

Half Year Economic and Fiscal Update (HYEFU) 2019 Projection Assumptions to 2033/34

11 December 2019

The economic and fiscal forecasts from 2019/20 to 2023/24 are detailed in the 2019 *Half Year Economic and Fiscal Update* (HYEFU). 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 projections¹

Year ending 30 June	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	...	2034
	Forecasts					Projections							
Labour force	1.5	2.0	1.9	1.7	1.5	1.2	1.1	1.0	0.9	0.8	0.7	...	0.6
Unemployment rate ²	4.2	4.2	4.2	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	...	4.3
Average weekly hours worked	33.9	33.8	33.8	33.8	33.7	33.7	33.7	33.7	33.7	33.7	33.7	...	33.7
Labour productivity growth ³	0.2	1.0	0.9	0.9	1.0	1.1	1.2	1.2	1.2	1.2	1.2	...	1.2
Real GDP ⁴	2.2	2.8	2.7	2.5	2.4	2.3	2.3	2.2	2.1	2.0	1.9	...	1.8
Nominal GDP ⁵	5.1	5.2	5.3	4.9	4.8	4.4	4.4	4.3	4.2	4.0	3.9	...	3.8
Consumers Price Index (CPI) (annual percentage change)	1.8	1.9	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	...	2.0
Government 10-year bonds (average percentage rate)	1.3	1.5	1.7	2.1	2.5	2.7	2.9	3.0	3.2	3.4	3.6	...	4.1
Net migration (thousands) ⁶	47.8	44.6	41.4	38.2	35.0	32.0	29.0	26.0	23.0	20.0	17.0	...	15.0
Population (millions) ⁷	4.96	5.04	5.11	5.18	5.24	5.31	5.37	5.42	5.48	5.53	5.57	...	5.73
Nominal average hourly wage	3.6	3.3	3.5	3.6	3.7	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 2019 HYEFU projections, CPI growth, unemployment rate and average weekly hours worked reach their long-run assumed rates or levels in the first projected year. By the second projected year labour productivity growth and nominal average hourly wage growth stabilise.

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 2.5% is only half the value of the current long-run stable projection assumption of 5.0%.

Net migration reaches 35,000 by the final forecast year, and then declines over projections, at a rate of 3,000 per year, until it reaches 15,000 in 2030/31 and then remains at this level. This is the current long-run stable assumption used by Stats NZ in its population projections.

A significant change in the economic projections is the reduction in the projected annual labour productivity growth assumption from 1.5% to 1.2%. This long-standing assumption has been changed following an extensive review. More detail about this can be found in the Treasury Background Paper *Labour productivity growth in the Treasury's fiscal projections*. There is a link to this paper on the 2019 HYEPU Fiscal Strategy Model site, or it can be accessed via the link <https://treasury.govt.nz/publications/background/labour-productivity-growth-in-treasurys-fiscal-projections>

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 from those published as part of the 2019 Budget Economic and Fiscal Update (BEFU), reflecting changes in the economic and fiscal forecast bases of the projections, as well as changes in policy.

These projections illustrate potential future progress towards achieving the Government's long-term objectives, including that net core Crown debt will be maintained at prudent levels, expenditure will be maintained within the recent historical range and that the Government will deliver sustainable operating surpluses.

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	30.0	30.2	30.1	30.3	30.2	30.2	30.2	30.2	30.2	30.3	30.3	...	30.4
Core Crown expenses	29.3	29.4	28.8	28.6	28.1	28.0	28.1	28.3	28.4	28.5	28.6	...	29.2
Total Crown revenue	37.8	37.8	37.6	37.7	37.6	37.6	37.6	37.6	37.7	37.7	37.7	...	37.9
Total Crown expenses	38.0	37.7	37.0	36.5	35.9	36.0	36.1	36.3	36.4	36.6	36.8	...	37.7
Total Crown OBEGAL ¹	-0.3	0.0	0.5	1.1	1.5	1.5	1.4	1.2	1.1	1.0	0.8	...	0.1
Total Crown operating balance ²	0.1	1.1	1.6	2.3	2.8	2.3	2.2	2.2	2.1	2.0	1.9	...	1.3
Gross sovereign-issued debt	30.2	29.2	30.1	28.5	28.2	28.0	28.0	27.9	27.6	27.4	27.2	...	27.5
Net core Crown debt ³	19.6	21.0	21.5	20.9	19.6	19.6	19.6	19.6	19.4	19.1	19.0	...	19.3
Total Crown net worth	45.6	44.4	43.8	44.1	44.9	45.4	45.7	46.0	46.3	46.4	46.6	...	45.8
Net worth attributable to the Crown	43.7	42.6	42.2	42.5	43.5	43.9	44.2	44.5	44.8	45.0	45.1	...	44.4

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	<p>All tax categories transition at 0.05 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.</p> <p>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.</p>
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	\$2.6 billion in 2024/25. Operating Allowances grow at 4.2 per cent per year from this value in later projected years, which approximates annual growth in nominal GDP over the decade of projections.
Capital Allowance	\$6.6 billion in 2023/24. Capital Allowances grow at 4.2 per cent per year from this value in later projected years, again approximating nominal GDP 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 2019 HYEPU document.
NZS Fund	Capital contributions to the NZS Fund resumed in 2017/18, and by 2022/23 are restored to a level consistent with the contribution formula in the <i>New Zealand Superannuation and Retirement Income Act 2001</i> .