TE TAI ŌHANGA
THE TREASURY

Budget Economic and Fiscal Update (BEFU) 2020 Projection Assumptions to 2033/34

14 May 2020

The economic and fiscal forecasts from 2019/20 to 2023/24 are detailed in the 2020 Budget *Economic and Fiscal Update* (BEFU). Fiscal projections commence after the final forecast year (2023/24) and extend to 2033/34. The Fiscal Strategy Model (FSM) is used to develop the projections, with the forecast years acting as the projection base. The post-forecast projections are based on the long-run technical and policy assumptions outlined below.

Economic projections and assumptions

Table 1 – Summary of economic projections[1]

Year ending 30 June	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	...	2034
	Forecasts					Projections							
Labour force	0.2	1.1	2.3	1.9	1.8	1.3	1.2	1.1	1.1	1.0	0.9	...	0.6
Unemployment rate[2]	5.2	8.6	6.3	5.4	5.0	4.7	4.4	4.3	4.3	4.3	4.3	...	4.3
Average weekly hours worked	32.7	33.2	33.6	33.7	33.8	33.8	33.8	33.8	33.8	33.8	33.8	...	33.8
Labour productivity growth[3]	-0.1	0.3	2.4	1.4	1.1	1.2	1.2	1.2	1.2	1.2	1.2	...	1.2
Real GDP[4]	-4.6	-1.0	8.6	4.6	3.6	2.9	2.8	2.5	2.3	2.2	2.1	...	1.8
Nominal GDP[5]	-3.0	0.0	11.6	7.3	6.2	4.9	4.8	4.5	4.3	4.2	4.1	...	3.9
Consumers Price Index (CPI) (annual percentage change)	1.4	0.8	1.5	1.8	1.8	2.0	2.0	2.0	2.0	2.0	2.0	...	2.0
Government 10-year bonds (average percentage rate)	1.3	0.5	0.9	1.7	2.2	2.4	2.6	2.8	3.0	3.2	3.3	...	3.9
Net migration (thousands)[6]	36.3	5.0	17.5	27.0	35.0	36.0	34.0	32.0	30.0	28.0	26.0		18.0
Population (millions)[7]	5.0	5.0	5.0	5.1	5.2	5.2	5.3	5.4	5.4	5.5	5.5	...	5.7
Nominal average hourly wage	3.3	1.2	1.2	2.9	3.5	3.2	3.2	3.2	3.2	3.2	3.2	...	3.2

Notes

[1] Annual average percentage change unless otherwise stated

[2] Total unemployed as a percentage of the labour force (annual average)

[3] Hours worked measure

[4] Production measure, 2009/10 base

[5] Expenditure measure

[6] Number of long-term (1 year or more) arrivals minus long-term departures

[7] Treasury forecasts and projections, so will not match official Stats NZ projections

Source: The Treasury

Forecasts are an attempt to predict future outcomes by employing a wide range of resources, comprehensive modelling, and expert opinion and knowledge. Projections are potential paths that arise from and are heavily influenced by their forecast base. Projections are based on trend or long-run averages for growth rates or levels of key economic, fiscal and demographic variables, and generally assume no post-forecast policy changes. Projections do not incorporate behavioural or other responses to outcomes or trend movements.

While many economic variables are at, or very close to, their assumed long-run trend growth rates or levels at the end of the forecast period, a few may require transition in the early years of the projections and some for even longer periods into the projections. In such cases the annual convergence rate assumed is based on recent actual and forecast performance.

- In the early years of BEFU 2020 projections, several economic variables that are still influenced by the impacts of the COVID-19 pandemic, like the unemployment rate, are transitioned back to long-run stable assumptions. Once these are attained the economy is assumed to grow at trend growth rates with no economic cycles in the projections.

- Other economic variables such as CPI growth, annual labour productivity growth, average weekly hours worked, and nominal average hourly wage growth reach their long-run assumed rates or levels in the first projected year.

- The government 10-year bond annual rate of return rises gradually over the entire decade of projections, but has still not stabilised by the final projected year of 2033/34. One of the main reasons for this is that, for the final forecast year of 2023/24, the annual rate of return of 2.2% is less than half the value of the current long-run stable projection assumption of 5.0%. This long-run assumption will be reviewed in the near future, as both actual and forecast interest rates have reduced in recent years. The modelling method used in projecting the bond rate from its forecast base means it only reaches 3.9% by 2033/34.

- Net migration reaches 35,000 by the final forecast year, increases to 36,000 in the first projected year, and then declines by 2,000 per year to reach 18,000 by 2033/34.

Projected real GDP grows from its forecast base via the annual combined change in the size of the employed labour force, the average hours they work and their productivity.

Growth in nominal GDP in each projected year is achieved by adding CPI-based inflation to the real GDP growth. The long-run stable assumption for CPI inflation is 2 per cent per year, which matches the midpoint of the band set in remit for the Monetary Policy Committee. Nominal GDP growth is used to project many fiscal variables, including tax revenue. It is also the denominator for most major fiscal indicators, such as net core Crown debt to GDP.

Fiscal projections and assumptions

Fiscal projections have changed significantly from those published as part of the 2019 Half Year Economic and Fiscal Update (HYEFU) due to –

- Changes in the economic and fiscal forecasts, which affect the starting point for the projections.
- Changes in the Government’s fiscal policy in response to the COVID-19 pandemic.
- Changes in the level and growth rate of operating and capital allowances.

These projections illustrate potential future progress towards achieving the Government’s long-term objectives of stabilising net core Crown debt at prudent levels in the projection period; and returning total Crown operating balance before gains and losses (OBEGAL) to surplus over the long term.

Table 2 – Summary of fiscal projections, as percentages of nominal GDP

Year ending 30 June	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	…	2034
% of GDP	Forecasts					Projections							
Core Crown revenue	30.4	29.6	28.8	29.5	29.4	29.9	30.2	30.4	30.6	30.7	30.8	…	31.0
Core Crown expenses	38.7	38.6	36.5	33.7	30.2	30.0	29.9	29.9	29.9	30.0	30.0	…	30.0
Total Crown revenue	38.9	37.4	36.9	37.3	36.9	37.6	38.0	38.2	38.4	38.5	38.6	…	38.8
Total Crown expenses	48.5	47.4	45.1	41.8	38.1	38.2	38.1	38.1	38.2	38.3	38.4	…	38.5
Total Crown OBEGAL[1]	-9.6	-10.1	-8.3	-4.7	-1.3	-0.7	-0.2	-0.1	0.1	0.1	0.1	…	0.2
Total Crown operating balance[2]	-12.6	-10.0	-7.4	-3.7	-0.3	0.4	0.8	1.0	1.2	1.3	1.3	…	1.5
Gross sovereign-issued debt	45.6	69.2	74.3	74.4	74.0	73.9	73.4	72.6	71.5	70.3	68.9	…	63.2
Net core Crown debt[3]	30.2	44.0	49.8	53.6	53.6	53.2	52.3	51.3	50.1	48.8	47.5	…	42.0
Total Crown net worth	36.0	26.0	16.0	11.2	10.3	10.2	10.5	11.1	11.8	12.6	13.4	…	16.8
Net worth attributable to the Crown	34.0	24.1	14.3	9.7	8.9	8.8	9.2	9.7	10.5	11.3	12.2	…	15.6

Notes

[1] Operating balance (before gains and losses)

[2] Excludes minority interests

[3] Excludes financial assets of the NZS Fund and core Crown advances

Source: The Treasury

Table 3 – Summary of fiscal assumptions

Tax revenue	All tax categories transition at 0.10 percentage points of GDP per year from their end-of-forecast percentage of GDP, either upward or downward, until they reach a long-run stable percentage of nominal GDP. These stable assumptions are based on historical data, taking into account tax rate and policy changes that could affect them. The transitional adjustment is to ensure that tax revenue projections are based on percentages of GDP that are neither higher nor lower than would be expected when the economy is performing at its potential. Once the long-term stable percentages are reached, the tax types remain at them in later projected years. Source deductions (mainly PAYE tax on salary and wages) track towards a stable percentage of nominal GDP of 11.4 per cent. The stable percentage for corporate tax (dominated by company tax) is 4.5 per cent. The assumption for goods and services tax (GST) is 7.3 per cent. Hypothecated transport taxes, used to fund most transport-related operating and capital expenditure, stabilise at 1.2 per cent of GDP and all remaining tax types are aggregated into the Other taxes category, which uses a long-run stable assumption of 3.6 per cent of GDP. The elimination from core Crown tax to total Crown tax applies a long-run stable assumption of 0.3 per cent of GDP.
New Zealand Superannuation (NZS)	Demographically adjusted and linked to net wage growth, via the "wage floor". The latter refers to the net (after-tax) weekly NZS rate for a couple being constrained in legislation to lie between 65 per cent and 72.5 per cent of net average weekly earnings. Following current policy, a 66 per cent wage floor is maintained across projections.
Main working-age benefits	Jobseeker Support (JSS), Supported Living Payment (SLP), and Sole Parent Support (SPS) are demographically adjusted and linked to the same net wage growth used to index NZS payments
Other benefits	Demographically adjusted and linked to inflation.
Health and education	Held constant at the end-of-forecast values, because their growth is assumed to come from a share of the projected Operating Allowance annual increment.
Other expenditure	Held constant at the end-of-forecast values, because their growth is assumed to come from a share of the projected Operating Allowance annual increment.
Finance costs	A function of debt levels and interest rates.
Operating Allowance	$2.1 billion in 2024/25. Operating Allowances grow at 2 per cent per year from this value in later projected years, which approximates annual growth in Consumers Price Index (CPI) inflation over the decade of projections.
Capital Allowance	$3.0 billion in 2024/25. Capital Allowances grow at 2 per cent per year from this value in later projected years, again approximating annual CPI growth. Note that these amounts refer to the Capital Allowance for a single projected year, which is in contrast to the multi-year Capital Allowance used in the forecast period and referred to in the 2020 BEFU document.
NZS Fund	Capital contributions to the NZS Fund from 2019/20 to 2021/22 are as per planned contributions intended by the Government and not the contributions as prescribed by the legislated formula. The legislated formula is used to calculate the capital contribution in 2022/23, but this amount is reduced by $40 million that will be redirected to investment in early stage capital markets. From 2023/24 onwards, annual capital contributions (and withdrawals in later years) are equal to those prescribed by the legislated formula in the *New Zealand Superannuation and Retirement Income Act 2001.*