71.9	78.0	78.4	78.2	78.1	76.9
Current account balance									
\$million	-7,868	-5,968	-8,892	-7,321	-6,851	-8,391	-10,164	-11,870	-12,704
% of GDP	-3.6	-2.5	-3.7	-2.9	-2.6	-3.0	-3.4	-3.8	-3.9
Labour Market (average year ending June)									
Employment growth (ann ave % change)	0.2	3.2	3.2	2.3	5.1	2.5	2.1	1.6	0.9
Unemployment rate	6.2	5.5	5.4	5.2	5.1	5.0	4.6	4.3	4.3
Working Age Population (000s)	3,464	3,513	3,586	3,673	3,770	3,860	3,939	4,004	4,056
Labour Force (000s)	2,341	2,400	2,475	2,526	2,653	2,715	2,761	2,796	2,824
Total Employed (000s)	2,197	2,267	2,341	2,395	2,518	2,580	2,635	2,677	2,701
Total Unemployed (000s)	144	133	134	131	135	134	126	119	122
Average Total Weekly Paid Hours (QES)	38.4	38.5	38.4	38.5	38.6	38.4	38.3	38.3	38.2

Appendix 2 – Tax charts

