TE TAI ŌHANGA
THE TREASURY

Medium-term Projection Assumptions

Budget Policy Statement (BPS) 2021 version of the Fiscal Strategy Model (FSM)

9 February 2021

Corrigendum: 1 March 2021: Figures in Table 2 for Total Crown net worth and Net worth attributable to the Crown have been corrected.

This version of the Fiscal Strategy Model (FSM) uses economic and fiscal forecasts prepared for the 2020 *Half Year Economic and Fiscal Update* (HYEFU). The projection period begins in 2025/26 and extends a decade to 2034/35. These post-forecast fiscal projections are based on the long-run technical and policy assumptions outlined below.

The Fiscal Strategy Model (FSM) that produces the projections can be found on the Treasury website at https://treasury.govt.nz/government/fiscalstrategy/model

Economic projections and assumptions

Table 1 – Summary of economic projections[1]

Year ending 30 June	2021	2022	2023	2024	2025	2026	2027	2028	2029	.....	2035
	Forecasts					Projections					
Labour force	1.1	1.3	1.7	1.7	1.7	1.4	1.3	1.2	1.1	...	0.7
Unemployment rate[2]	6.1	6.9	6.2	5.0	4.2	4.3	4.3	4.3	4.3	...	4.3
Average weekly hours worked[3]	33.8	33.6	33.6	33.6	33.6	33.7	33.7	33.7	33.7	...	33.7
Labour productivity growth[4]	0.7	2.5	1.4	0.7	0.6	1.0	1.0	1.0	1.0	...	1.0
Real GDP[5]	1.5	2.6	3.7	3.8	3.2	2.5	2.3	2.2	2.1	...	1.7
Nominal GDP[6]	2.5	4.6	6.2	6.4	5.8	4.5	4.4	4.3	4.2	...	3.7
Consumers Price Index (CPI) (annual percentage change)	1.4	1.1	1.4	1.8	2.2	2.0	2.0	2.0	2.0	...	2.0
Government 10-year bonds (average percentage rate)	0.6	0.6	0.9	1.5	1.9	2.1	2.3	2.5	2.7	...	3.7
Nominal average hourly wage	2.9	2.0	2.2	2.6	3.1	3.0	3.0	3.0	3.0	...	3.0

Notes:

1 Annual average percentage change unless otherwise stated
2 Total unemployed as a percentage of the labour force (annual average)
3 Average weekly hours worked (total hours worked ÷ total employed labour force)
4 Hours worked measure
5 Production measure, 2009/10 base
6 Expenditure measure

Sources: The Treasury, Statistics New Zealand

Forecasts attempt to predict future outcomes by using wide-ranging resources, comprehensive modelling and expert opinion and knowledge. Projections, which arise from and are heavily influenced by their forecast base, are potential paths. These paths are based on trend or long-run averages for growth rates or levels of key economic, fiscal and demographic variables, and generally assume no policy changes beyond those built into their forecast base.

While most economic variables are at, or very close to, their assumed long-run trend growth rates or levels by the end of the forecast, a few require transition over the early years of projections. In these cases, the annual convergence rate assumed is based on recent actual and forecast performance.

Most of the economic variables like the unemployment rate, CPI growth, annual labour productivity growth, and nominal average hourly wage growth reach their long run assumed rates or levels in the first projected year. Other economic variables such as average weekly hours worked reach their long run assumed level in the second year of projection.

With the recent outturns of data and revisions in historical GDP data, we have updated our assumption on long run annual labour productivity growth to 1.0% from 1.2% in the 2020 *Pre-election Economic and Fiscal Update* (PREFU).

The government 10-year bond annual rate of return rises gradually over the entire decade of projections, reaching 3.7% by 2034/35. The long-run assumption for the government 10-year bond rate is under review, as both actual and forecast interest rates have reduced in recent years.

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

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

Year ended 30 June	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
	Forecasts					Projections									
Core Crown revenue	29.3	28.3	28.9	28.7	28.7	28.8	29.0	29.1	29.3	29.4	29.4	29.4	29.5	29.5	29.5
Core Crown expenses	35.3	32.2	31.1	30.1	29.3	28.7	28.7	28.6	28.6	28.7	28.7	28.7	28.7	28.8	28.8
Core Crown residual cash	-12.4	-10.7	-6.6	-1.4	1.0	-0.4	-1.4	-1.1	-0.9	-0.7	-0.6	-0.6	-0.5	-0.5	-0.4
Total Crown revenue	36.0	35.2	35.9	35.6	35.4	35.7	35.9	36.1	36.2	36.3	36.4	36.4	36.4	36.5	36.5
Total Crown expenses	42.6	40.0	38.6	37.4	36.3	35.8	35.8	35.8	35.8	35.9	36.0	36.0	36.1	36.2	36.3
Total Crown OBEGAL[1]	-6.7	-4.9	-2.9	-2.0	-1.0	-0.2	0.0	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.1
Total Crown operating balance[2]	-7.9	-4.4	-1.8	-0.8	0.2	1.0	1.2	1.5	1.6	1.7	1.7	1.7	1.7	1.7	1.6
Core Crown GSID[3]	47.2	57.5	59.4	57.2	53.0	51.4	50.9	50.1	49.2	48.2	47.1	46.1	45.0	44.0	43.0
Net core Crown debt[4]	39.7	49.1	52.6	50.7	46.9	45.2	44.6	43.7	42.7	41.7	40.6	39.6	38.5	37.5	36.5
Total Crown net worth	27.5	22.0	19.0	17.1	16.4	16.7	17.2	18.0	18.9	19.8	20.7	21.6	22.4	23.3	24.1
Net worth attributable to the Crown[5]	25.9	20.4	17.5	15.7	15.1	15.3	15.8	16.6	17.4	18.3	19.2	20.1	21.0	21.8	22.6

Notes:

1 Operating balance before gains/(losses)
2 Excludes minority interests
3 Gross sovereign-issued debt
4 Excludes financial assets of the NZS Fund and core Crown advances
5 Excludes assets and liabilities belonging to minority interests

Source: The Treasury

Fiscal projections have changed from those published as part of the 2020 PREFU and this reflects changes in the economic and fiscal forecast bases of the projections. We have also updated the long-run core Crown tax to GDP ratio to 27.5% of GDP from 28.3% of GDP in the 2020 PREFU. The revised ratio is based on the historical outturns between 2006/07 and the latest year 2019/20. This ratio considers the most recent outturns of data and revisions in historical GDP data. We have also updated the values for each of the individual tax types in the model.

Table 3 – Summary of fiscal assumptions

Tax revenue	Linked to growth in nominal GDP. The overall stable long-run core Crown tax to GDP ratio assumed is 27.5% of GDP. All tax categories change at a rate of 0.05 percentage points of GDP per annum from their end-of-forecast percentage of GDP, either upward or downward, until they reach a long-run stable percentage. These stable assumptions are based on historical data, taking into account tax rate and policy changes that could affect them. • Source deductions (mainly PAYE tax on salary and wages) track towards a stable percentage to nominal GDP of 11.3 per cent. • The stable percentage for corporate tax (dominated by company tax) is 4.3 per cent. • The assumption for goods and services tax (GST) is 7.0 per cent. • Hypothecated transport taxes, used to fund most transport-related operating and capital expenditure, stabilise at 1.2 per cent of GDP. • All remaining tax types are aggregated into the other taxes category, which uses a long-run stable assumption of 3.5 per cent of GDP. The elimination from core Crown tax to total Crown tax applies a long-run stable assumption of 0.2 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 as set in legislation to lie between 65 per cent and 72.5 per cent of net average weekly earnings.
Jobseeker Support, Supported Living Payment and Sole Parent Support	These three main working-age benefits are grown via demographic adjustment of recipient numbers and net average wage growth for payment rate indexation. Modelling is incorporated to reduce or increase recipient growth in early projected years if recipient numbers are considered to be unusually high or low at the end of the forecast period.
Other benefits	Demographically adjusted and linked to inflation for payment rate indexation. Modelling is incorporated to reduce or increase recipient growth in early projected years if recipient numbers are considered to be unusually high or low at the end of the forecast period.
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	$2.3 billion in 2025/26. Operating Allowances continue to grow at 2 per cent per annum from this value in later projected years.
Capital allowance	$4 billion in 2025/26. Capital Allowances continue to grow at 2 per cent per annum from this value in later projected years.
NZS Fund	Contributions to the Fund follow the Government's planned track until 2021/22, after which they revert to values determined by the legislated formula and calculated by the Treasury's NZSF model using the 2020 HYEFU economic and fiscal forecast inputs.