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Office of the Minister of Finance

Budget 2019 Information Release
August 2019

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THE TREASURY
Kaitohutohu Kaupapa Rawa

Treasury Report: Budget 2019 Preliminary Economic and Tax Forecasts

Date:	22 February 2019	**Report No:**	T2019/381
		File Number:	BM-3-6-1

Action Sought

	Action Sought	Deadline
Minister of Finance (Hon Grant Robertson)	**Note** that the Treasury's Budget 2019 preliminary economic forecasts show a slightly weaker growth outlook compared with the *Half Year Update*. **Note** the Treasury's preliminary tax forecasts are $1.2 billion lower over the five years to June 2023. **Refer** this report to Associate Ministers of Finance.	N/A

Contact for Telephone Discussion (if required)

Name	Position	Telephone		1st Contact
Harrison Steiner-Fox	Analyst, Forecasting	[39] (wk)	N/A (mob)	✓
Phillip Mellor	Team Leader, Forecasting	[39] (wk)	[23] (mob)	

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

Return the signed report to Treasury.

If agreed, **refer** a copy of this report to Associate Ministers of Finance.

Provide officials with any feedback from the Minister.

Note any feedback on the quality of the report	

Enclosure: No

Treasury Report: Budget 2019 Preliminary Economic and Tax Forecasts

Executive Summary

This report provides you with an overview of the Treasury's preliminary Budget 2019 economic and tax forecasts. We will send you a report on the preliminary fiscal forecasts during the week beginning 18 March. Together, the economic, tax and fiscal forecasts will inform our overall advice on the fiscal strategy and recommended Budget allowances on 20 March, ahead of you taking Budget decisions.

The economy continues to expand at a pace that is close to trend, supported by population growth, government spending, accommodative monetary policy and solid growth abroad. Nominal GDP growth is supported by a rising terms of trade, inflation around 2.0%, and government labour market policies.

Table 1: Forecast summary

June years		2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	5-year total
Economic growth[1]	Half Year	2.7	2.9	3.1	2.7	2.5	2.3	
	Budget	3.1	2.5	2.9	2.7	2.5	2.4	
Economic growth per capita[1]	Half Year	0.7	1.1	1.5	1.4	1.2	1.2	
	Budget	1.1	0.8	1.4	1.4	1.3	1.2	
Unemployment rate[2]	Half Year	4.4	4.1	3.9	4.0	4.1	4.1	
	Budget	4.4	4.2	4.2	4.2	4.3	4.3	
CPI inflation[3]	Half Year	1.5	2.0	2.0	2.0	2.0	2.0	
	Budget	1.5	1.9	2.0	2.0	2.0	2.0	
Current account balance[4]	Half Year	-3.4	-3.5	-3.6	-3.6	-3.6	-3.7	
	Budget	-3.4	-3.6	-3.4	-3.3	-3.3	-3.5	
Nominal GDP[5]	Half Year	5.5	4.3	5.6	5.1	4.7	4.5	
	Budget	5.5	4.1	5.4	5.2	4.8	4.6	
Nominal GDP ($billions)	Half Year	289.3	301.8	318.6	334.9	350.6	366.3	
	Budget	288.4	300.1	316.5	332.9	348.8	364.8	
	Change	-0.9	-1.7	-2.1	-2.1	-1.8	-1.5	-9.1
	adj. change	-	-1.1	-1.5	-1.5	-1.2	-0.9	-6.2
Tax revenue ($billions)	Half Year	80.2	84.3	89.2	95.0	100.4	105.3	
	Budget	80.2	84.4	89.1	94.6	99.9	105.0	
	Change	-	0.1	-0.1	-0.4	-0.5	-0.3	-1.2

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

Economic data released since the *Half Year Update* (HYEFU) suggests a slightly softer near-term domestic growth outlook. We expect some of the weakness in the September 2018 quarter, particularly in business investment, to carry through into early 2019. The overall change is not large, with annual GDP growth averaging 2.6% per year over the next 5 years, marginally lower than the 2.7% average forecast at HYEFU.

Annual average GDP growth is forecast to rise from 2.5% in 2018/19 to 2.9% in 2019/20 supported by stronger business investment growth and a pickup in residential investment. Beyond 2020, GDP growth gradually eases to 2.4% as lower net migration sees population growth slow. We forecast monetary policy to begin tightening from early 2020, in response to rising inflationary pressures. The slowdown in per capita GDP growth is less marked, declining modestly from 1.4% in 2020 to 1.2% in 2023.

The unemployment rate is expected to be broadly stable at 4.2% across the forecast period supported by an economy growing around trend.

Adjusting for historical revisions, nominal GDP is a cumulative $6 billion lower over the forecast period than at HYEFU ($9 billion without adjusting for the starting point). The weaker real growth outlook largely drives weaker nominal GDP.

Tax revenue is forecast to be a cumulative $1.2 billion (0.3% of the cumulative tax take) lower than at HYEFU owing to weaker growth. The lower forecast tax take is broad based across all major tax types with the exception of GST, which has recently come in above forecast. We expect the recent strength in GST to persist across the forecast period.

Risks to the international outlook remain prevalent and are skewed to the downside. The forecasts assume a fairly stable outlook for world growth, with growth in our top 16 trading partners in the 3.4% to 3.5% range throughout the forecast period. Should the global economy significantly deviate from this assumption, the New Zealand economy would be impacted through a range of channels, including demand for exports, global commodity price movements and shifts in financial conditions and asset prices.

Domestic risks are broadly balanced and include:

- The Treasury (and Reserve Bank) residential investment forecasts are at the top end of market forecasters, chiefly because we assumed that urban development reforms and other policy unlock capacity in the construction sector. Should this not occur or occur at a slower rate than assumed, this could lead to reduced economic activity and lower tax revenue;
- higher than forecast nominal wages due to stronger-than-expected flow-on effects of a tight labour market and labour market policies having a greater spill-over effect than anticipated; and
- stronger (weaker) aggregate demand due to net migration being higher (lower) than currently anticipated, particularly given uncertainty surrounding Stats NZ’s new official measure of net migration.

In the past, tax revenue has tended to exceed forecasts in an upswing and come in lower than forecast during a downswing. It is possible that this could occur again in the future. Therefore, if recent weakness in the economy is more persistent than expected, it is possible that actual tax revenue could undershoot forecasts.

Recommended Action

We recommend that you:

a **note** that the Treasury's Budget 2019 preliminary economic forecasts show a slightly weaker growth outlook compared with the *Half Year Update*.

b **note** the Treasury's preliminary tax forecasts are $1.2 billion lower over the five years to June 2023.

c **refer** this report to:

- Hon David Parker, Associate Minister of Finance

Refer/not referred.

- Hon Dr David Clark, Associate Minister of Finance

Refer/not referred.

- Hon Shane Jones, Associate Minister of Finance

Refer/not referred.

- Hon James Shaw, Associate Minister of Finance

Refer/not referred.

Phillip Mellor
Team Leader, Forecasting

Hon Grant Robertson
Minister of Finance

Treasury Report: Budget 2019 Preliminary Economic and Tax Forecasts

Purpose of Report and Context

1. This report provides an overview of the Treasury's preliminary Budget 2019 economic and tax forecasts. The Treasury provides two sets of economic and tax forecasts over the Budget process. The first, preliminary set of economic forecasts underpins our preliminary tax and fiscal forecasts. We will provide a report on the preliminary fiscal forecasts during the week beginning 18 March.

2. We will use the preliminary forecasts to inform our overall advice on the fiscal strategy and recommend Budget allowances on 20 March, ahead of you taking Budget decisions. Following this, we will produce a final set of economic, tax and fiscal forecasts that include updated fiscal decisions taken in Budget Ministers meetings, as well as incorporating economic data and other information released after the preliminary forecasts were finalised.

3. On 5 February we sent you scene setting slides for the preliminary economic and tax forecasts [TR2019/223 refers]. Since then we have tested our forecasts with a panel of external experts and key data releases have been broadly in line with our expectations. Assumptions regarding government policies are unchanged from the *Half Year Update* (HYEFU).

4. There is a range of Budget 2019 policies that could materially affect the economic and tax forecasts, for example decisions on Tax Working Group recommendations and allowance settings. We will be working closely with teams across the Treasury to ensure that these policies are included in the final set of economic forecasts, finalised on 11 April. Tax forecasts will be finalised on 17 April.

Recent Economic Developments

Recent economic data point to a slightly softer near-term growth outlook

5. Economic data has been mixed since the HYEFU forecasts were finalised and on balance point to a slightly softer near-term domestic growth outlook. Real GDP growth was weaker than expected, labour markets data were slightly softer, but Consumers Price Index (CPI) inflation was broadly in line with expectations.

6. September 2018 quarter GDP growth was weaker than expected at 0.3%, compared with a forecast 0.7%. Some of this weakness will persist into 2019. Temporary factors, such as a wind down in Kaikōura earthquake-related road repairs and low hydro-lake levels affecting electricity generation partly drove the weaker-than-expected outturn. Over the next year, these factors should unwind, although the timing is uncertain. We forecast growth to recover to around trend over 2019.

7. New migration data from Stats NZ indicates that migration peaked both earlier and at a lower level than previously thought. Over the past 5 years, gains from migration are now estimated to have been around 265,000 rather than the earlier estimate of 313,000. Continuing these lower rates of net migration into the forecast period results in slower population growth until migration reaches our long-run assumption of 25,000 per year.

The labour market is tight and the unemployment rate is historically low…

8. Relative to recent history the unemployment rate points to a tight labour market. This view is supported by firms' reported difficulty in finding skilled and unskilled labour. Quarterly employment growth of 0.1% for December 2018 followed a strong 1.1% rise in September. The unemployment rate rose from a revised 4.0% in the September quarter 2018 to 4.3% in December, slightly above our HYEFU forecast (4.1%) but broadly in line with expectations. The unemployment rate is largely unchanged from the level that prevailed at the beginning of 2018.

…with early signs of wage pressures building and non-tradables inflation increasing

9. Wage growth was stronger than expected for the year to December 2018, with the Quarterly Employment Survey showing wage growth of 3.1%. There are some signs of emerging private sector wage pressures but not to the extent that historically would have been expected given the tightness in the labour market.

10. December 2018 annual CPI inflation was slightly weaker than forecast at HYEFU owing to a larger-than-expected fall in petrol prices. Lower petrol prices have persisted into 2019 and we expect this will weigh on CPI inflation in the near-term. Unlike the volatility in tradables inflation, non-tradables inflation and measures of core inflation steadily increased over 2018.

December quarter growth indicators are mixed…

11. Growth indicators for the December 2018 quarter are mixed, although we are likely to see some unwinding of the temporary factors that weighed on September 2018 quarter growth. Measures of consumer confidence and business confidence lifted over the December quarter, although, business confidence remains well below historical averages. GST receipts are above forecast suggesting buoyant private consumption but this is somewhat contradicted by weak electronic cards spending. Solid dwelling consent growth over the first half of 2018 indicates strength in residential investment. Capital goods imports growth picked up over the second half of 2018 indicating a rebound in business investment from the September 2018 quarter. However, the timing of capital goods imports and consents flowing into investment is uncertain.

12. Weather conditions were positive for the agricultural sector over the December 2018 quarter and milk production has been strong, indicating solid export growth in December. Beef herd numbers have also increased in recent months.

13. Partial data for December 2018 GDP growth, such as retail trade, wholesale trade and the manufacturing survey will be released over the next month and provide further insights into the likely strength of December 2018 quarter GDP growth.

…and the international outlook is slightly softer but overall positive for growth

14. The near-term international outlook is slightly softer consistent with recent IMF and OECD forecasts. The overall change only has a small dampening effect on the forecasts. September 2018 quarter trading partner growth slowed more than expected and this softer momentum is expected to carry through to December and into 2019. Risks to the international outlook remain prevalent and skewed to the downside.

15. Developments leading to slightly softer trading partner growth include:

    - China's trade has slowed markedly, impacting on other Asian trading partners including Japan.

    - The US federal government shutdown and tighter financial conditions point to weaker growth in the near term.

    - Australian business confidence and house prices continue to fall.

    - Euro area growth is hampered by protests in France and slowing global demand is weighing on German growth.

Economic and Tax Outlook

Capacity pressures have been building and core inflation is rising…

16. Over recent years, the economy has grown slightly above its potential rate. This has seen capacity pressures build, and measures of core inflation gradually rise. Survey measures portray a story of tight capacity, particularly in the labour market, with firms reporting increasingly higher levels of difficulty finding skilled and unskilled labour and that their costs are rising.

Figure 1: CPI inflation

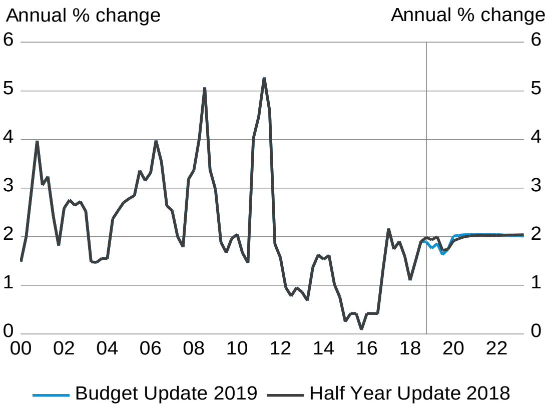
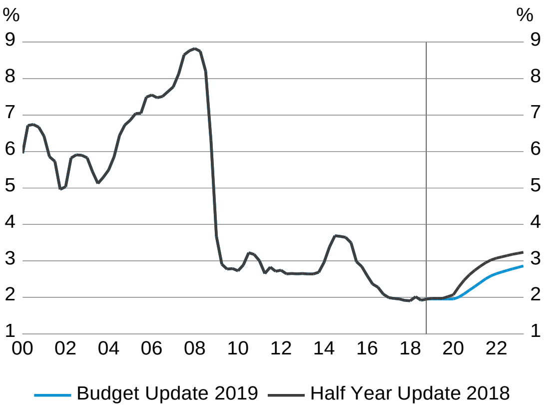


Figure 2: 90-day interest rates



17. We forecast CPI inflation to fall slightly in the near term. The fall is driven by declining tradables inflation, which reflects an 8% decline in petrol prices. Looking through this volatility, a tight labour market and accommodative monetary policy support annual inflation to rise to the middle of the Reserve Bank's target (2.0%) in early 2020 and remain around this level thereafter (Figure 1).

18. 90-day interest rates are forecast to start rising from 2.0% in mid-2020 (around two quarters later than forecast at HYEFU) to 2.9% by the end of the forecast period (Figure 2) as the Reserve Bank withdraws monetary policy stimulus to keep inflation around 2.0%.

…with the economy expected to grow around trend

19. The economy continues to expand at a pace that is close to trend, supported by population growth, government spending, accommodative monetary policy and solid growth abroad.

20. Near-term softness carrying over from weaker-than-expected September 2018 quarter GDP growth sees growth ease to 2.5% in 2018/19.

21. Annual average GDP growth picks up slightly to 2.9% in 2019/20 (Figure 3) supported by both business and residential investment. Business investment is a key driver of growth over 2019/20 as firms respond to rising labour costs, the need to expand capacity, and low interest rates supported by accommodative monetary policy. KiwiBuild contributes to an acceleration in residential investment growth, particularly in the second half of the forecast period.

22. Solid real household income growth and low interest rates support household consumption over the first two years of the forecast period. Consumption growth then eases as rising interest rates drag on disposable incomes.

Figure 3: Real GDP growth

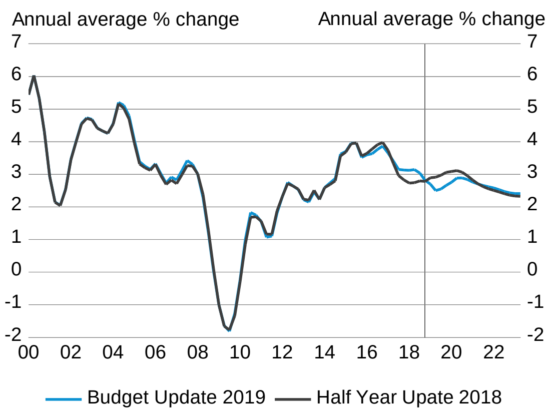
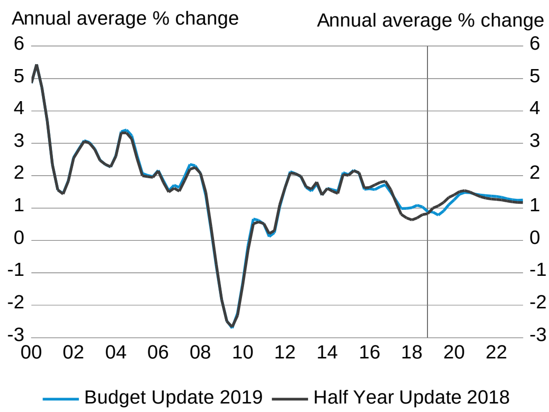


Figure 4: Real per capita GDP growth



23. Beyond 2020, GDP growth gradually eases to 2.4% as lower net migration sees population growth slow. Monetary policy begins to tighten from early 2020, in response to rising inflationary pressures. Annual population growth slows from around 2.0% to 1.3% by 2023. The slowdown in per capita GDP growth is less marked, declining modestly from 1.4% in 2020 to 1.2% in 2023 (Figure 4).

The labour market is tight with unemployment low and wage growth rising

24. We forecast the unemployment rate to stay broadly flat at 4.2% over the forecast period (Figure 5), reflecting an economy that is growing around trend. Employment growth declines over the forecast period but remains solid in the context of slowing population growth.

25. We expect wage growth to accelerate over the forecast period (Figure 6) owing to a tight labour market, higher inflation compared with recent years and a range of labour market policies. Real wages expand at a solid pace supported by rising wage growth and stable inflation.

Figure 5: Unemployment rate

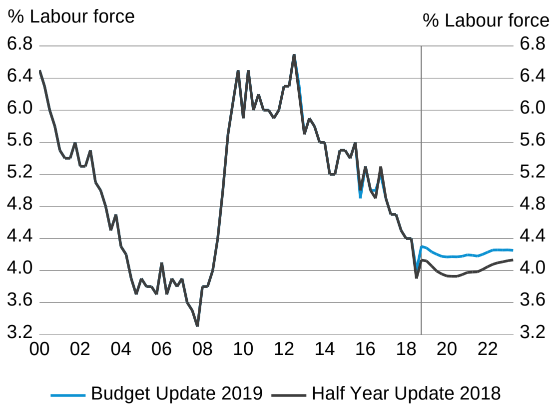
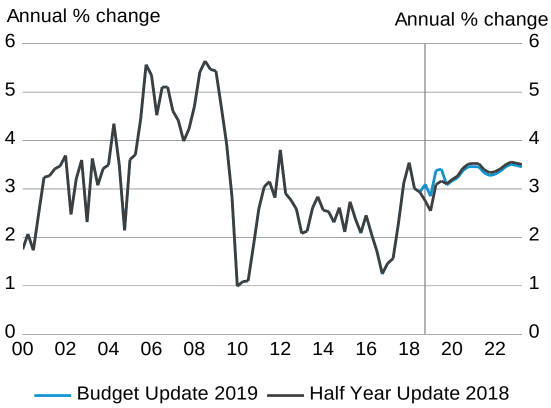


Figure 6: Wage growth



Solid growth abroad supports terms of trade but risks are tilted to the downside

26. A favourable outlook for trading partner growth and a recovery in global milk prices are expected to result in modest gains in commodity prices and a recovery in New Zealand's terms of trade. We expect global dairy prices to recover from the run of weak outturns over 2018 partly driven by a disposal of EU stockpiles and global milk production growth plateauing.

27. There is substantial uncertainty around the international economic outlook with trade and geopolitical tensions still prevalent and uncertainty around Brexit remaining. Although we forecast a stable outlook for trading partner growth, should the global economy significantly deviate from this assumption, the New Zealand economy would be impacted through a range of channels, including demand for exports, global commodity price movements and shifts in financial conditions and asset prices.

Nominal GDP growth is supported by inflation, rising terms of trade and wage growth

28. Nominal GDP growth is supported by a rising terms of trade, inflation around 2.0%, and government labour market policies. Nominal GDP growth peaks at around 5.5% in 2020/21, slowing to 4.6% in 2022/23 reflecting slowing real GDP growth and a flattening terms of trade.

Comparison with HYEFU 2018

The near-term growth outlook is slightly weaker but broadly similar to the HYEFU…

29. The near-term outlook for annual average GDP growth is slightly weaker compared with the HYEFU owing to a weaker starting point for September GDP growth[1] and some persistence from weaker-than-expected business investment growth (Table 2).

Table 2: Preliminary BEFU 2019 and HYEFU 2018 economic forecast comparison

Year to June		2018	2019	2020	2021	2022	2023
Real GDP[1]	Half Year	2.7	2.9	3.1	2.7	2.5	2.3
	Budget	3.1	2.5	2.9	2.7	2.5	2.4
CPI inflation[2]	Half Year	1.5	2.0	2.0	2.0	2.0	2.0
	Budget	1.5	1.9	2.0	2.0	2.0	2.0
Unemployment rate[3]	Half Year	4.4	4.1	3.9	4.0	4.1	4.1
	Budget	4.4	4.2	4.2	4.2	4.3	4.3
Nominal GDP ($billion)	Half Year	289.3	301.8	318.6	334.9	350.6	366.3
	Budget	288.4	300.1	316.5	332.9	348.8	364.8
Tax revenue ($billion)	Half Year	80.2	84.3	89.2	95.0	100.4	105.3
	Budget	80.2	84.4	89.1	94.6	99.9	105.0

1. Production GDP, annual average % change 2. annual % change 3. June quarter

30. The profile of the unemployment rate is broadly unchanged. However, a higher starting point sees the unemployment rate higher over the forecast period. With the economy growing broadly at trend it will be difficult for the unemployment rate to fall much lower than its current level.

31. Near-term employment growth is slightly lower than at HYEFU, reflecting a weaker GDP growth profile. Weaker employment growth sees lower compensation of employees growth, although this is somewhat tempered by solid wages.

32. The inflation outlook is also largely unchanged since the HYEFU. In the near term, lower-than-expected petrol prices place downward pressure on tradables inflation, seeing overall CPI inflation lower over 2019.

33. We forecast interest rates to increase from mid-2020 compared with late-2019 at HYEFU, owing to slightly weaker capacity pressures and growth profile.

34. After adjusting for the starting point, nominal GDP is around a cumulative $6 billion lower over the forecast period owing to the slightly weaker real growth outlook.

[1] It takes some time for the weaker-than-expected 0.3% growth in the September 2018 quarter to fall out of the annual average calculation.

…and core Crown tax revenue is forecast to be $1.2 billion lower

35. While nominal GDP growth has been below forecast, tax revenue has been broadly in line with forecast. For the seven months to January 2019, core Crown tax revenue was $0.3 billion (0.5%) above the HYEFU forecast. Source deductions were $0.2 billion (1.1%) above forecast, customs and excise duties $0.2 billion (5.9%) above forecast, GST was $0.1 billion (1.1%) above forecast and corporate tax was $0.2 billion (3.8%) below forecast.

36. Core crown tax is forecast to be $1.2 billion lower over the forecast period compared to HYEFU, mainly owing to weaker macroeconomic growth forecasts (Table 3).

Table 3: change in core Crown tax revenue since 2018 HYEFU

June years, $ billions	2018	2019	2020	2021	2022	2023	5-yr totals
2018 HYEFU	80.2	84.3	89.2	95.0	100.4	105.3	
% of GDP	*27.9*	*28.1*	*28.2*	*28.5*	*28.8*	*28.9*	
Forecasting changes by tax type:							
Net other persons tax	-	-0.1	-0.1	-0.1	-0.2	-0.2	-0.7
RWT on interest	-	-	+0.1	-0.1	-0.2	-0.3	-0.5
Source deductions	-	-	-0.1	-0.1	-0.1	-0.1	-0.4
Corporate tax	-	-	-0.1	-0.1	-	-	-0.2
GST	-	+0.1	-	+0.1	+0.1	+0.2	+0.5
All other taxes	-	+0.1	+0.1	-0.1	-0.1	+0.1	+0.1
Total forecasting change	***-***	***+0.1***	***-0.1***	***-0.4***	***-0.5***	***-0.3***	***-1.2***
2019 Budget Update prelim	**80.2**	**84.4**	**89.1**	**94.6**	**99.9**	**105.0**	
% of GDP	*28.0*	*28.3*	*28.3*	*28.6*	*28.8*	*28.9*	

37. Over the forecast period, the changes in the tax forecast broadly follow changes in the macroeconomic forecasts, namely:

- a lower forecast for growth in entrepreneurial income has reduced the forecasts of net other persons tax over the entire forecast period;
- a change in judgement in forecasting resident withholding tax has resulted in a small upward revision to our forecasts in 2020; in subsequent forecast years this change is more than offset by a softer outlook for deposit interest rates;
- source deductions are forecast to be lower from 2020 owing to weaker forecast for growth in employment, partly offset by stronger wages; and
- GST is forecast to be higher, on average, over the forecast owing to a stronger outlook for nominal consumption growth through the middle years of the forecast, tempered by relatively softer residential investment.

38. These tax forecasts were calculated as at 21 February. They will likely change prior to finalisation of the preliminary fiscal forecasts in mid-March, as more information from departments is collected and aggregated.

39. Inland Revenue has also prepared a set of tax forecast, based on Treasury's macroeconomic forecasts, using their own forecasting models and judgements. Across the five years of the forecast period, Inland Revenue forecasts are generally lower than the Treasury's (Table 4), but the difference is small (cumulative 0.1% of total tax revenue across the forecast period).

Table 4: the Treasury and Inland Revenue tax revenue forecasts

June years, $ billions	2019	2020	2021	2022	2023	5-yr total
Treasury forecast	84.4	89.1	94.6	99.9	105.0	
Inland Revenue forecast	84.9	89.1	94.4	99.5	104.5	
Treasury less Inland Revenue	*-0.5*	*-*	*+0.2*	*+0.4*	*+0.5*	*+0.6*
Percentage difference	*-0.6%*	*-*	*0.2%*	*0.4%*	*0.5%*	*0.1%*
By tax type:						
GST	-0.1	+0.2	+0.4	+0.5	+0.5	+1.5
Corporate tax	-	+0.1	-	+0.1	+0.1	+0.3
RWT on interest	-	-	+0.1	+0.1	+0.1	+0.3
Net other persons tax	-0.1	-	-	-	-	-0.1
Source deductions	-0.3	-0.3	-0.3	-0.3	-0.3	-1.5
All other taxes	-	-	-	-	+0.1	+0.1

Key assumptions on government policy are unchanged since HYEFU…

40. Assumptions regarding the following policies are unchanged since HYEFU 2018

- [38]
- KiwiBuild: scale and timing assumptions unchanged from HYEFU 2018.
- Minimum wage: increases to $20 per hour by 2021.
- Operating and capital allowances (as set out in the 2019 Budget Policy Statement): $2.4 billion operating allowance each Budget from Budgets 2019 to 2022 and a multi-year capital envelope of $13.1 billion.

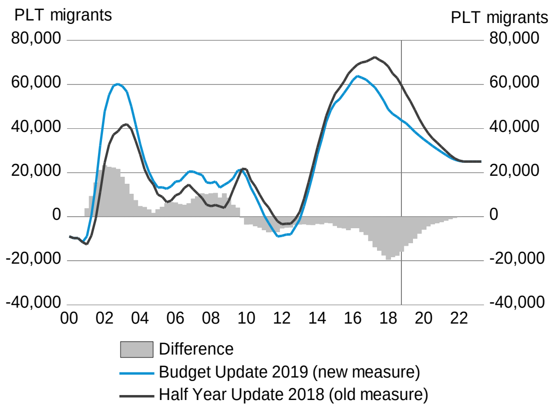
41. The extent to which the Reserve Bank's proposal to increase bank capital requirements will increase borrowing costs is uncertain. Our preliminary forecasts do not explicitly include any change to borrowing costs as no decisions have been taken.

…but new migration data increases uncertainty for future population growth

42. Stats NZ's new official measure of permanent and long-term (PLT) migration indicates that the overall net inflow of PLT migrants has been lower over recent years than previously thought. Stats NZ is yet to fully incorporate the new measure into other key statistics such as population estimates, GDP and the Household Labour Force Survey. Stats NZ have indicated they will progressively incorporate the new measure but do not have a clear timetable for doing so at this time.

43. The new, more historically accurate, measure of PLT migration shows a lower starting point for net migration. The previous measure used in the HYEFU showed annual PLT net migration for the year to November 2018 at 62,000, whereas the new measure shows net migration for the same period at 45,000 (Figure 7). Taking the different starting point into account, net migration is a cumulative 14,000 lower over the forecast period.

Figure 7: Net migration



44. The long-run annual PLT migration assumption remains unchanged at 25,000. The long-run average of the new series (28,000) is broadly consistent with our current long-run assumption.

Risks

45. The balance of risks to the domestic outlook is largely unchanged since the HYEFU and the uncertainty around risks to the international outlook remains large. The fiscal policy advice you will receive in March will include some scenarios to illustrate the risks to our forecasts and their potential impact on the government's fiscal position. Key risks to the economic outlook include:

- **increasing global trade tensions** resulting in lower global demand for New Zealand exports;
- **major adjustments in global financial and equity markets** hitting wealth levels, access to credit, and heightened investment uncertainty;
- **capacity constraints:** the Treasury (and Reserve Bank) residential investment forecasts are at the top end of market forecasters, chiefly because we assumed that urban development reforms and other policy unlock capacity in the construction sector. Should this not occur or occur at a slower rate than assumed, this could lead to reduced economic activity and lower tax revenue
- **higher-than-forecast nominal wages** as a result of government policies targeted at low paid workers and wage settlements in the public sector, particularly if there is greater spillover to the private sector, and greater-than-expected capacity pressures in the labour market; and
- **stronger (weaker) aggregate demand** due to net migration being higher (lower) than currently anticipated, particularly given uncertainty surrounding Stats NZ's new official measure of net migration.

46. If the above risks were to eventuate, real activity could be higher/lower than forecast and result in higher/lower tax revenue.

47. In the past, tax revenue has tended to exceed forecasts in an upswing and come in lower than forecast during a downswing. It is possible that this could occur again in the future. Therefore, if recent weakness in the economy is more persistent than expected, it is possible that actual tax revenue could undershoot forecasts.

Annex 1: Forecast Summary Tables

Table A1: Summary of Economic Forecasts – June Years

June Years Annual % change, unless otherwise specified	**2015**	**2016**	**2017**	**2018**	**2019** Forecast	**2020** Forecast	**2021** Forecast	**2022** Forecast	**2023** Forecast
Private consumption	3.2	4.4	5.6	3.6	3.3	3.0	2.8	2.6	2.6
Public consumption	3.3	1.5	2.6	3.1	1.6	2.0	1.0	1.6	1.7
TOTAL CONSUMPTION	**3.2**	**3.7**	**4.9**	**3.5**	**2.9**	**2.8**	**2.4**	**2.3**	**2.4**
Residential investment	6.3	9.9	4.2	2.6	3.2	4.3	6.0	4.3	2.0
Business investment*	6.9	2.4	2.1	6.8	1.5	5.3	4.2	3.5	2.9
TOTAL INVESTMENT	**6.7**	**4.3**	**2.6**	**5.6**	**1.9**	**5.0**	**4.7**	**3.7**	**2.6**
Stocks (contribution to GDP growth)	-0.0	-0.3	0.3	-0.1	0.1	-0.1	0.0	0.0	0.0
GROSS NATIONAL EXPENDITURE	**3.8**	**3.3**	**4.6**	**4.0**	**3.0**	**3.0**	**3.0**	**2.7**	**2.5**
Exports	6.2	5.4	0.3	3.6	3.9	3.2	2.4	2.3	2.4
Imports	6.6	1.1	6.1	7.9	3.6	3.3	3.0	2.7	2.4
EXPENDITURE ON GDP	**3.8**	**4.4**	**3.1**	**2.8**	**2.7**	**3.0**	**2.8**	**2.6**	**2.4**
GDP (PRODUCTION MEASURE)	**4.0**	**3.6**	**3.4**	**3.1**	**2.5**	**2.9**	**2.7**	**2.5**	**2.4**
- annual % change, June quarter	*3.9*	4.0	3.1	3.2	2.4	2.9	2.6	2.4	2.4
Other Output Measures									
Real Gross National Disposable Income	2.8	3.8	4.4	3.5	2.6	3.1	3.0	2.5	2.1
Nominal GDP (Expenditure Basis)	3.4	5.1	6.3	5.5	4.1	5.4	5.2	4.8	4.6
Output gap (June qtr,% of potential)	-0.5	0.4	0.4	0.6	0.2	0.3	0.2	0.1	-0.0
Per Capita Output Measures									
Real GDP per capita (Production basis)	2.2	1.6	1.2	1.1	0.8	1.4	1.4	1.3	1.2
Real Gross Nat. Disp Income per capita	1.1	1.7	2.2	1.5	0.9	1.6	1.7	1.3	1.0
Nominal GDP per capita (Expenditure basis)	1.7	3.0	4.0	3.4	2.3	4.0	3.9	3.6	3.4
Labour Market									
Employment	3.2	2.3	5.2	3.7	2.3	1.8	1.6	1.4	1.3
Unemployment Rate (June quarter)	5.4	5.0	4.7	4.4	4.2	4.2	4.2	4.3	4.3
Labour Productivity (Hours worked basis)	1.2	0.6	-1.5	-1.2	1.5	0.4	1.2	1.2	1.2
Wages (QES average hourly ord time earnings, APC)	2.7	2.1	1.6	3.0	3.4	3.2	3.5	3.4	3.5
Unit Labour Costs (Hours worked basis)	1.2	1.6	3.1	4.2	1.5	2.8	2.2	2.1	2.3
Monetary Conditions									
90-day Bank Bill Rate (June quarter ave)	3.5	2.4	2.0	2.0	2.0	2.0	2.4	2.7	2.9
10-year Bond Rate (June quarter ave)	3.6	2.7	2.9	2.8	2.2	2.6	3.0	3.4	4.0
TWI (June quarter ave)	76.2	73.6	76.5	73.8	73.5	73.6	74.1	74.4	74.5
- annual % change (June quarter)	-6.5	-3.4	3.9	-3.5	-0.4	0.1	0.7	0.3	0.2
Price Measures									
CPI Inflation (ann % change, June quarter)	0.4	0.4	1.7	1.5	1.9	2.0	2.0	2.0	2.0
Consumption Deflator	0.6	0.8	1.0	1.3	1.8	2.0	2.0	1.9	1.9
GDP Deflator	-0.3	0.6	3.1	2.6	1.3	2.4	2.3	2.2	2.1
House Price Inflation (ann % change, June qtr)	11.2	14.0	6.4	3.6	2.4	4.1	4.5	4.4	4.7
Key Balances									
Current account balance ($ million)	-8,358	-5,763	-7,361	-9,788	-10,859	-10,833	-10,912	-11,670	-12,827
Current account balance (% of GDP)	-3.4	-2.2	-2.7	-3.4	-3.6	-3.4	-3.3	-3.3	-3.5
Terms of Trade (goods) - SNA Basis	-4.7	-2.7	5.0	4.7	-2.4	0.7	0.9	0.5	0.2
Household saving ratio (% of HHDI, March yr)	-1.0	-0.6	0.1	-1.4	-0.3	-0.2	-0.1	0.0	-0.0

* Total investment excluding residential

Table A2: Change in Economic Forecasts from Half Year Update 2018 – June Years

June Years Annual % change, unless otherwise specified	2015	2016	2017	2018	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast
Private consumption	-0.2	0.2	0.7	0.2	0.5	0.1	0.1	0.0	0.1
Public consumption	0.0	-0.0	-0.3	-2.1	-1.7	0.4	0.1	0.4	0.3
TOTAL CONSUMPTION	**-0.1**	**0.1**	**0.4**	**-0.4**	**-0.0**	**0.2**	**0.1**	**0.1**	**0.2**
Residential investment	-0.1	-0.7	-0.7	0.8	1.2	-1.1	-0.1	0.2	0.1
Business investment*	-0.4	-1.4	-1.8	1.4	-3.0	1.1	0.0	0.2	0.1
TOTAL INVESTMENT	**-0.3**	**-1.3**	**-1.5**	**1.2**	**-1.9**	**0.5**	**-0.0**	**0.2**	**0.1**
Stocks (contribution to GDP growth)	-0.0	0.0	0.1	-0.0	0.3	-0.3	-0.0	0.0	0.0
GROSS NATIONAL EXPENDITURE	**-0.2**	**-0.2**	**0.1**	**-0.1**	**0.1**	**-0.1**	**0.0**	**0.1**	**0.2**
Exports	0.0	-0.0	-0.0	-0.0	-0.5	0.1	0.2	0.1	0.0
Imports	0.0	0.0	-0.0	-0.1	-0.2	-0.2	-0.1	0.1	0.1
EXPENDITURE ON GDP	**-0.2**	**-0.2**	**0.1**	**-0.1**	**-0.3**	**-0.0**	**0.2**	**0.2**	**0.1**
GDP (PRODUCTION MEASURE)	**0.0**	**-0.1**	**0.1**	**0.4**	**-0.4**	**-0.2**	**-0.0**	**0.1**	**0.1**
- annual % change, June quarter	*0.1*	*-0.3*	*0.3*	*0.3*	*-0.5*	*-0.2*	*0.1*	*0.1*	*0.1*
Other Output Measures									
Real Gross National Disposable Income	0.0	-0.1	0.1	0.4	-0.4	0.1	0.0	0.0	-0.1
Nominal GDP (Expenditure Basis)	-0.2	-0.2	0.1	0.0	-0.3	-0.1	0.0	0.1	0.1
Per Capita Output Measures									
Real GDP per capita (Production basis)	0.0	-0.1	0.1	0.4	-0.3	-0.1	0.1	0.1	0.1
Real Gross Nat. Disp Income per capita	0.0	-0.1	0.1	0.4	-0.3	0.2	0.1	0.1	-0.1
Nominal GDP per capita (Expenditure basis)	-0.2	-0.2	0.1	0.0	-0.1	0.0	0.1	0.1	0.1
Labour Market									
Employment	0.0	-0.0	0.0	0.0	-0.4	-0.2	0.0	0.1	0.1
Unemployment Rate (June quarter)	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1
Labour Productivity (Hours worked basis)	0.0	-0.1	0.1	0.4	0.9	-0.7	-0.0	-0.0	-0.0
Wages (QES average hourly ord time earnings, APC)	0.0	0.0	-0.0	-0.0	0.3	-0.0	-0.1	-0.0	-0.1
Unit Labour Costs (Hours worked basis)	-0.0	0.1	-0.1	-0.4	-0.7	0.7	-0.0	-0.0	-0.0
Monetary Conditions									
90-day Bank Bill Rate (June quarter ave)	0.0	0.0	0.0	0.0	-0.0	-0.3	-0.5	-0.4	-0.4
10-year Bond Rate (June quarter ave)	0.0	0.0	0.0	0.0	-0.8	-0.8	-1.0	-0.9	-0.4
TWI (June quarter ave)	0.0	0.0	0.0	0.0	0.0	-0.3	-0.6	-0.8	-0.7
- annual % change, June quarter	0.0	0.0	0.0	0.0	0.0	-0.4	-0.4	-0.2	0.1
Price Measures									
CPI Inflation (ann % change, June quarter)	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.0	-0.0
Consumption Deflator	-0.0	-0.0	0.0	0.0	-0.1	-0.1	0.1	0.1	0.0
GDP Deflator	-0.0	-0.0	-0.0	0.1	0.0	-0.1	-0.1	-0.1	-0.0
House Price Inflation (ann % change, June quarter)	0.0	0.0	0.9	-1.6	-1.7	0.4	-0.6	-0.6	0.3
Key Balances									
Current account balance ($ million)	-2	-7	3	-6	-195	758	1,074	1,060	633
Current account balance (% of GDP)	-0.0	-0.0	-0.0	-0.0	-0.1	0.2	0.3	0.3	0.2
Terms of Trade - SNA Basis	0.0	0.1	-0.0	0.0	-0.3	0.5	-0.2	-0.1	-0.1
Household saving ratio (% of HHDI, March year)	0.4	0.6	2.9	1.2	1.2	0.5	0.3	0.3	0.1

* Total investment excluding residential