Half Year Economic and Fiscal Update 2017 Additional Information

The following information forms part of the *Half Year Economic and Fiscal Update 2017 (Half Year Update)* released by the Treasury on 14 December 2017. This information provides further details on the *Half Year Update* and should be read in conjunction with the published document. The additional information includes:

- **Detailed economic forecast information** – breakdowns of the economic forecasts.
- **Treasury and Inland Revenue tax forecasts** – detailed tax revenue and receipts tables comparing Treasury's forecasts with IRD's forecasts.
- **Tax Policy changes** – details of material changes to tax revenue since the *Budget Update* as a result of policy initiatives.
- **Additional fiscal indicators** – estimates of the cyclically-adjusted balance and fiscal impulse.
- **Government Finance Statistics (GFS) for central government** – fiscal tables presented under a GFS presentation framework to help with cross-country comparisons.
- **Accounting policies** – outline of the specific Crown accounting policies.

Detailed Economic Forecast Information

This section includes tables with additional detail on the economic forecasts in the *Half Year Economic Fiscal Update.*

The economic numbers and forecasts in this section were finalised on 27 November 2017.

Table 1	Real Gross Domestic Product
Table 2	Consumers Price Index and exchange rates
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Table 1 – Real Gross Domestic Product

Production based chain volume series expressed in 2009/10 prices

Seasonally adjusted

	$ million	Quarterly % change	Annual % change	Annual average % change
2015Q1	55,087	0.1	3.1	3.4
2015Q2	55,151	0.1	2.4	3.3
2015Q3	55,656	0.9	2.2	3.0
2015Q4	56,255	1.1	2.2	2.5
2016Q1	56,645	0.7	2.8	2.4
2016Q2	57,086	0.8	3.5	2.7
2016Q3	57,481	0.7	3.3	3.0
2016Q4	57,695	0.4	2.6	3.0
2017Q1	58,054	0.6	2.5	3.0
2017Q2	58,521	0.8	2.5	2.7
2017Q3	58,872	0.6	2.4	2.5
2017Q4	59,343	0.8	2.9	2.6
2018Q1	59,891	0.9	3.2	2.7
2018Q2	60,433	0.9	3.3	2.9
2018Q3	61,023	1.0	3.7	3.2
2018Q4	61,599	0.9	3.8	3.5
2019Q1	62,097	0.8	3.7	3.6
2019Q2	62,510	0.7	3.4	3.6
2019Q3	63,006	0.8	3.2	3.5
2019Q4	63,442	0.7	3.0	3.3
2020Q1	63,880	0.7	2.9	3.1
2020Q2	64,308	0.7	2.9	3.0
2020Q3	64,737	0.7	2.7	2.9
2020Q4	65,149	0.6	2.7	2.8
2021Q1	65,545	0.6	2.6	2.7
2021Q2	65,914	0.6	2.5	2.6
2021Q3	66,250	0.5	2.3	2.5
2021Q4	66,576	0.5	2.2	2.4
2022Q1	66,892	0.5	2.1	2.3
2022Q2	67,193	0.5	1.9	2.1

Source: Statistics New Zealand, the Treasury

Table 2 – Consumers Price Index and Exchange Rates

	Consumers Price Index			Exchange rates	
	Index	Quarterly % change	Annual % change	TWI	USD
2015Q1	1195	-0.2	0.3	77.9	0.75
2015Q2	1200	0.4	0.4	76.2	0.73
2015Q3	1204	0.3	0.4	69.8	0.65
2015Q4	1198	-0.5	0.1	72.1	0.67
2016Q1	1200	0.2	0.4	72.2	0.66
2016Q2	1205	0.4	0.4	73.6	0.69
2016Q3	1209	0.3	0.4	77.0	0.72
2016Q4	1214	0.4	1.3	77.6	0.71
2017Q1	1226	1.0	2.2	78.0	0.71
2017Q2	1226	0.0	1.7	76.5	0.70
2017Q3	1232	0.5	1.9	77.1	0.73
2017Q4	1238	0.5	1.9	73.8	0.70
2018Q1	1243	0.4	1.4	73.8	0.70
2018Q2	1251	0.6	2.0	73.8	0.70
2018Q3	1258	0.6	2.1	73.8	0.70
2018Q4	1259	0.1	1.8	73.8	0.70
2019Q1	1266	0.6	1.9	73.8	0.70
2019Q2	1274	0.6	1.9	73.8	0.70
2019Q3	1283	0.7	2.0	73.8	0.70
2019Q4	1285	0.2	2.1	73.8	0.70
2020Q1	1293	0.6	2.1	73.8	0.70
2020Q2	1301	0.6	2.1	73.8	0.70
2020Q3	1310	0.7	2.2	73.8	0.70
2020Q4	1313	0.2	2.2	73.8	0.70
2021Q1	1322	0.6	2.2	73.8	0.70
2021Q2	1330	0.7	2.2	73.8	0.70
2021Q3	1340	0.7	2.3	73.8	0.70
2021Q4	1343	0.2	2.3	73.8	0.70
2022Q1	1351	0.6	2.3	73.8	0.70
2022Q2	1360	0.6	2.2	73.8	0.70

Source: RBNZ, Statistics New Zealand, the Treasury

Table 3 – Expenditure on Gross Domestic Product and Gross Domestic Product (income) in current prices

Year ended June	**2017**			**2018**			**2019**			**2020**			**2021**			**2022**
	Actual			**Forecast**			**Forecast**			**Forecast**			**Forecast**			**Forecast**
	$million	%volume	%price	$million	%volume	%price	$million	%volume	%price	$million	%volume	%price	$million	%volume	%price	$million
Consumption:																
- *Private*	154,478	3.0	1.7	161,851	3.5	1.6	170,223	3.1	1.6	178,261	2.6	1.7	185,962	2.2	1.8	193,465
- *Public*	49,690	2.8	2.0	52,106	1.9	2.6	54,488	1.0	2.1	56,184	1.0	2.0	57,870	0.7	2.2	59,578
Gross Fixed Capital Formation:																
- *Residential*	19,930	-1.5	3.9	20,411	3.0	3.9	21,832	6.2	3.1	23,904	8.0	3.2	26,642	4.5	3.5	28,809
- *Business **	42,289	6.7	-1.8	44,307	5.5	0.8	47,129	6.0	0.9	50,427	5.1	1.3	53,662	4.2	1.4	56,695
- *Total all sectors*	62,218	4.1	-0.1	64,718	4.9	1.6	68,961	6.0	1.6	74,331	5.8	2.1	80,304	4.3	2.1	85,505
Change in Stocks	243			-1,498			-858			-180			639			1,463
Gross National Expenditure	266,624	2.9	1.1	277,177	4.1	1.5	292,813	3.8	1.5	308,595	3.4	1.8	324,776	2.7	1.9	340,010
Exports	71,884	3.4	6.5	79,139	2.7	1.5	82,514	2.8	1.7	86,250	2.1	1.6	89,467	1.5	1.7	92,309
Imports	70,610	2.7	3.9	75,334	3.3	1.7	79,145	5.0	0.9	83,859	4.3	1.0	88,380	3.3	1.5	92,676
Expenditure on GDP	268,025	3.0	1.9	281,413	3.6	1.6	296,191	3.0	2.0	310,988	2.6	2.1	325,863	2.1	2.1	339,643
Statistical Discrepancy	1,059			1,042			1,023			1,004			985			966
Gross Domestic Product	269,084			282,455			297,214			311,992			326,848			340,609
Compensation of employees	117,025			123,363			129,348			135,243			141,297			147,395
Operating Surplus, net:																
- *Agriculture*	4,267			4,722			4,704			4,734			4,850			4,978
- *Other*	73,951			76,949			81,753			86,578			91,081			94,443
- *Total all sectors*	78,218			81,671			86,456			91,313			95,930			99,422
Consumption of fixed capital	38,038			39,939			41,936			44,033			46,235			48,547
Indirect Taxes	36,640			38,319			40,310			42,240			44,223			46,083
Less subsidies	837			837			837			837			837			837
Gross Domestic Product	269,084			282,455			297,214			311,992			326,848			340,609

* Central government investment data is currently suppressed in the national accounts. Therefore the usual distinction between market and non-market investment cannot be made.
Note: GDP Income measure has been converted from March years to June years by Treasury.
Forecasts were finalised before the publication of March 2017 year national accounts and therefore do not include this data.
Source: Statistics New Zealand, the Treasury

Table 4 – Labour Market Indicators

Annual Average Percentage Change **Year ended June**	**2017** Actual	**2018** Forecast	**2019** Forecast	**2020** Forecast	**2021** Forecast	**2022** Forecast
Real GDP (production basis)	2.7	2.9	3.6	3.0	2.6	2.1
Working Age Population	2.6	2.3	2.1	1.7	1.4	1.1
Labour Force	4.9	3.0	1.7	1.3	1.0	1.0
Employment	5.2	3.3	1.9	1.5	1.3	0.9
Labour Productivity*	-2.2	-0.7	2.0	1.7	1.5	1.3
CPI (annual percentage change)	1.7	2.0	1.9	2.1	2.2	2.2
Average Ordinary Time Hourly Wages	1.5	2.6	3.2	3.2	3.3	3.5
Average Weekly Earnings	1.9	2.6	2.9	3.0	3.1	3.4
Real Wages	0.1	0.7	1.3	1.1	1.1	1.2
Compensation of Employees	5.8	5.4	4.9	4.6	4.5	4.3
Unit Labour Costs (Hours worked basis)	3.8	3.3	1.2	1.5	1.8	2.1
Real Unit Labour Costs	2.3	1.5	-0.7	-0.5	-0.4	-0.1

* Hours worked basis

Number (000's) **As at June Quarter**	**2017** Actual	**2018** Forecast	**2019** Forecast	**2020** Forecast	**2021** Forecast	**2022** Forecast
Total Population	4,794	4,890	4,975	5,045	5,100	5,149
Natural Increase	28	32	33	33	34	34
Net Migration	72	65	52	36	21	15
Annual Change	101	97	85	70	55	49
Working Age Population	3,802	3,887	3,963	4,026	4,076	4,120
Annual Change	88	85	76	63	50	45
Not in the labour force (s.a.)	1,137	1,141	1,171	1,202	1,224	1,243
Annual Change	15	4	31	31	22	18
Labour Force (s.a.)	2,665	2,746	2,792	2,823	2,851	2,878
Annual Change	73	81	46	31	28	26
Total Employment (s.a.)	2,537	2,619	2,669	2,704	2,737	2,759
Annual Change	76	82	50	35	33	22
Unemployment (s.a.)	128	127	122	119	114	118
Annual Change	-3	-1	-5	-4	-5	4
Participation Rate (%, s.a.)	70.1	70.7	70.4	70.1	70.0	69.8
Unemployment Rate (%, s.a.)	4.8	4.6	4.4	4.2	4.0	4.1

Source: Statistics New Zealand, the Treasury
s.a. - seasonally adjusted

Table 5 – Exports – SNA basis

Breakdown of Exports

Year ended	Dairy Products			Meat and Meat Products			Non-Commodity*		
June	%volume	%price	$million	%volume	%price	$million	%volume	%price	$million
2014	-2.9	37.5	16,762	1.7	3.7	6,032	1.3	1.3	13,185
2015	4.3	-23.3	13,386	1.2	10.9	6,772	5.0	-4.1	13,270
2016	4.6	-11.9	12,349	6.9	-0.1	7,238	-1.5	3.0	13,469
2017	0.6	8.6	13,447	-8.9	-2.0	6,461	-0.3	-0.1	13,405
2018	0.2	14.8	15,517	0.4	9.2	7,078	3.7	3.1	14,335
2019	5.8	-1.2	16,230	0.4	-0.6	7,064	3.5	1.9	15,124
2020	3.8	0.8	16,985	0.4	1.2	7,178	2.6	1.5	15,749
2021	2.3	1.0	17,541	0.4	1.2	7,294	1.8	1.6	16,297
2022	2.0	1.8	18,214	0.4	1.2	7,411	1.4	1.9	16,842

Year ended	Total Goods**			Services			Total Exports		
June	%volume	%price	$million	%volume	%price	$million	%volume	%price	$million
2014	-0.2	12.0	51,539	0.6	1.5	16,644	0.1	9.1	68,182
2015	3.4	-8.7	48,653	13.6	1.2	19,130	5.8	-6.0	67,781
2016	3.0	-1.7	49,265	9.8	2.4	21,500	5.0	-0.6	70,764
2017	-0.2	1.6	49,954	0.6	1.4	21,932	0.0	1.5	71,884
2018	2.4	8.0	55,265	6.2	2.5	23,875	3.4	6.5	79,139
2019	2.9	0.8	57,313	2.2	3.3	25,206	2.7	1.5	82,514
2020	2.4	1.1	59,352	3.7	2.9	26,902	2.8	1.7	86,250
2021	2.0	1.2	61,216	2.3	2.7	28,255	2.1	1.6	89,467
2022	1.8	1.5	63,231	0.7	2.2	29,082	1.5	1.7	92,309

* Consists of 'Metal Products and Machinery Equipment', 'Chemicals, Rubber and Other Non-Metallic Goods' and 'Textile, Apparel and Leather'
** Note that Statistics NZ withholds data for some components of exports for confidentiality reasons. As a result we have not published the "Wood and Wood Products' and 'Other Goods' components of exports.
Source: Statistics New Zealand, the Treasury

Table 6 – Imports – SNA basis

Breakdown of Imports

Year ended	Capital Goods (Value for Duty)			Mineral Fuel* (VFD)			Intermediate Goods** (VFD)			Consumption Goods (VFD)		
June	%volume	%price	$million	%volume	%price	$million	%volume	%price	$million	%volume	%price	$million
2014	26.4	-6.0	9,494	-0.9	-2.8	8,128	8.0	-2.9	18,500	7.3	-2.9	12,264
2015	15.7	-3.8	10,592	5.0	-20.7	6,702	5.5	0.4	19,600	7.4	0.1	13,194
2016	-4.4	8.3	10,956	-2.0	-29.5	4,585	3.4	3.8	21,021	6.3	6.4	14,912
2017	6.4	-5.1	11,065	7.0	4.0	5,195	8.1	-4.1	21,796	3.8	-4.0	14,870
2018	2.0	-0.7	11,207	-2.2	7.5	5,455	4.5	5.3	23,984	3.0	3.6	15,867
2019	0.9	0.0	11,309	1.2	5.7	5,833	2.9	1.7	25,103	6.7	1.5	17,182
2020	6.6	-1.6	11,867	2.0	4.1	6,189	4.2	1.5	26,542	7.5	0.4	18,541
2021	7.2	-1.4	12,543	1.1	5.3	6,587	3.5	1.5	27,896	5.8	0.6	19,719
2022	6.1	-0.9	13,185	0.5	7.9	7,143	2.5	1.9	29,113	4.7	0.8	20,802

Year ended	Total Goods (VFD)			Services			Total Imports		
June	%volume	%price	$million	%volume	%price	$million	%volume	%price	$million
2014	9.6	-3.7	48,455	7.1	-4.0	15,687	9.0	-3.8	64,142
2015	7.9	-4.1	50,114	2.5	1.5	16,335	6.6	-2.8	66,447
2016	1.8	1.1	51,549	-1.5	6.3	17,093	1.0	2.3	68,643
2017	6.3	-3.3	52,998	5.3	-2.1	17,612	6.0	-3.0	70,610
2018	3.0	3.7	56,565	1.6	5.0	18,790	2.7	3.9	75,334
2019	3.4	1.7	59,479	2.8	2.1	19,711	3.3	1.7	79,145
2020	5.5	0.7	63,191	3.4	1.7	20,733	5.0	0.9	83,859
2021	4.8	0.8	66,797	2.6	1.8	21,655	4.3	1.0	88,380
2022	3.8	1.4	70,295	1.7	1.9	22,432	3.3	1.5	92,676

* Consists of 'Fuels and Lubricants' and 'Petrol and Aviation Gas'
** Consists of 'Intermediate Goods' excluding 'Fuels and Lubricants' and 'Passenger Cars'
Source: Statistics New Zealand, the Treasury

Table 7 – Balance of Payments – Current Account

$ millions **Year ended June**	**2017** Actual	**2018** Forecast	**2019** Forecast	**2020** Forecast	**2021** Forecast	**2022** Forecast
Exports Goods	49,954	55,265	57,313	59,352	61,216	63,231
annual % change	*1.4*	*10.6*	*3.7*	*3.6*	*3.1*	*3.3*
Imports Goods	52,998	56,565	59,479	63,191	66,797	70,295
annual % change	*2.8*	*6.7*	*5.2*	*6.2*	*5.7*	*5.2*
Balance on Goods	-3,044	-1,301	-2,167	-3,839	-5,581	-7,064
% of nominal GDP	*-1.1*	*-0.5*	*-0.7*	*-1.2*	*-1.7*	*-2.1*
Exports Services	21,932	23,875	25,206	26,902	28,255	29,082
annual % change	*2.0*	*8.9*	*5.6*	*6.7*	*5.0*	*2.9*
Imports Services	17,612	18,790	19,711	20,733	21,655	22,432
annual % change	*3.0*	*6.7*	*4.9*	*5.2*	*4.4*	*3.6*
Balance on services	4,320	5,085	5,494	6,169	6,601	6,650
% of nominal GDP	*1.6*	*1.8*	*1.9*	*2.0*	*2.0*	*2.0*
Balance on goods & services	1,276	3,784	3,328	2,330	1,020	-414
% of nominal GDP	*0.5*	*1.3*	*1.1*	*0.7*	*0.3*	*-0.1*
Primary and secondary income balance	-9,024	-9,665	-10,067	-10,756	-11,823	-12,931
% of nominal GDP	*-3.4*	*-3.4*	*-3.4*	*-3.5*	*-3.6*	*-3.8*
Current account balance	**-7,752**	**-5,881**	**-6,739**	**-8,426**	**-10,804**	**-13,344**
% of nominal GDP	***-2.9***	***-2.1***	***-2.3***	***-2.7***	***-3.3***	***-3.9***

Source: Statistics New Zealand, the Treasury

Treasury and Inland Revenue Tax Forecasts

In line with established practice, Inland Revenue has also prepared a set of tax forecasts, which, like the Treasury's tax forecasts, were based on the Treasury's macroeconomic forecasts. The two sets of forecasts differ from each other because of the different modelling approaches used by the two agencies and the various assumptions and judgements made by the forecasting teams in producing their forecasts.

Overall, the Treasury's tax forecasts are lower than Inland Revenue's, but the differences are relatively small; Treasury's total tax revenue forecasts are never more than 0.4% lower than Inland Revenue's forecasts in any forecast year and just 0.3% lower on average over the whole forecast period.

Overall, the differences in the forecasts arise from differences of opinion on the relative strength of tax revenue in the current fiscal year, and these differences largely persist at around the same nominal level (approximately $200 to $300 million in total) through all years of the forecast period.

The following two tables detail the respective forecasts by the Treasury and Inland Revenue for tax revenue and receipts across each of the various sources:

Table 8 Treasury and Inland Revenue forecasts of tax revenue (accrual)

Table 9 Treasury and Inland Revenue forecasts of tax receipts (cash)

Table 8 – Treasury and Inland Revenue forecasts of tax revenue (accrual)

$ million	2016/17 Actual	2017/18 Estimated Actual Treasury	2017/18 IRD	2017/18 Difference	2018/19 Forecast Treasury	2018/19 IRD	2018/19 Difference	2019/20 Forecast Treasury	2019/20 IRD	2019/20 Difference	2020/21 Forecast Treasury	2020/21 IRD	2020/21 Difference	2021/22 Forecast Treasury	2021/22 IRD	2021/22 Difference
Direct tax																
Individuals																
Source deductions	29,123	30,615	30,743	(128)	32,442	32,528	(86)	34,287	34,403	(116)	36,219	36,373	(154)	38,230	38,425	(195)
Other persons tax	6,382	6,581	6,708	(127)	6,869	6,947	(78)	7,085	7,123	(38)	7,403	7,399	4	7,787	7,672	115
Refunds	(1,638)	(1,744)	(1,645)	(99)	(1,746)	(1,671)	(75)	(1,729)	(1,687)	(42)	(1,721)	(1,692)	(29)	(1,743)	(1,707)	(36)
Fringe benefit tax	525	554	545	9	571	560	11	598	575	23	625	590	35	653	605	48
Subtotal: Individuals	**34,392**	**36,006**	**36,351**	**(345)**	**38,136**	**38,364**	**(228)**	**40,241**	**40,414**	**(173)**	**42,526**	**42,670**	**(144)**	**44,927**	**44,995**	**(68)**
Company tax (net)	**13,743**	**13,405**	**13,453**	**(48)**	**14,400**	**14,598**	**(198)**	**15,354**	**15,622**	**(268)**	**16,198**	**16,343**	**(145)**	**17,026**	**17,066**	**(40)**
Withholding taxes on:																
Resident interest income	1,472	1,512	1,400	112	1,725	1,470	255	2,183	2,035	148	2,768	2,795	(27)	3,257	3,285	(28)
Non-resident income	599	581	605	(24)	633	678	(45)	734	747	(13)	818	793	25	858	821	37
Foreign-source dividends	(10)	..	1	(1)	..	1	(1)	..	1	(1)	..	1	(1)	..	1	(1)
Resident dividend income	743	740	692	48	785	712	73	832	732	100	873	757	116	907	782	125
Subtotal: Withholding tax	**2,804**	**2,833**	**2,698**	**135**	**3,143**	**2,861**	**282**	**3,749**	**3,515**	**234**	**4,459**	**4,346**	**113**	**5,022**	**4,889**	**133**
Total direct tax	**50,939**	**52,244**	**52,502**	**(258)**	**55,679**	**55,823**	**(144)**	**59,344**	**59,551**	**(207)**	**63,183**	**63,359**	**(176)**	**66,975**	**66,950**	**25**
Indirect tax																
GST (net)	**26,391**	**27,716**	**27,766**	**(50)**	**29,183**	**29,142**	**41**	**30,752**	**30,607**	**145**	**32,224**	**32,099**	**125**	**33,464**	**33,568**	**(104)**
Excise duties on:																
Alcoholic drinks	684	693	704	(11)	733	720	13	757	750	7	781	770	11	806	790	16
Tobacco products	352	327	339	(12)	353	356	(3)	368	371	(3)	382	385	(3)	382	390	(8)
Petroleum fuels	1,136	1,205	1,240	(35)	1,256	1,253	3	1,264	1,265	(1)	1,282	1,280	2	1,304	1,300	4
Subtotal: Excise duties	**2,172**	**2,225**	**2,283**	**(58)**	**2,342**	**2,329**	**13**	**2,389**	**2,386**	**3**	**2,445**	**2,435**	**10**	**2,492**	**2,480**	**12**
Other indirect tax																
Customs duty	2,550	2,531	2,490	41	2,550	2,560	(10)	2,623	2,640	(17)	2,698	2,710	(12)	2,722	2,735	(13)
Road user charges	1,469	1,497	1,543	(46)	1,514	1,624	(110)	1,545	1,705	(160)	1,586	1,792	(206)	1,621	1,868	(247)
Gaming duties	298	305	295	10	312	296	16	318	298	20	325	299	26	331	301	30
Motor vehicle fees	223	221	231	(10)	206	239	(33)	209	246	(37)	212	252	(40)	214	257	(43)
Exhaustible resource levy	24	30	24	6	30	24	6	30	24	6	30	24	6	30	24	6
Approved issuer levy, cheque duty & other	87	90	91	(1)	98	98	..	107	107	..	106	111	(5)	108	111	(3)
Subtotal: Other indirect tax	**4,651**	**4,674**	**4,674**	**..**	**4,710**	**4,841**	**(131)**	**4,832**	**5,020**	**(188)**	**4,957**	**5,188**	**(231)**	**5,026**	**5,296**	**(270)**
Total indirect tax	**33,214**	**34,615**	**34,723**	**(108)**	**36,235**	**36,312**	**(77)**	**37,973**	**38,013**	**(40)**	**39,626**	**39,722**	**(96)**	**40,982**	**41,344**	**(362)**
Total tax	**84,153**	**86,859**	**87,225**	**(366)**	**91,914**	**92,135**	**(221)**	**97,317**	**97,564**	**(247)**	**102,809**	**103,081**	**(272)**	**107,957**	**108,294**	**(337)**
Total tax (% of GDP)	30.9%	30.3%	30.5%	-0.2%	30.5%	30.6%	-0.1%	30.7%	30.8%	-0.1%	31.0%	31.1%	-0.1%	31.2%	31.3%	-0.1%
***less* Core Crown tax eliminations**																
Core Crown income tax	1,138	707	707		807	807		890	890		968	968		1,089	1,089	
GST on Crown expenses and departmental outputs	6,883	7,423	7,423		7,731	7,731		8,053	8,053		8,294	8,294		8,491	8,491	
Crown ESCT	445	501	501		503	503		507	507		507	507		507	507	
Crown AIL	43	56	56		56	56		56	56		55	55		55	55	
Core Crown taxation	**75,644**	**78,172**	**78,538**	**(366)**	**82,817**	**83,038**	**(221)**	**87,811**	**88,058**	**(247)**	**92,985**	**93,257**	**(272)**	**97,815**	**98,152**	**(337)**
Core Crown tax (% of GDP)	27.7%	27.3%	27.4%	-0.1%	27.5%	27.5%	0.0%	27.7%	27.8%	-0.1%	28.0%	28.1%	-0.1%	28.3%	28.4%	-0.1%
***less* Total Crown tax eliminations**																
Income tax from SOEs and CEs	565	595	595		644	645		668	668		730	731		705	705	
Other Crown GST	..	..	..		..	..		..	..		..	..		..	..	
ESCT from SOEs and CEs	37	29	29		35	35		34	34		35	35		35	35	
Lottery duty	69	80	80		83	83		87	87		91	91		95	95	
Total Crown taxation	**74,973**	**77,468**	**77,834**	**(366)**	**82,055**	**82,275**	**(221)**	**87,022**	**87,269**	**(247)**	**92,129**	**92,400**	**(272)**	**96,980**	**97,317**	**(337)**
Total Crown tax (% of GDP)	27.5%	27.0%	27.2%	-0.2%	27.2%	27.3%	-0.1%	27.5%	27.6%	-0.1%	27.8%	27.9%	-0.1%	28.1%	28.2%	-0.1%
Nominal expenditure GDP	272,769	286,394	286,394		301,433	301,433		316,492	316,492		331,631	331,631		345,655	345,655	

Table 9 – Treasury and Inland Revenue forecasts of tax receipts (cash)

$ million	2016/17 Actual	2017/18 Estimated Actual Treasury	2017/18 IRD	2017/18 Difference	2018/19 Forecast Treasury	2018/19 IRD	2018/19 Difference	2019/20 Forecast Treasury	2019/20 IRD	2019/20 Difference	2020/21 Forecast Treasury	2020/21 IRD	2020/21 Difference	2021/22 Forecast Treasury	2021/22 IRD	2021/22 Difference
Direct tax																
Individuals																
Source deductions	28,910	30,440	30,534	(94)	32,257	32,328	(71)	34,091	34,203	(112)	36,012	36,173	(161)	38,011	38,226	(215)
Other persons tax	6,683	6,832	6,956	(124)	7,230	7,295	(65)	7,424	7,488	(64)	7,719	7,790	(71)	8,118	8,058	60
Refunds	(2,540)	(2,564)	(2,550)	(14)	(2,609)	(2,595)	(14)	(2,596)	(2,602)	6	(2,595)	(2,612)	17	(2,610)	(2,612)	2
Fringe benefit tax	526	554	545	9	571	560	11	598	575	23	625	590	35	653	605	48
Subtotal: Individuals	**33,579**	**35,262**	**35,485**	**(223)**	**37,449**	**37,588**	**(139)**	**39,517**	**39,664**	**(147)**	**41,761**	**41,941**	**(180)**	**44,172**	**44,277**	**(105)**
Company tax (net)	**13,038**	**12,976**	**13,055**	**(79)**	**14,360**	**14,533**	**(173)**	**15,174**	**15,389**	**(215)**	**16,058**	**16,128**	**(70)**	**16,807**	**16,861**	**(54)**
Withholding taxes on:																
Resident interest income	1,446	1,512	1,400	112	1,725	1,470	255	2,183	2,035	148	2,768	2,795	(27)	3,257	3,285	(28)
Non-resident income	583	580	605	(25)	633	678	(45)	734	747	(13)	818	793	25	858	821	37
Foreign-source dividends	3	..	1	(1)	..	1	(1)	..	1	(1)	..	1	(1)	..	1	(1)
Resident dividend income	729	740	692	48	785	712	73	832	732	100	873	757	116	907	782	125
Subtotal: Withholding tax	**2,761**	**2,832**	**2,698**	**134**	**3,143**	**2,861**	**282**	**3,749**	**3,515**	**234**	**4,459**	**4,346**	**113**	**5,022**	**4,889**	**133**
Total direct tax	**49,378**	**51,070**	**51,238**	**(168)**	**54,952**	**54,982**	**(30)**	**58,440**	**58,568**	**(128)**	**62,278**	**62,415**	**(137)**	**66,001**	**66,027**	**(26)**
Indirect tax																
GST (net)	**25,974**	**27,321**	**27,445**	**(124)**	**28,889**	**28,811**	**78**	**30,439**	**30,284**	**155**	**31,935**	**31,712**	**223**	**33,152**	**33,188**	**(36)**
Excise duties on:																
Alcoholic drinks	678	693	704	(11)	733	720	13	757	750	7	781	770	11	806	790	16
Tobacco products	330	327	339	(12)	353	356	(3)	368	371	(3)	382	385	(3)	382	390	(8)
Petroleum fuels	1,135	1,205	1,240	(35)	1,256	1,253	3	1,264	1,265	(1)	1,282	1,280	2	1,304	1,300	4
Subtotal: Excise duties	**2,143**	**2,225**	**2,283**	**(58)**	**2,342**	**2,329**	**13**	**2,389**	**2,386**	**3**	**2,445**	**2,435**	**10**	**2,492**	**2,480**	**12**
Other indirect tax																
Customs duty	2,525	2,552	2,490	62	2,550	2,560	(10)	2,618	2,640	(22)	2,692	2,710	(18)	2,721	2,735	(14)
Road user charges	1,469	1,497	1,543	(46)	1,514	1,624	(110)	1,545	1,705	(160)	1,586	1,792	(206)	1,621	1,868	(247)
Gaming duties	297	305	295	10	312	296	16	318	298	20	325	299	26	331	301	30
Motor vehicle fees	217	221	231	(10)	206	239	(33)	209	246	(37)	212	252	(40)	214	257	(43)
Exhaustible resource levy	24	30	24	6	30	24	6	30	24	6	30	24	6	30	24	6
Approved issuer levy, cheque duty & other	82	90	93	(3)	98	98	..	107	107	..	106	111	(5)	108	111	(3)
Subtotal: Other indirect tax	**4,614**	**4,695**	**4,676**	**19**	**4,710**	**4,841**	**(131)**	**4,827**	**5,020**	**(193)**	**4,951**	**5,188**	**(237)**	**5,025**	**5,296**	**(271)**
Total indirect tax	**32,731**	**34,241**	**34,404**	**(163)**	**35,941**	**35,981**	**(40)**	**37,655**	**37,690**	**(35)**	**39,331**	**39,335**	**(4)**	**40,669**	**40,964**	**(295)**
Total tax	**82,109**	**85,311**	**85,642**	**(331)**	**90,893**	**90,963**	**(70)**	**96,095**	**96,258**	**(163)**	**101,609**	**101,750**	**(141)**	**106,670**	**106,991**	**(321)**
Total tax (% of GDP)	30.1%	29.8%	29.9%	-0.1%	30.2%	30.2%	0.0%	30.4%	30.4%	0.0%	30.6%	30.7%	-0.1%	30.9%	31.0%	-0.1%
less **Core Crown tax eliminations**																
Core Crown income tax	944	812	812		942	942		857	857		953	953		1,085	1,085	
GST on Crown expenses and departmental outputs	6,900	7,338	7,338		7,766	7,766		8,060	8,060		8,292	8,292		8,493	8,493	
Crown ESCT	439	500	500		502	502		505	505		506	506		505	505	
Crown AIL	42	55	55		55	55		56	56		53	53		54	54	
Core Crown taxation	**73,784**	**76,606**	**76,937**	**(331)**	**81,628**	**81,698**	**(70)**	**86,617**	**86,780**	**(163)**	**91,805**	**91,946**	**(141)**	**96,533**	**96,854**	**(321)**
Core Crown tax (% of GDP)	27.0%	26.7%	26.9%	-0.2%	27.1%	27.1%	0.0%	27.4%	27.4%	0.0%	27.7%	27.7%	0.0%	27.9%	28.0%	-0.1%
less **Total Crown tax eliminations**																
Income tax from SOEs and CEs	542	532	533		638	640		655	656		727	728		696	696	
Other Crown GST	47	19	19		(4)	(4)		(3)	(3)		24	24		..	..	
ESCT from SOEs and CEs	27	19	19		19	19		20	20		19	19		20	20	
Lottery duty	69	80	80		83	83		87	87		91	91		95	95	
Total Crown taxation	**73,099**	**75,956**	**76,286**	**(331)**	**80,892**	**80,960**	**(70)**	**85,858**	**86,020**	**(163)**	**90,944**	**91,084**	**(141)**	**95,722**	**96,043**	**(321)**
Total Crown tax (% of GDP)	26.8%	26.5%	26.6%	-0.1%	26.8%	26.9%	-0.1%	27.1%	27.2%	-0.1%	27.4%	27.5%	-0.1%	27.7%	27.8%	-0.1%

Tax Policy Changes

This section details the material changes to forecast tax revenue since the *Pre-Election Economic and Fiscal Update* as a result of revenue and spending initiatives. Table 10 shows a breakdown of the changes and the supplementary text describes each initiative.

Table 10 – Estimated tax effects of initiatives announced since the *Pre-Election Update*

Year ending 30 June	**2018**	**2019**	**2020**	**2021**	**2022**	**Total**
$ millions	**Forecast**	**Forecast**	**Forecast**	**Forecast**	**Forecast**	**5 years**
Families Package						
Reverse income tax threshold adjustments and retain the Independent Earner Tax Credit	486	1,896	1,896	1,976	2,059	8,313
PAYE on increased Paid Parental Leave	..	8	8	17	18	51
Subtotal: Families Package	486	1,904	1,904	1,993	2,077	8,364
PAYE on increased Student Allowances	6	13	16	17	17	69
Brightline extension to 5 years	..	..	..	10	30	40
Other	(1)	(1)	(1)	(1)	(1)	(5)
Net change	**491**	**1,916**	**1,919**	**2,019**	**2,123**	**8,468**

Source: The Treasury

Recent Initiatives

Families Package

The personal income tax threshold adjustments and abolition of the Independent Earner Tax Credit announced in the 2017 Budget, and scheduled to come into effect on 1 April 2018, will now not proceed.

Within the Families Package, Paid Parental Leave is to be extended to 22 weeks from July 2018 and 26 weeks from July 2020. The numbers in Table 10 show the additional PAYE revenue expected to be generated by this initiative.

Tertiary Education

Student allowances are to be increased by $50 per week after tax, with effect from 1 January 2018. The numbers in Table 10 show the additional PAYE revenue expected to be generated by this initiative.

Brightline extension to five years

The current ‘Brightline’ test for assessing taxable gains on the sale of residential property is to be extended from two years to five years, applicable to properties purchased after the enactment date. This is expected to increase tax revenue from the 2020/21 fiscal year onwards.

Additional Fiscal Indicators

The Treasury calculates two summary fiscal indicators: the cyclically-adjusted balance (CAB) and the fiscal impulse.

- The CAB adjusts the operating balance before gains and losses (OBEGAL) for the cyclical position of the economy. The CAB is subject to uncertainty because it uses estimated variables and is sensitive to new information, particularly regarding the output gap.
- The fiscal impulse indicator uses the change in a cash-based version of the fiscal balance to estimate the marginal contribution of discretionary fiscal policy to aggregate demand.

Further information on the methodology, interpretation and limitations behind the indicators can be found in Treasury Working Papers 02/30 and 10/08.[1]

This section discusses the Treasury's central estimates of the CAB and fiscal impulse. The next section discusses sensitivity analysis. Detailed tables of data can be found at the end of the Additional Fiscal Indicators section.

Central Estimates

Cyclically-adjusted balance

The CAB is essentially an estimate of what OBEGAL would be without the effect of cyclical fluctuations in revenues and expenses. When the economy is operating above its potential level (a positive output gap) tax receipts are higher and unemployment expenses are lower than they would be relative to an economy operating at potential. When the economy is operating below its potential level, the opposite is true. Adjusting OBEGAL for the economic cycle therefore shows the underlying, structural fiscal position.

Significant "one-off" impacts on expenses from the Canterbury and Kaikōura earthquakes are removed from the central estimates of the CAB to give a better indication of underlying fiscal performance.

Figure 1 shows OBEGAL and the CAB. The CAB is in surplus across the entire forecast period, indicating surpluses are structural – that is, they are not due to cyclical economic conditions. In 2017/18 the economy is estimated to be operating below its potential level (a negative output gap). From 2018/19 the economy is forecast to be operating above its potential level (a positive output gap). As a result, the CAB is higher than OBEGAL in 2017/18 and lower than OBEGAL from 2018/19 onwards.

The CAB is estimated to be around 0.4% of GDP lower, on average, across the forecast period relative to the *Pre-election Update.* This is driven by higher operating expenses as

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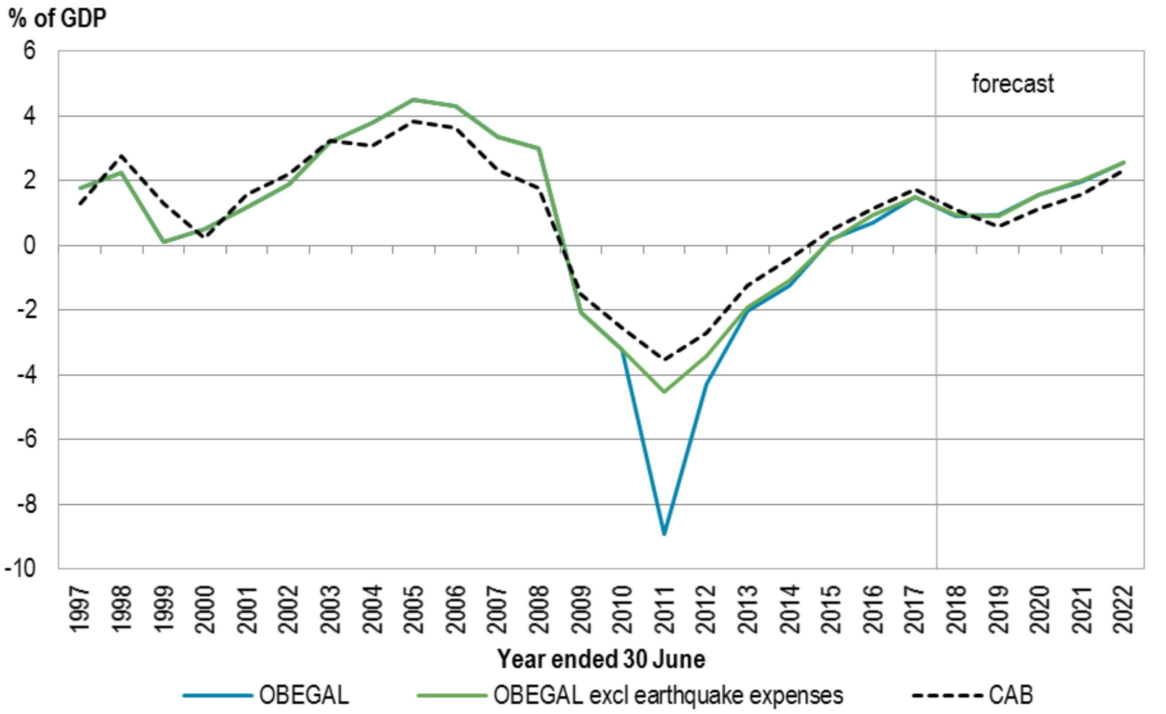
1 Renee Philip and John Janssen (2002) "Indicators of Fiscal Impulse for New Zealand" New Zealand Treasury Working Paper 02/30, December 2002 http://www.treasury.govt.nz/publications/research-policy/wp/2002/02-30/

Oscar Parkyn (2010) "Estimating New Zealand's Structural Budget Balance" New Zealand Treasury Working Paper 10/08, December 2010 http://www.treasury.govt.nz/publications/research-policy/wp/2010/10-08/

per cent of GDP and lower cyclically-adjusted revenue as per cent of GDP. The CAB declines across 2017/18 and 2018/19 due to an increase in operating expenses and a decrease in cyclically-adjusted revenues as per cent of GDP. The CAB is forecast to increase from 0.6% of GDP in 2018/19 to 2.3% of GDP in 2021/22.

Figure 1 – Cyclically-adjusted balance



Source: The Treasury

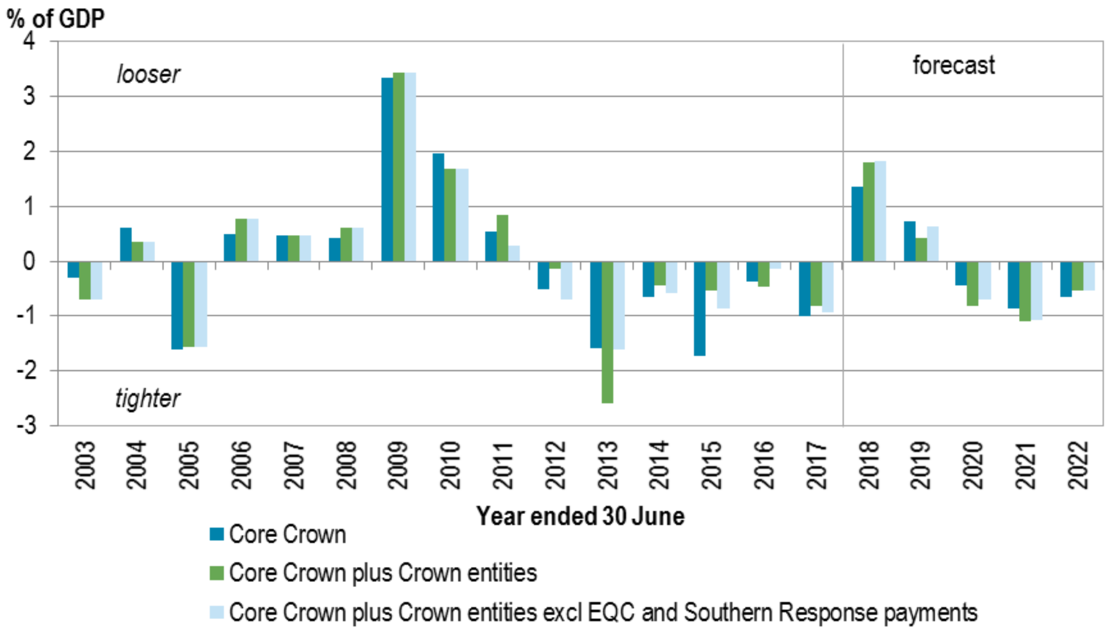
Fiscal impulse

The fiscal impulse is an estimate of discretionary changes (ie, excluding cyclical factors) in the fiscal position that have an impact on aggregate demand pressures in the economy. It is calculated as the change in a cash-based version of the fiscal balance (a cyclically-adjusted primary balance supplemented by capital expenditure). Capital expenditure on defence, KiwiSaver subsidies and Deposit Guarantee Scheme payments are excluded from the measure since these are expected to have a limited direct impact on aggregate demand pressures. Purchases and sales of investments are also excluded as they represent a transfer of resources.

The fiscal impulse is shown for both the core Crown and combined core Crown and Crown entities segments (ie, total Crown excluding State-owned enterprises). The core Crown indicator mostly reflects changes in receipts and expenditure impacted by Budget decisions, whereas the core Crown plus Crown entities indicator provides a better indication of the total impact of central government activities on aggregate demand pressures. A measure of the fiscal impulse that excludes earthquake-related (Canterbury and Kaikōura) financial transactions is also shown, which adjusts for EQC and Southern Response payments and receipts. The core Crown plus Crown entities (excluding EQC and Southern Response payments) indicator is used by the Treasury as the headline estimate of the fiscal impulse.

It is worth noting that summary indicators such as the fiscal impulse do not take account of the composition of fiscal policy changes or how a change in fiscal policy will be transmitted through the economy. Research by the Treasury using time series statistical analysis indicates that spending and taxes have different effects on New Zealand GDP.[2] Therefore the fiscal impulse indicator is only an imprecise guide to the impact of fiscal policy on the economy.

Figure 2 – Estimates of the fiscal impulse



Source: The Treasury

Figure 2 shows that fiscal policy is expected to have an expansionary impact on aggregate demand in 2017/18 and 2018/19. The positive impulse in 2017/18 (1.8% of GDP) is driven by an increase in capital spending. Falling tax receipts as per cent of GDP also contribute to the positive impulses. For the remainder of the forecast period fiscal policy is estimated to have a contractionary impact on aggregate demand. This is driven by a forecast decline in operating and capital expenditure as per cent of GDP and an increase in tax receipts as per cent of GDP over the final years of the forecast period.

Compared with the *Pre-election Update,* the direction of the headline fiscal impulse in each year is unchanged however there have been some changes in magnitude. The positive impulse in 2017/18 has increased from 1.0% of GDP at the *Pre-election Update* to 1.8% of GDP at the *Half Year Update.* This is largely driven by changes in the expected timing of capital expenditure. Higher estimated operating spending at the *Half Year Update* also contributes to this difference. The fiscal impulse is broadly unchanged in 2018/19, higher (less negative) in 2019/20 and lower (more negative) in 2020/21.

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2 Parkyn and Vehbi (2013) "The Effects of Fiscal Policy in New Zealand: Evidence from a VAR Model with Debt Constraints” New Zealand Treasury Working Paper 13/02, January 2013 http://www.treasury.govt.nz/publications/research-policy/wp/2013/13-02

Sensitivity Analysis

There is uncertainty around the estimates of the summary indicators. The two broad sources of uncertainty are:

- estimation uncertainty of the key model parameters (ie, the output gap and the elasticity of different tax revenues with respect to the output gap); and
- forecast uncertainty relating to future fiscal and economic developments.

To illustrate this uncertainty, sensitivity analysis is performed on estimates of the CAB and core Crown fiscal impulse by using alternative output gap estimates from the RBNZ, IMF and OECD. Alternative values for the elasticity of different tax revenues with respect to the output gap that are half and twice the magnitude of the baseline estimates are also used. The range of alternative estimates is plotted in Figures 4-6, with data reported in Tables 14-16. These estimates of the fiscal impulse and CAB show a similar picture to the Treasury's central estimate across the forecast period.

An alternative means of illustrating uncertainty is to show a probability distribution around the central forecast. A probability distribution requires making some assumptions about future forecast errors based on historical forecast errors of observable economic and fiscal variables and historical revisions to the Treasury's output gap estimates. Figure 3 presents a fan chart of the CAB indicator. The probability intervals calculated are conditional on current policy and reflect historical revisions to the Treasury's official output gap estimate, rather than the full uncertainty implied by different estimation techniques. Details of the methodology and parameter values for the confidence intervals are reported in Treasury Working Paper 10/08.[3] This analysis shows that, although the central estimate of the CAB indicates the Government is running a structural surplus each year of the forecast period, there is uncertainty around these estimates.

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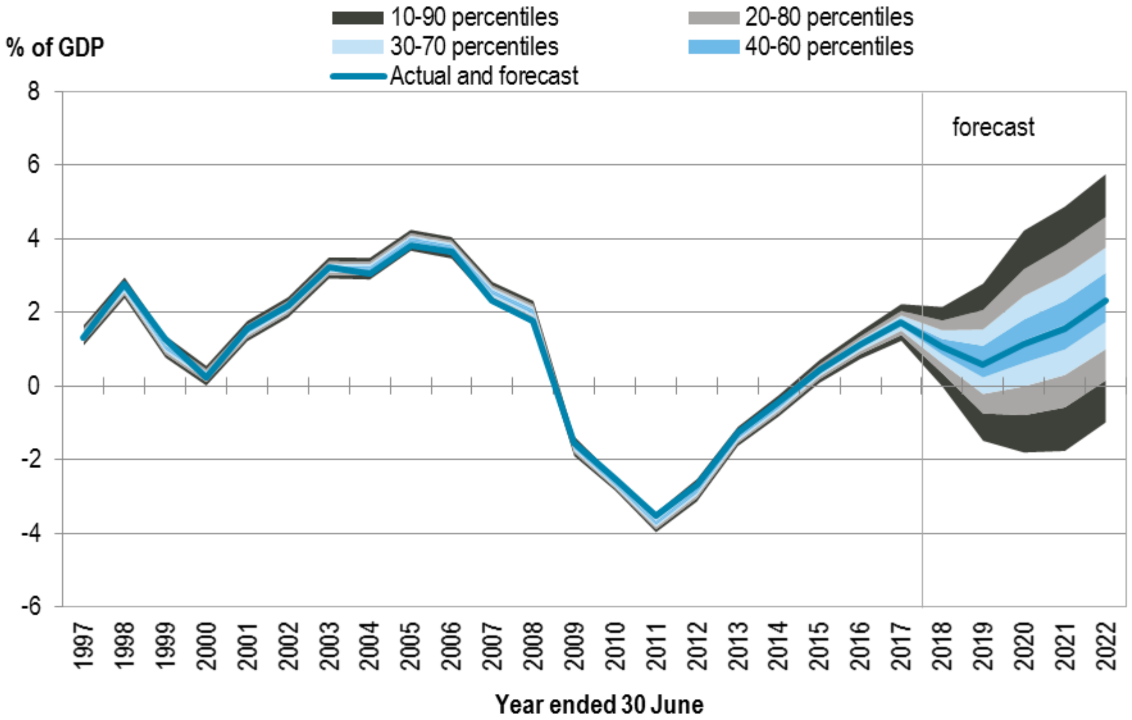
3 Oscar Parkyn (2010) "Estimating New Zealand's Structural Budget Balance". New Zealand Treasury Working Paper 10/08 http://www.treasury.govt.nz/publications/research-policy/wp/2010/10-08/

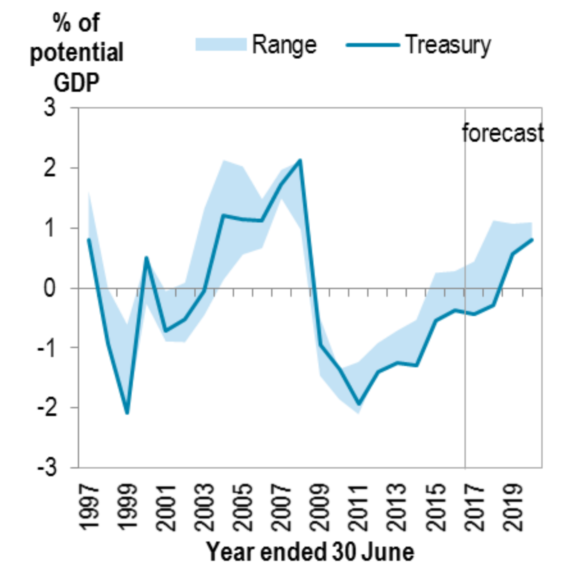
Figure 3 – Fan chart for the cyclically-adjusted balance



Source: The Treasury

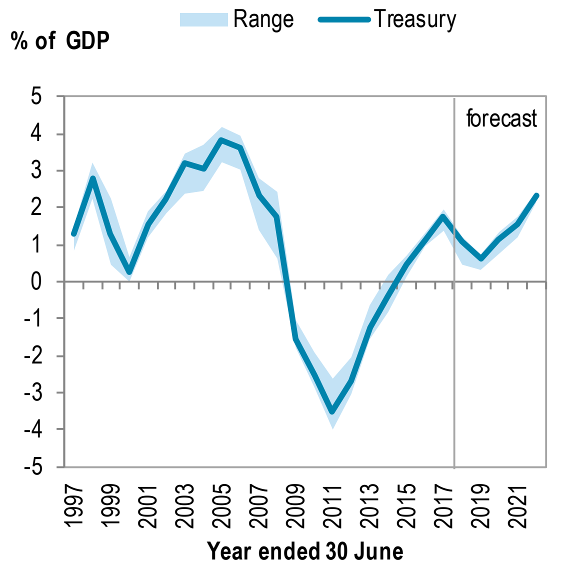
Note: the bands represent sequential deciles such that the difference between the 10th and 90th percentiles represents an 80% confidence interval.

Figure 4 – Output gap range



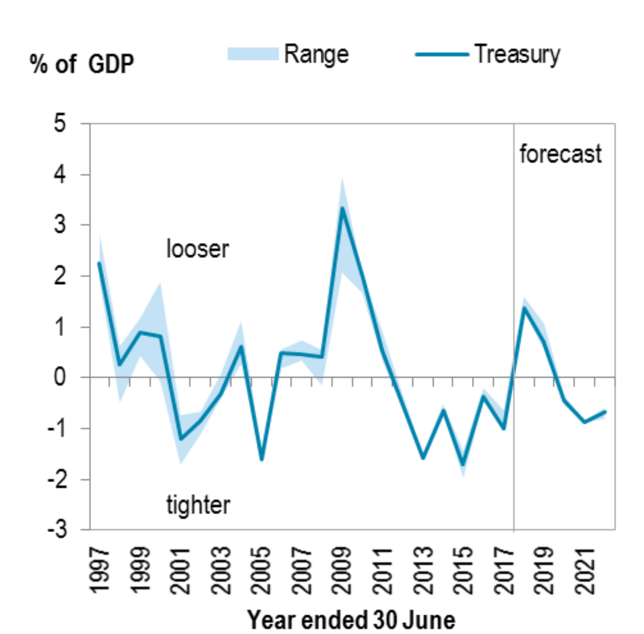
Source: The Treasury

Figure 5 – Cyclically-adjusted balance range



Source: The Treasury

Figure 6 – Core Crown fiscal impulse range



Source: The Treasury

Terms of Trade Adjustment

The Treasury produces regular estimates of the terms of trade effect on the budget balance following the methodology outlined in Treasury Working Paper 10/08.[4]

Estimating the terms of trade effect requires calculating the approximate amount of tax revenue that is attributable to deviations in the terms of trade from its specified structural, or long-run, level.

The terms of trade are estimated to remain at a relatively high level compared to historical averages. The terms of trade for the December 2017 quarter is estimated to be approximately 23% higher than the 30-year average and is forecast to be 24% higher by the end of the forecast period. Adjusting the CAB to use historical averages of the terms of trade shows how the underlying fiscal position may vary under different assumptions (ie, scenarios) than the central forecast estimates. The terms of trade sensitivity analysis is used to help make judgements about the fiscal position from a medium-term perspective, without compromising the forecasts' role of presenting the most likely near-term outcome.

Figure 7 shows New Zealand's terms of trade with historical average levels (50-, 30- and 20-year averages) and a time-varying trend using a statistical filter.[5] The historical average and trend estimates are used as estimates of the structural level of the terms of trade. Using the statistical filter runs the risk of interpreting long cycles as structural shifts in real time, whereas using an historical average suffers from the opposite risk.

A terms of trade adjustment for each alternative assumption is reported in Table 17. The CAB with a terms of trade adjustment using the 30-year average is plotted in Figure 8. Using the 30-year average suggests a structural budget deficit of 2.0% of GDP for the 2017/18 fiscal year, relative to the 1.1% of GDP structural surplus estimated using the central terms of trade estimates. Alternatively, a terms of trade adjustment using a statistical filter, which smoothes out fluctuations around a time-varying trend, suggests a structural surplus of 0.9% of GDP in 2017/18.

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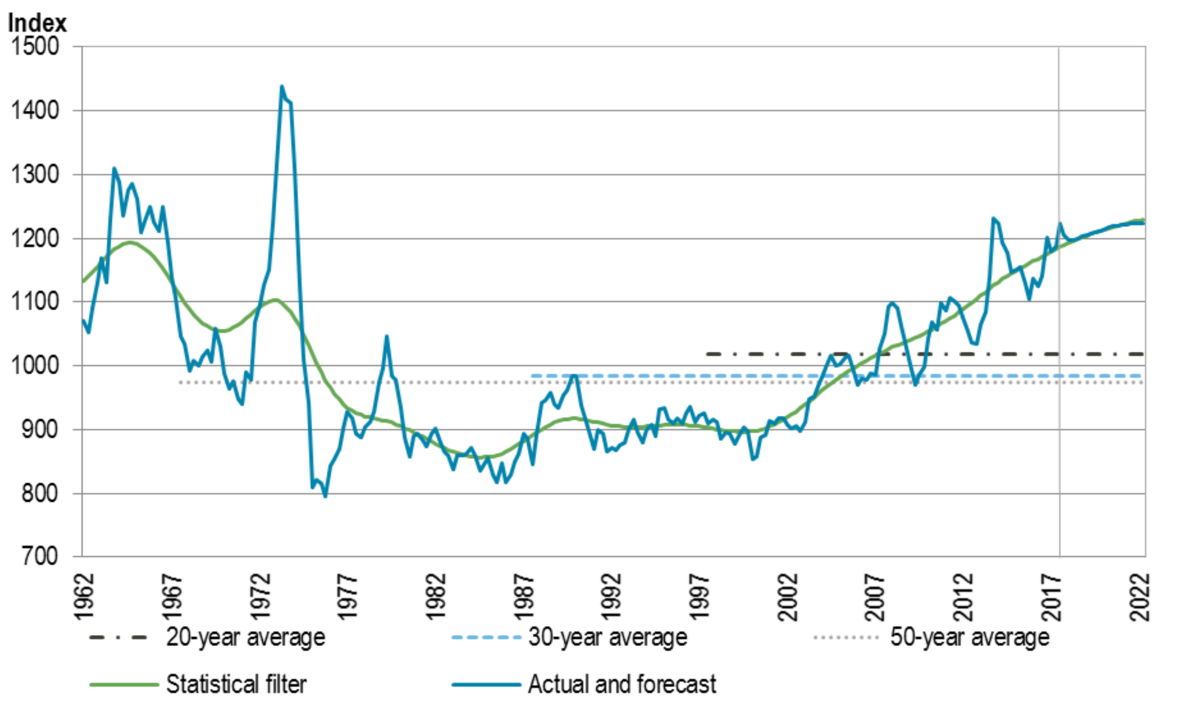
4 Oscar Parkyn (2010) "Estimating New Zealand's Structural Budget Balance." New Zealand Treasury Working Paper 10/08 http://www.treasury.govt.nz/publications/research-policy/wp/2010/10-08/

5 A Hodrick-Prescott filter is used on quarterly data with a smoothing parameter of 1600.

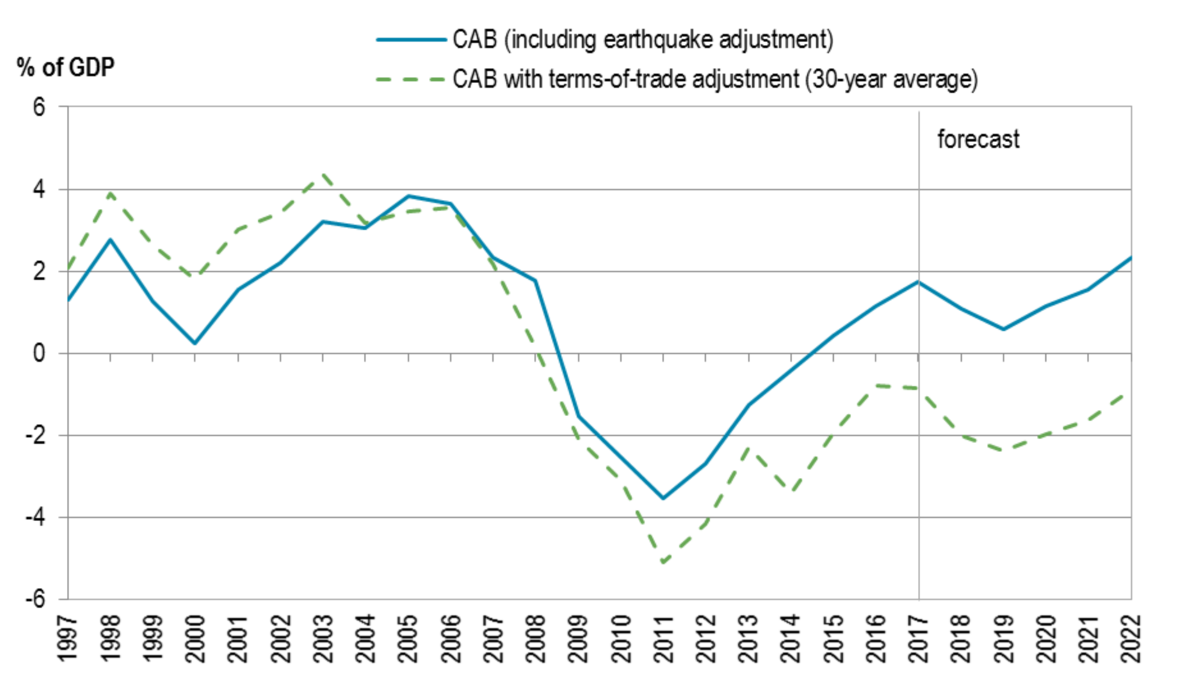
Figure 7 – Terms of trade with historical average and time-varying trend



Sources: Stats NZ, the Treasury

Note: Due to data availability, this uses the goods and services terms of trade spliced with the goods terms of trade for the period prior to 1987.

Figure 8 – Cyclically-adjusted balance with terms of trade adjustment



Source: The Treasury

Data Tables for Summary Fiscal Indicators

Table 11 – Central estimates of output gap, cyclically-adjusted balance and fiscal impulse (% of GDP)

June year	Output gap	OBEGAL	OBEGAL excl earthquake expenses	CAB	Fiscal impulse (core Crown)	Fiscal impulse (core Crown plus Crown entity)	Fiscal impulse (core Crown plus CE) excluding EQC & Southern Response Payments
1997	0.8	1.8	1.8	1.3	2.3	-	-
1998	-0.9	2.2	2.2	2.8	0.3	-	-
1999	-2.1	0.1	0.1	1.3	0.9	-	-
2000	0.5	0.5	0.5	0.2	0.8	-	-
2001	-0.7	1.2	1.2	1.6	-1.2	-	-
2002	-0.5	1.9	1.9	2.2	-0.8	-	-
2003	-0.1	3.2	3.2	3.2	-0.3	-0.7	-0.7
2004	1.2	3.8	3.8	3.1	0.6	0.3	0.3
2005	1.1	4.5	4.5	3.8	-1.6	-1.6	-1.6
2006	1.1	4.3	4.3	3.6	0.5	0.8	0.8
2007	1.7	3.3	3.3	2.3	0.5	0.5	0.5
2008	2.1	3.0	3.0	1.8	0.4	0.6	0.6
2009	-0.9	-2.1	-2.1	-1.5	3.3	3.4	3.4
2010	-1.4	-3.2	-3.2	-2.5	2.0	1.7	1.7
2011	-1.9	-8.9	-4.5	-3.5	0.5	0.8	0.3
2012	-1.4	-4.3	-3.4	-2.7	-0.5	-0.1	-0.7
2013	-1.3	-2.0	-1.9	-1.2	-1.6	-2.6	-1.6
2014	-1.3	-1.2	-1.1	-0.4	-0.6	-0.4	-0.6
2015	-0.5	0.2	0.1	0.4	-1.7	-0.5	-0.9
2016	-0.4	0.7	0.9	1.1	-0.4	-0.5	-0.1
2017	-0.4	1.5	1.5	1.7	-1.0	-0.8	-0.9
2018	-0.3	0.9	0.9	1.1	1.4	1.8	1.8
2019	0.6	0.9	0.9	0.6	0.7	0.4	0.6
2020	0.8	1.6	1.6	1.1	-0.4	-0.8	-0.7
2021	0.8	2.0	2.0	1.6	-0.9	-1.1	-1.1
2022	0.4	2.5	2.6	2.3	-0.7	-0.5	-0.5

Source: The Treasury

Table 12 – Sources for alternative output gaps

Institution	Source	Publication date
The Treasury	Half Year Economic and Fiscal Update	December 2017
RBNZ	Monetary Policy Statement	November 2017
IMF	World Economic Outlook	October 2017
OECD	Economic Outlook	November 2017

Table 13 – Elasticity values used in sensitivity analysis

Elasticities	Base case	Low	High
Individual income tax	1.2	0.6	2.5
Company tax	2.4	1.2	4.8
GST	1.3	0.7	2.6
Excise duties	1.0	0.5	2.0
Other indirect tax	1.0	0.5	2.0
Interest, profits and dividends	0.0	0.0	0.0
Other receipts	1.0	0.5	2.0

Source: The Treasury

Table 14 – Output gap estimates used in sensitivity analysis (% of potential GDP)

June year	The Treasury	RBNZ	IMF	OECD
1997	0.8	-	1.6	1.3
1998	-0.9	-	-0.3	0.0
1999	-2.1	-	-1.2	-0.6
2000	0.5	0.5	-0.3	0.3
2001	-0.7	-0.9	-0.6	0.0
2002	-0.5	-0.4	-0.9	0.1
2003	-0.1	0.4	-0.4	1.3
2004	1.2	1.9	0.1	2.1
2005	1.1	1.7	0.6	2.0
2006	1.1	1.5	0.7	1.4
2007	1.7	2.0	1.5	1.8
2008	2.1	1.9	1.5	1.0
2009	-0.9	-1.5	-0.5	-1.0
2010	-1.4	-1.9	-1.6	-1.4
2011	-1.9	-2.1	-1.3	-1.2
2012	-1.4	-1.1	-0.9	-0.9
2013	-1.3	-0.7	-0.8	-0.7
2014	-1.3	-0.5	-0.5	-0.7
2015	-0.5	0.3	-0.4	-0.3
2016	-0.4	0.3	-0.3	0.2
2017	-0.4	0.1	0.4	0.4
2018	-0.3	0.5	1.1	0.6
2019	0.6	1.1	-	1.0
2020	0.8	1.1	-	-
2021	0.8	-	-	-
2022	0.4	-	-	-

Sources: The Treasury, RBNZ, IMF, OECD

Table 15 – Cyclically-adjusted balance with alternative output gap and elasticity values (% of GDP)

June year	OBEGAL	Baseline CAB	CAB using alternative output gaps			CAB using alternative elasticities	
			RBNZ	IMF	OECD	Low	High
1997	1.8	1.3	-	0.8	1.0	1.5	0.9
1998	2.2	2.8	-	2.4	2.2	2.5	3.2
1999	0.1	1.3	-	0.8	0.5	0.8	2.2
2000	0.5	0.2	0.2	0.7	0.4	0.3	0.0
2001	1.2	1.6	1.7	1.5	1.2	1.4	1.9
2002	1.9	2.2	2.1	2.4	1.8	2.1	2.4
2003	3.2	3.2	2.9	3.5	2.4	3.2	3.2
2004	3.8	3.1	2.7	3.7	2.5	3.4	2.4
2005	4.5	3.8	3.5	4.2	3.3	4.1	3.2
2006	4.3	3.6	3.4	3.9	3.5	3.9	3.0
2007	3.3	2.3	2.2	2.5	2.3	2.8	1.4
2008	3.0	1.8	1.9	2.1	2.4	2.3	0.6
2009	-2.1	-1.5	-1.2	-1.8	-1.5	-1.8	-1.0
2010	-3.2	-2.5	-2.3	-2.4	-2.5	-2.8	-1.9
2011	-8.9	-3.5	-3.4	-3.9	-3.9	-4.0	-2.6
2012	-4.3	-2.7	-2.9	-2.9	-2.9	-3.0	-2.0
2013	-2.0	-1.2	-1.5	-1.5	-1.5	-1.6	-0.6
2014	-1.2	-0.4	-0.8	-0.8	-0.7	-0.7	0.2
2015	0.2	0.4	0.1	0.5	0.5	0.3	0.7
2016	0.7	1.1	1.0	1.3	1.0	1.1	1.3
2017	1.5	1.7	1.5	1.4	1.4	1.6	1.9
2018	0.9	1.1	0.8	0.5	0.8	1.0	1.2
2019	0.9	0.6	0.5	-	0.5	0.7	0.3
2020	1.6	1.1	1.1	-	-	1.3	0.8
2021	2.0	1.6	-	-	-	1.8	1.2
2022	2.5	2.3	-	-	-	2.4	2.1

Source: The Treasury

Table 16 – Core Crown fiscal impulse with alternative output gap and elasticity values (% of GDP)

June year	Fiscal impulse	Fiscal impulse using alternative output gaps			Fiscal impulse using alternative elasticities	
		RBNZ	IMF	OECD	Low	High
1997	2.3	-	1.9	2.8	2.2	2.4
1998	0.3	-	0.2	0.5	0.6	-0.5
1999	0.9	-	1.0	1.2	1.1	0.4
2000	0.8	-	-0.1	-0.1	0.3	1.9
2001	-1.2	-	-0.7	-0.7	-1.0	-1.7
2002	-0.8	-0.7	-1.1	-0.9	-0.9	-0.8
2003	-0.3	-0.2	-0.3	0.1	-0.4	-0.1
2004	0.6	0.7	0.3	0.4	0.4	1.1
2005	-1.6	-1.7	-1.4	-1.6	-1.6	-1.6
2006	0.5	0.4	0.6	0.2	0.5	0.5
2007	0.5	0.4	0.6	0.4	0.3	0.7
2008	0.4	0.2	0.2	-0.1	0.3	0.6
2009	3.3	3.2	3.8	3.8	4.0	2.1
2010	2.0	2.0	1.7	2.0	2.0	1.8
2011	0.5	0.7	0.9	0.9	0.6	0.4
2012	-0.5	-0.3	-0.6	-0.6	-0.6	-0.3
2013	-1.6	-1.5	-1.6	-1.6	-1.6	-1.6
2014	-0.6	-0.5	-0.5	-0.6	-0.6	-0.6
2015	-1.7	-1.7	-2.0	-1.9	-1.9	-1.4
2016	-0.4	-0.4	-0.4	-0.2	-0.4	-0.3
2017	-1.0	-1.0	-0.6	-0.9	-1.0	-1.0
2018	1.4	1.5	1.6	1.3	1.3	1.4
2019	0.7	0.6	-	0.6	0.6	1.1
2020	-0.4	-0.5	-	-	-0.5	-0.3
2021	-0.9	-	-	-	-0.9	-0.9
2022	-0.7	-	-	-	-0.6	-0.8

Source: The Treasury

Table 17 – Terms of trade adjustment to the cyclically-adjusted balance (% of GDP)

June year	Baseline CAB	Terms-of-trade adjustment (impact on CAB)				CAB with terms-of-trade adjustment			
		50-year average	30-year average	20-year average	Statistical filter	50-year average	30-year average	20-year average	Statistical filter
1997	1.3	0.7	0.8	1.2	-0.3	2.0	2.1	2.5	1.0
1998	2.8	1.0	1.1	1.6	-0.1	3.7	3.9	4.3	2.7
1999	1.3	1.2	1.4	1.8	0.1	2.5	2.6	3.1	1.4
2000	0.2	1.4	1.6	2.0	0.3	1.7	1.8	2.2	0.5
2001	1.6	1.3	1.5	2.0	0.1	2.9	3.0	3.6	1.6
2002	2.2	1.1	1.2	1.8	0.1	3.3	3.4	4.0	2.3
2003	3.2	1.0	1.1	1.7	0.4	4.2	4.4	4.9	3.6
2004	3.1	0.0	0.1	0.6	-0.3	3.0	3.2	3.7	2.8
2005	3.8	-0.5	-0.4	0.2	-0.4	3.3	3.5	4.0	3.4
2006	3.6	-0.2	-0.1	0.5	0.1	3.4	3.6	4.1	3.8
2007	2.3	-0.3	-0.2	0.4	0.3	2.0	2.2	2.7	2.6
2008	1.8	-1.8	-1.6	-1.0	-0.9	0.0	0.2	0.8	0.9
2009	-1.5	-0.7	-0.6	0.0	0.4	-2.3	-2.1	-1.5	-1.2
2010	-2.5	-0.7	-0.6	-0.1	0.4	-3.2	-3.1	-2.6	-2.2
2011	-3.5	-1.7	-1.6	-1.0	-0.3	-5.3	-5.1	-4.5	-3.8
2012	-2.7	-1.6	-1.4	-0.9	0.1	-4.3	-4.2	-3.6	-2.6
2013	-1.2	-1.2	-1.0	-0.5	0.7	-2.4	-2.3	-1.8	-0.6
2014	-0.4	-3.2	-3.0	-2.4	-0.8	-3.6	-3.4	-2.8	-1.3
2015	0.4	-2.6	-2.4	-1.8	-0.1	-2.1	-1.9	-1.4	0.3
2016	1.1	-2.1	-1.9	-1.4	0.4	-0.9	-0.8	-0.2	1.6
2017	1.7	-2.7	-2.6	-2.0	0.0	-1.0	-0.9	-0.3	1.7
2018	1.1	-3.2	-3.1	-2.5	-0.2	-2.2	-2.0	-1.4	0.9
2019	0.6	-3.1	-3.0	-2.4	0.0	-2.6	-2.4	-1.8	0.6
2020	1.1	-3.3	-3.1	-2.5	0.0	-2.1	-2.0	-1.4	1.1
2021	1.6	-3.4	-3.2	-2.6	0.0	-1.8	-1.6	-1.1	1.6
2022	2.3	-3.4	-3.2	-2.7	0.0	-1.1	-0.9	-0.3	2.4

Source: The Treasury

Government Finance Statistics for Central Government

Government Finance Statistics (GFS) is a fiscal reporting framework developed by the International Monetary Fund (IMF) and is specifically designed for government reporting.

The main purpose for having a common government reporting framework is to more easily enable cross-country comparisons of fiscal data and assessment of fiscal policy (eg, as in the case of the IMF's Article IV consultation with New Zealand).

It is important to note that even though the GFS framework provides a consistent presentation format there are underlying differences between countries in measurement and recognition. These differences mean that it can be difficult to make meaningful cross-country comparisons.

Further information on GFS can be found on the IMF's website[6].

New Zealand's GFS Accounts

The following section provides fiscal forecasts for central Government on a GFS basis. These are prepared by applying top-down adjustments to the Forecast Financial Statements presented in the *Budget Update*, which were prepared on a Generally Accepted Accounting Practice (GAAP) basis. The major differences between the forecasts are:

Coverage	The Central Government entity is defined here as the consolidation of core Crown (excluding Reserve Bank) and Crown entities, as opposed to the emphasis on the total Crown in the *Budget Update* document. As a result, the Government's interest in the Reserve Bank and State-Owned Enterprises is equity accounted rather than consolidated line-by-line.
Other economic flows	The GFS operating balance excludes valuation changes on assets and liabilities, which are instead reported in a Statement of other economic flows.
Transactions	Defence weapons are treated as being expensed at the time of purchase. In addition there are some reclassifications of transactions (eg, some levies move to taxation revenue).

The GFS data presented in this section is provisional. Statistics New Zealand release an official GFS series for actuals, which will also include local government. Table 18 outlines some of the key indicators for the central government under a GFS presentation.

6 http://www.imf.org/external/np/sta/gfsm/index.htm

Table 18 – Summary indicators for central government

	2018 Forecast	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
$million					
Net operating balance	5,489	5,235	7,699	9,485	11,708
Fiscal Balance (Net lending/borrowing)	1,334	(1,299)	1,662	5,155	7,099
Cash surplus/(deficit)	(2,105)	(3,214)	324	4,047	6,070
Net worth	114,624	120,074	128,479	138,992	152,213
Net financial worth	9,962	11,046	8,678	2,495	(6,117)
Borrowing	74,922	74,461	74,327	70,211	77,087
%GDP					
Net operating balance	1.9	1.7	2.4	2.9	3.4
Fiscal Balance (Net lending/borrowing)	0.5	(0.4)	0.5	1.6	2.1
Cash surplus/(deficit)	(0.7)	(1.1)	0.1	1.2	1.8
Net worth	40.0	39.8	40.6	41.9	44.0
Net financial worth	3.5	3.7	2.7	0.8	(1.8)
Borrowing	26.2	24.7	23.5	21.2	22.3

Source: The Treasury

The following tables provide additional detail around the calculation of the key indicators.

Table	**Name of the statement**	**What the statement shows**
19	Statement of operations	A summary of the results of all transactions during an accounting period.
20	Statement of other economic flows	Changes to stocks of assets, liabilities and net worth that come about from sources other than transactions.
21	Balance sheet	Stocks of assets and liabilities and the corresponding net worth.
22	Statement of sources and uses of cash	A summary of all cash flows presented using classifications similar to the Statement of operations.
23	Statement of stocks and flows	How the operating balance is applied to capital investment and debt repayment at a component level.
24	Reconciliation between GAAP and GFS operating balance	The adjustments between the GAAP and GFS operating balance.
25	Reconciliation between GAAP residual cash and GFS cash surplus/(deficit)	The adjustments between the GAAP and GFS cash indicators.

The GFS manual (on the IMF's website) includes additional explanations on definitions for some of the terminology used in this section.

Table 19 – Statement of operations

for the years ended 30 June

	2018 Forecast $m	2019 Forecast $m	2020 Forecast $m	2021 Forecast $m	2022 Forecast $m
Revenue					
Taxation revenue	82,142	87,126	92,596	98,008	103,110
Interest revenue and dividends	3,618	3,735	3,730	3,815	3,915
Sale of goods and services and other revenue	10,534	10,782	10,867	11,005	11,190
Total revenue	**96,294**	**101,643**	**107,193**	**112,828**	**118,215**
Expenses					
Compensation of employees	23,612	23,595	23,666	23,960	23,979
Consumption of capital	3,716	3,872	3,950	3,972	3,995
Social benefits	25,751	28,322	29,400	30,585	31,910
Grants and subsidies	6,350	6,347	6,267	6,430	6,459
Finance costs	3,107	3,011	2,929	2,955	2,670
Other expenses	29,455	29,290	29,361	29,677	29,985
Forecast for new operating spending and top-down adjustment	(1,186)	1,971	3,921	5,764	7,509
Total expenses	**90,805**	**96,408**	**99,494**	**103,343**	**106,507**
Net operating balance	**5,489**	**5,235**	**7,699**	**9,485**	**11,708**
Net acquisition of non-financial assets					
Acquisition of non-financial assets	9,422	9,417	8,583	6,168	6,347
Disposal of non-financial assets	(714)	(456)	(803)	(493)	(410)
Consumption of fixed assets	(3,716)	(3,872)	(3,950)	(3,972)	(3,995)
Change in inventories	(41)	(70)	(8)	(18)	(3)
Forecast for new capital spending and top-down adjustment	(796)	1,515	2,215	2,645	2,670
Fiscal Balance (Net lending/borrowing)	**1,334**	**(1,299)**	**1,662**	**5,155**	**7,099**
Net acquisition of financial assets					
Receivables	1,274	1,790	1,543	2,268	1,100
Advances	944	788	734	587	584
Other financial assets	(8,495)	(5,447)	(805)	(740)	12,293
Other assets	511	304	161	187	107
	(5,766)	**(2,565)**	**1,633**	**2,302**	**14,084**
Net incurrence of liabilities					
Borrowings	(3,468)	(510)	(189)	(4,177)	6,813
Accounts payable	(2,447)	(130)	(101)	803	(327)
Other liabilities	(1,185)	(626)	261	521	499
	(7,100)	**(1,266)**	**(29)**	**(2,853)**	**6,985**
Difference between net lending/borrowing and financing	**-**	**-**	**-**	**-**	**-**

Source: The Treasury

Table 20 – Statement of other economic flows

for the years ended 30 June

	2018 Forecast $m	2019 Forecast $m	2020 Forecast $m	2021 Forecast $m	2022 Forecast $m
Other Economic Flows					
Impairments and write-offs of financial assets	(2,143)	(1,862)	(1,903)	(1,939)	(1,932)
ACC and GSF valuations changes	(425)	-	-	-	-
Other gains/(losses) on non financial instruments	(1,015)	(567)	(519)	(524)	(523)
Derivatives gains	931	601	632	669	756
Derivatives losses	(989)	(11)	(4)	(2)	2
Gains/(losses) on financial assets	3,760	2,240	2,548	2,829	3,139
Gains/(losses) on financial liabilities	(99)	(38)	(51)	(59)	(65)
Reserve Bank equity accounted	291	201	219	245	258
SOEs equity accounted	(20)	(181)	(127)	(80)	10
Other items	(13)	(168)	(89)	(111)	(132)
Total other economic flows	**278**	**215**	**706**	**1,028**	**1,513**

Source: The Treasury

Table 21 – Balance sheet

as at 30 June

	2018 Forecast $m	2019 Forecast $m	2020 Forecast $m	2021 Forecast $m	2022 Forecast $m
Assets					
Cash and cash equivalents	10,859	10,212	10,444	10,852	10,988
Receivables	18,314	19,212	19,863	21,239	21,447
Marketable securities, deposits and derivatives in gain	31,971	27,942	27,743	25,897	37,572
Share investments	35,277	37,212	39,463	43,552	47,853
Advances	12,694	12,647	12,461	12,108	11,728
Inventory	728	658	650	632	629
Other assets	1,946	2,008	2,015	2,026	2,040
Property, plant & equipment	124,654	129,743	133,573	135,276	137,218
Equity accounted investments	26,015	26,064	26,207	26,508	26,809
Intangible assets and goodwill	2,531	2,576	2,590	2,519	2,447
Forecast for new capital spending and top-down adjustment	(796)	719	2,934	5,579	8,249
Total assets	**264,193**	**268,993**	**277,943**	**286,188**	**306,980**
Liabilities					
Payables	11,203	11,092	11,016	11,832	11,522
Deferred revenue	1,563	1,544	1,519	1,506	1,489
Borrowings	74,922	74,461	74,327	70,211	77,087
Insurance liabilities	43,359	44,182	45,780	47,717	49,703
Retirement plan liabilities	10,387	9,825	9,287	8,776	8,288
Provisions	8,135	7,815	7,535	7,154	6,678
Total liabilities	**149,569**	**148,919**	**149,464**	**147,196**	**154,767**
Net Worth	**114,624**	**120,074**	**128,479**	**138,992**	**152,213**

Source: The Treasury

Table 22 – Statement of sources and uses of cash

for the years ended 30 June

	2018 Forecast $m	2019 Forecast $m	2020 Forecast $m	2021 Forecast $m	2022 Forecast $m
Cash receipts from operating activities					
Total tax receipt	79,931	85,054	90,602	95,891	100,901
Interest and dividends	3,128	3,280	3,291	3,410	3,538
Sale of goods and services and other receipts	10,604	10,570	10,698	10,863	11,054
Total receipts	93,663	98,904	104,591	110,164	115,493
Cash payments from operating activities					
Compensation of employees and other payments	(51,570)	(50,708)	(49,972)	(49,621)	(50,436)
Social benefits	(26,294)	(28,870)	(29,993)	(31,193)	(32,494)
Grants and subsidies	(8,407)	(8,101)	(8,190)	(8,214)	(8,215)
Finance costs	(3,081)	(2,917)	(2,804)	(2,870)	(2,476)
Forecast for new operating spending and top-down adjustment	1,187	(1,965)	(3,921)	(5,764)	(7,515)
Total payments	(88,165)	(92,561)	(94,880)	(97,662)	(101,136)
Net cash inflow/(outflow) from operating activities	5,498	6,343	9,711	12,502	14,357
Net cash outflow from investments in non-financial assets					
Acquisition of non-financial assets	(9,113)	(8,498)	(7,975)	(6,303)	(6,027)
Disposal of non-financial assets	714	456	803	493	410
Forecast for new capital spending and top-down adjustment	796	(1,515)	(2,215)	(2,645)	(2,670)
Cash surplus/(deficit)	**(2,105)**	**(3,214)**	**324**	**4,047**	**6,070**
Net acquisition of financial assets					
Advances	(381)	(201)	(82)	(140)	(11)
Share investments	1,166	3,978	551	783	(12,498)
Net purchase of investments	(551)	(434)	(228)	(170)	(308)
Capital contributions	-	-	-	-	-
Net incurrence of liabilities					
New Zealand dollar borrowings	5,042	(218)	(41)	(173)	(303)
Foreign currency borrowings	(4,424)	335	10	3	2
Government stock	(2,150)	(893)	(302)	(3,942)	7,184
Net cash inflows from financing activities	**(1,298)**	**2,567**	**(92)**	**(3,639)**	**(5,934)**
Foreign-exchange gains/(losses) on opening cash	94	-	-	-	-
Net change in the stock of cash	**(3,309)**	**(647)**	**232**	**408**	**136**

Source: The Treasury

Table 23 – Statement of stocks and flows

for the year ending 30 June 2018

Opening balance statement	$million	Statement of operations	$million	Other economic flows	$million	Closing balance sheet	$million
Opening net worth	108,826	Operating balance	5,489	Holding gains	309	Closing net worth	114,624
Equals		*Equals*					
Non-financial assets	120,400	Transactions	4,155	Valuation changes	31	Non-financial assets	124,586
plus		*plus*		*plus*		*plus*	
Net financial worth	**(11,574)**	**Net lending**	**1,334**	**Change in net financial worth**	**278**	**Net financial worth**	**(9,962)**
Equals		*Equals*					
Financial assets	142,567	Transactions in financial assets	(5,766)	Changes in financial assets	2,806	Closing financial assets	139,607
less		*less*		*less*		*less*	
Opening liabilities	154,141	Transactions in liabilities	(7,100)	Changes in liabilities	2,528	Closing liabilities	149,569

for the year ending 30 June 2019

Opening balance statement	$million	Statement of operations	$million	Other economic flows	$million	Closing balance sheet	$million
Opening net worth	114,624	Operating balance	5,235	Holding gains	215	Closing net worth	120,074
Equals		*Equals*					
Non-financial assets	124,586	Transactions	6,534	Valuation changes	-	Non-financial assets	131,120
plus		*plus*		*plus*		*plus*	
Net financial worth	**(9,962)**	**Net lending**	**(1,299)**	**Change in net financial worth**	**215**	**Net financial worth**	**(11,046)**
Equals		*Equals*					
Financial assets	139,607	Transactions in financial assets	(2,565)	Changes in financial assets	831	Closing financial assets	137,873
less		*less*		*less*		*less*	
Opening liabilities	149,569	Transactions in liabilities	(1,266)	Changes in liabilities	616	Closing liabilities	148,919

for the year ending 30 June 2020

Opening balance statement	$million	Statement of operations	$million	Other economic flows	$million	Closing balance sheet	$million
Opening net worth	120,074	Operating balance	7,699	Holding gains	706	Closing net worth	128,479
Equals		*Equals*					
Non-financial assets	131,120	Transactions	6,037	Valuation changes	-	Non-financial assets	137,157
plus		*plus*		*plus*		*plus*	
Net financial worth	**(11,046)**	**Net lending**	**1,662**	**Change in net financial worth**	**706**	**Net financial worth**	**(8,678)**
Equals		*Equals*					
Financial assets	137,873	Transactions in financial assets	1,633	Changes in financial assets	1,280	Closing financial assets	140,786
less		*less*		*less*		*less*	
Opening liabilities	148,919	Transactions in liabilities	(29)	Changes in liabilities	574	Closing liabilities	149,464

for the year ending 30 June 2021

Opening balance statement	$million	Statement of operations	$million	Other economic flows	$million	Closing balance sheet	$million
Opening net worth	128,479	Operating balance	9,485	Holding gains	1,028	Closing net worth	138,992
Equals		*Equals*					
Non-financial assets	137,157	Transactions	4,330	Valuation changes	-	Non-financial assets	141,487
plus		*plus*		*plus*		*plus*	
Net financial worth	**(8,678)**	**Net lending**	**5,155**	**Change in net financial worth**	**1,028**	**Net financial worth**	**(2,495)**
Equals		*Equals*					
Financial assets	140,786	Transactions in financial assets	2,302	Changes in financial assets	1,613	Closing financial assets	144,701
less		*less*		*less*		*less*	
Opening liabilities	149,464	Transactions in liabilities	(2,853)	Changes in liabilities	585	Closing liabilities	147,196

for the year ending 30 June 2022

Opening balance statement	$million	Statement of operations	$million	Other economic flows	$million	Closing balance sheet	$million
Opening net worth	138,992	Operating balance	11,708	Holding gains	1,513	Closing net worth	152,213
Equals		*Equals*					
Non-financial assets	141,487	Transactions	4,609	Valuation changes	-	Non-financial assets	146,096
plus		*plus*		*plus*		*plus*	
Net financial worth	**(2,495)**	**Net lending**	**7,099**	**Change in net financial worth**	**1,513**	**Net financial worth**	**6,117**
Equals		*Equals*					
Financial assets	144,701	Transactions in financial assets	14,084	Changes in financial assets	2,099	Closing financial assets	160,884
less		*less*		*less*		*less*	
Opening liabilities	147,196	Transactions in liabilities	6,985	Changes in liabilities	586	Closing liabilities	154,767

Source: The Treasury

Table 24 – Reconciliation between GAAP and GFS operating balance

as at 30 June

	2018 Forecast $m	2019 Forecast $m	2020 Forecast $m	2021 Forecast $m	2022 Forecast $m
Operating balance per GAAP	**5,916**	**5,839**	**8,451**	**10,297**	**13,049**
Remove gains/losses and net surpluses from associates and joint ventures	(3,375)	(3,011)	(3,472)	(3,793)	(4,256)
Operating balance before gains and losses (OBEGAL)	**2,541**	**2,828**	**4,979**	**6,504**	**8,793**
Remove SOE portion of OBEGAL (incl. eliminations)	148	181	106	38	(43)
Remove ETS expenses	707	469	491	493	493
Remove impairments and write-offs on financial assets	2,143	1,862	1,903	1,939	1,932
Tertiary institutions included on a line-by-line basis	92	130	164	180	189
Reserve Bank (equity accounted)	9	152	98	99	168
Specialised Military Equipment (expensed)	(149)	(389)	(46)	216	172
Other adjustments	(2)	2	4	16	4
Net operating balance per GFS	**5,489**	**5,235**	**7,699**	**9,485**	**11,708**

Source: The Treasury

Table 25 – Reconciliation between GAAP residual cash and GFS cash surplus/(deficit)

as at 30 June

	2018 Forecast $m	2019 Forecast $m	2020 Forecast $m	2021 Forecast $m	2022 Forecast $m
Residual cash per GAAP	**(2,647)**	**(4,657)**	**(2,552)**	**345**	**2,347**
Back out advances	205	93	31	33	(118)
Back out investments	2,990	2,715	2,363	1,845	1,849
Contribution to NZS Fund	500	1,000	1,500	2,200	2,500
Add in cash flows from Crown entities	(3,099)	(2,339)	(1,074)	(419)	(563)
Remove cash flows from the Reserve Bank	(36)	101	(24)	(31)	(20)
Add in NZSF cash flows	(16)	(109)	88	95	116
Other adjustments	(2)	(18)	(8)	(21)	(41)
Cash surplus/(deficit)	**(2,105)**	**(3,214)**	**324**	**4,047**	**6,070**

Source: The Treasury

Accounting Policies

The forecast financial statements contained in the published *Half Year Economic and Fiscal Update 2017* are based on the following accounting policies:

Statement of Compliance

These forecast financial statements have been prepared in accordance with the Public Finance Act 1989 and with New Zealand Generally Accepted Accounting Practice (NZ GAAP) as defined in the Financial Reporting Act 2013.

These forecasts have been prepared in accordance with Public Sector PBE Accounting Standards (PBE Standards) – Tier 1. These standards are based on International Public Sector Accounting Standards (IPSAS). The forecast financial statements comply with PBE FRS-42: Prospective Financial Statements and NZ GAAP as it relates to prospective financial statements.

For the purposes of these forecast financial statements, the Government reporting entity has been designated as a public benefit entity (PBE). Public benefit entities (PBEs) are reporting entities whose primary objective is to provide goods or services for community or social benefit and where any equity has been provided with a view to supporting that primary objective rather than for a financial return to equity holders.

The use of public resources by the Government is primarily governed by the Public Finance Act 1989, the State Sector Act 1988, the Crown Entities Act 2004 and the State-owned Enterprises Act 1986.

Reporting and Forecast Period

The reporting periods for these forecast financial statements are the years ended 30 June 2018 to 30 June 2022.

The “2017 Actual” figures reported in the statements are the audited results reported in the Financial Statements of Government for the year ended 30 June 2017. The “2018 Previous Budget” figures are the original forecasts to 30 June 2018 as presented in the 2017 Budget.

Where necessary, the financial information for State-owned enterprises and Crown entities that have a balance date other than 30 June has been adjusted for any transactions or events that have occurred since their most recent balance date and that are significant for the Financial Statements of the Government. Such entities are primarily in the education sector.

Basis of Preparation

These forecast financial statements have been prepared on the basis of historic cost modified by the revaluation of certain assets and liabilities, and prepared on an accrual basis, unless otherwise specified (for example, the Statement of Cash Flows).

The forecast financial statements are presented in New Zealand dollars rounded to the nearest million, unless separately identified.

Judgements and Estimations

The preparation of these financial statements requires judgements, estimates and assumptions that affect the application of policies and reported amounts of assets and liabilities, revenue and expenses. For example, the present value of large cash flows that are predicted to occur a long time into the future, as with the settlement of ACC outstanding claim obligations and Government superannuation retirement benefits, depends critically on judgements regarding future cash flows, including inflation assumptions and the risk-free discount rate used to calculate present values.

These forecasts include budget adjustments for new unallocated spending during the year (both operating and capital) and top-down adjustments which reduce the bias for forecast expenditure by departments to reflect maximum spending limits instead of mid-point estimates. The estimates and associated assumptions are based on historical experience and various other factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised, if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Where these judgements significantly affect the amounts recognised in the forecast financial statements they are described in the notes of the forecast financial statements.

Reporting Entity

The Government reporting entity as defined in section 2(1) of the Public Finance Act 1989 means:

- the Sovereign in right of New Zealand, and
- the legislative, executive, and judicial branches of the Government of New Zealand.

The description “Consolidated Financial Statements of the Government reporting entity” and the description “Financial Statements of the Government” have the same meaning and can be used interchangeably.

Basis of Combination

These forecast financial statements combine the following entities using the acquisition method of combination:

Core Crown entities

- Ministers of the Crown
- Government departments
- Offices of Parliament
- the Reserve Bank of New Zealand
- New Zealand Superannuation Fund

Other entities

- State-owned Enterprises
- Crown entities (excluding tertiary education institutions)
- Air New Zealand Limited
- Regenerate Christchurch
- Organisations listed in Schedule 4 and 4A (Non-listed companies in which the Crown is majority or sole shareholder) of the Public Finance Act 1989
- Organisations listed in Schedule 5 (Mixed ownership model companies) of the Public Finance Act 1989
- Legal entities listed in Schedule 6 (Legal entities created by Treaty of Waitangi settlement Acts) of the Public Finance Act 1989

The Crown has a full residual interest in all the above entities with the exception of Air New Zealand Limited, Tāmaki Redevelopment Company Limited (listed in Schedule 4A of the Public Finance Act 1989), Regenerate Christchurch and the entities listed in Schedule 5 of the Public Finance Act 1989 (Mixed Ownership Model Companies).

Corresponding assets, liabilities, revenue and expenses, are added together line by line. Transactions and balances between these sub-entities are eliminated on combination. Where necessary, adjustments are made to the financial statements of controlled entities to bring the accounting policies into line with those used by the Government reporting entity.

Tertiary education institutions are equity-accounted for the reasons explained in the note to the Government's financial statements for the period ended 30 June 2017. This treatment recognises these entities' net assets, including asset revaluation movements, surpluses and deficits.

The basis of combination for a joint venture depends on the form of the joint venture.

Significant Accounting Policies

The accounting policies set out below have been applied consistently to all periods in the *Half Year Economic and Fiscal Update*.

Revenue

Taxation revenue levied through the Crown's sovereign power

The Government provides many services and benefits that do not give rise to revenue. Further, payment of tax does not of itself entitle a taxpayer to an equivalent value of services or benefits, since there is no relationship between paying tax and receiving Crown services and transfers. Such revenue is received through the exercise of the sovereign power of the Crown in Parliament.

Tax revenue is recognised when a taxable event has occurred and the tax revenue can be reliably measured. The taxable event is defined as follows:

Revenue type	Revenue recognition point
Source deductions	When an individual earns income that is subject to PAYE
Resident withholding tax (RWT)	When an individual is paid interest or dividends subject to deduction at source
Fringe benefit tax (FBT)	When benefits are provided that give rise to FBT
Income tax	The earning of assessable income during the taxation period by the taxpayer
Goods and services tax (GST)	When the purchase or sale of taxable goods and services occurs during the taxation period
Customs and excise duty	When goods become subject to duty
Road user charges and motor vehicle fees	When payment of the fee or charge is made
Other indirect taxes	When the debt to the Crown arises
ACC levies	The levy revenue is earned evenly over the levy period
Other levies	When the obligation to pay the levy is incurred

The New Zealand tax system is predicated on self-assessment where taxpayers are expected to understand the tax laws and comply with them. Inland Revenue has implemented systems and controls (eg, performing audits of taxpayer records) in order to detect and correct situations where taxpayers are not complying with the various acts it administers.

Revenue earned through operations

Revenue from the supply of goods and services to third parties is measured at the fair value of consideration received. Revenue from the supply of goods is recognised when the significant risks and rewards of ownership have been transferred to the buyer. Revenue from the supply of services is recognised on a straight-line basis over the specified period for the services unless an alternative method better represents the stage of completion of the transaction.

Interest revenue

Interest revenue is accrued using the effective interest method.

The effective interest rate exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount. The method applies this rate to the principal outstanding to determine interest revenue each period.

Dividend revenue

Dividend revenue from investments is recognised when the Government's rights as a shareholder to receive payment have been established.

Rental revenue

Rental revenue is recognised in the statement of financial performance on a straight-line basis over the term of the lease. Lease incentives granted are recognised evenly over the term of the lease as a reduction in total rental revenue.

Donated or subsidised assets

Where an asset is acquired for nil or nominal consideration, the fair value of the asset received is recognised as revenue in the statement of financial performance.

If control of the donated assets is conditional on the satisfaction of performance obligations, the revenue is deferred and recognised when the conditions are satisfied.

Gains

Gains may be reported in the Statement of Financial Performance when assets are revalued or liabilities are devalued in certain circumstances as described in the accounting policies for those assets and liabilities. For the purposes of reporting the operating balance before gains and losses (OBEGAL) these gains are excluded from total revenue and presented elsewhere in the Statement of Financial Performance.

Expenses

General

Expenses are recognised in the period to which they relate.

Welfare benefits and entitlements

Welfare benefits and entitlements, including New Zealand Superannuation, are recognised in the period when an application for a benefit has been received and the eligibility criteria have been met.

Grants and subsidies

Where grants and subsidies are at the government's discretion until payment, the expense is recognised when the payment is made. Otherwise, the expense is recognised when the specified criteria for the grant or subsidy have been fulfilled and notice has been given to the government.

Interest expense

Interest expense is accrued using the effective interest method.

The effective interest rate exactly discounts estimated future cash payments through the expected life of the financial liability to that liability's net carrying amount. The method applies this rate to the principal outstanding to determine interest expense each period.

Losses

Losses may be reported in the Statement of Financial Performance when assets are devalued or liabilities are revalued in certain circumstances as described in the accounting policies for those assets and liabilities. For the purposes of reporting the operating balance before gains and losses (OBEGAL) these losses are excluded from total expenses and presented elsewhere in the Statement of Financial Performance.

Foreign currency

Transactions in foreign currencies are initially translated at the foreign exchange rate at the date of the transaction. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the statement of financial performance, except when recognised in the statement of comprehensive revenue and expense when hedge accounting is applied.

Non-monetary assets and liabilities measured at historical cost in a foreign currency are translated using the exchange rate at the date of the transaction. Non-monetary assets and liabilities denominated in foreign currencies and measured at fair value are translated into New Zealand dollars at the exchange rate applicable at the fair value date. The associated foreign exchange gains or losses follow the fair value gains or losses to either the statement of financial performance or the statement of comprehensive revenue and expense.

Foreign exchange gains and losses arising from translating monetary items that form part of the net investment in a foreign operation are reported in a translation reserve in net worth and recognised in the statement of comprehensive revenue and expense.

Sovereign receivables and taxes repayable

Receivables from taxes, levies and fines (and any penalties associated with these activities) as well as social benefit receivables which do not arise out of a contract are collectively referred to as sovereign receivables.

Receivables arising from sovereign revenue will be initially recognised at fair value. These receivables are subsequently adjusted for penalties and interest as they are charged, and tested for impairment. Interest and penalties charged on tax receivables are presented as tax revenue in the statement of financial performance.

Taxes repayable represent refunds due to taxpayers and are recognised at their nominal value. They are subsequently adjusted for interest once account and refund reviews are complete.

Financial Instruments – forecasting policies

For forecast purposes sales and purchases of bonds and other liquid instruments are assumed to be issued at par value, with no discounts or premiums forecasted. Generally, financial assets and financial liabilities held at the forecast reference date are assumed to be held until they mature.

Forecasts of instruments that have non-market elements (e.g. low or no interest rates with long maturities such as student loans or social benefit receivables) include the write-down to fair value when the loan or receivable is forecast to be issued and the revenue from the effective interest unwind.

Interest income and interest expense are recognised using the effective interest rate method (which in most instances will equal the coupon rate for future instruments).

Forecasts use the exchange rates, interest rate curves and electricity pricing curves prevailing at the forecast reference date. As a consequence, no additional realised or unrealised foreign exchange gains or losses are forecast.

Gains and losses reflect long run rate of return assumptions appropriate to the forecast portfolio mix, after adjusting for interest income and interest expense (recognised separately using the effective interest rate method).

Derivatives

Only the value of derivatives as at the forecast reference date are forecast to be realised. No additional realised or unrealised derivative gains or losses are recognised over the forecast period. Forward margins on forward foreign exchange contracts existing at the start of the forecast period are amortised over the period of the contract on a straight line basis.

Forecasts for derivatives only include those that exist at the forecast reference date, and then only to their maturity. That is, by the end of the forecast period only those derivatives existing at the forecast reference date with a maturity beyond the end of the period should be recognised in the financial statements.

Except in limited circumstances, future derivative activity is not included in forecasts. This is because fair value forecasts of future derivatives are assumed to be zero due to forecast exchange rates being fixed at the rate at the forecast reference date, as are interest rate curves and other assumptions (eg, electricity pricing curves) affecting the value of derivatives.

Financial instruments – accounting policies

Non-derivative financial assets

Financial assets are designated into the following categories: loans and receivables at amortised cost, financial assets available-for-sale, financial assets held-for-trading and financial assets designated as fair value through the operating balance. This designation is made by reference to the purpose of the financial instruments, policies and practices for their management, their relationship with other instruments and the reporting costs and benefits associated with each designation.

The maximum loss due to default on any financial asset is the carrying value reported in the statement of financial position.

Major financial asset type	**Designation**
Trade and other receivables	All designated as loans and receivables at amortised cost
Student loans	All designated as loans and receivables at amortised cost
Kiwibank mortgages	All designated as loans and receivables at amortised cost
Other advances	Generally designated as loans and receivables at amortised cost
IMF financial assets	All designated as loans and receivables at amortised cost
Share investments	Generally designated as fair value through the operating balance
Marketable securities	Generally designated as fair value through the operating balance
Long-term deposits	Generally designated as loans and receivables at amortised cost

Loans and receivables are recognised initially at fair value plus transaction costs and subsequently measured at amortised cost using the effective interest method (refer interest revenue policy). Loans and receivables issued with durations of less than 12 months are recognised at their nominal value, unless the effect of discounting is material. Allowances for estimated irrecoverable amounts are recognised when there is objective evidence that the asset is impaired. Interest, impairment losses and foreign exchange gains and losses are recognised in the statement of financial performance.

Financial assets held-for-trading and financial assets designated at fair value through the operating balance are recorded at fair value with any realised and unrealised gains or losses recognised in the statement of financial performance.

A financial asset is designated at fair value through the operating balance if acquired principally for the purpose of trading in the short term. It may also be designated into this category if the accounting treatment results in more relevant information because it either significantly reduces an accounting mismatch with related liabilities or is part of a group of financial assets that is managed and evaluated on a fair value basis, such as with the NZ Superannuation Fund. Gains or losses from interest, foreign exchange and other fair value movements are separately reported in the statement of financial performance. Transaction costs are expensed as they are incurred.

Available-for-sale financial assets are initially recorded at fair value plus transaction costs. They are subsequently recorded at fair value with any resultant fair value gains or losses recognised in the statement of comprehensive revenue and expense, with some exceptions. Those exceptions are for impairment losses, any interest calculated using the effective interest method and, in the case of monetary items (such as debt securities), foreign exchange gains and losses resulting from translation differences due to changes in amortised cost of the asset. These latter items are recognised in the statement of financial performance. For non-monetary available-for-sale financial assets (eg, some unlisted equity instruments) the fair value movements recognised in the statement of comprehensive revenue and expense include any related foreign exchange component. At derecognition, the cumulative fair value gain or loss previously recognised in the statement of comprehensive revenue and expense, is recognised in the statement of financial performance.

Cash and cash equivalents include cash on hand, cash in transit, bank accounts and deposits with an original maturity of no more than three months.

Fair values of quoted investments are based on market prices. Regular way purchases and sales of all financial assets are accounted for at trade date. If the market for a financial asset is not active, fair values for initial recognition and, where appropriate, subsequent measurement are established by using valuation techniques, as set out in the notes to the financial statements. At each balance date an assessment is made whether there is objective evidence that a financial asset or group of financial assets is impaired.

Non-derivative financial liabilities

Financial liabilities are designated into the following categories: amortised cost, financial liabilities held-for-trading and financial liabilities designated as fair value through the operating balance. This designation is made by reference to the purpose of the financial instruments, policies and practices for their management, their relationship with other instruments and the reporting costs and benefits associated with each designation.

Major financial liability type	Designation
Accounts payable	All designated at amortised cost
Government stock	Generally designated at amortised cost
Treasury bills	Generally designated at amortised cost
Government retail stock	All designated at amortised cost
Settlement deposits with Reserve Bank	All designated at amortised cost
Issued currency	Not designated: Recognised at face value

Financial liabilities held-for-trading and financial liabilities designated at fair value through the operating balance are recorded at fair value with any realised and unrealised gains or losses recognised in the statement of financial performance. A financial liability is designated at fair value through the operating balance if acquired principally for the purpose of trading in the short term. It may also be designated into this category if the accounting treatment results in more relevant information because it either eliminates or significantly reduces an accounting mismatch with related assets or is part of a group of financial liabilities that is managed and evaluated on a fair value basis. Gains or losses from interest, foreign exchange and other fair value movements are separately reported in the statement of financial performance. Transaction costs are expensed as they are incurred.

Other financial liabilities are recognised initially at fair value less transaction costs and are subsequently measured at amortised cost using the effective interest method. Financial liabilities entered into with durations of less than 12 months are recognised at their nominal value. Amortisation and, in the case of monetary items, foreign exchange gains and losses, are recognised in the statement of financial performance as is any gain or loss when the liability is derecognised.

Currency issued for circulation, including demonetised currency after 1 July 2004, is recognised at face value. Currency issued represents a liability in favour of the holder.

Derivative financial instruments

Derivative financial instruments are recognised both initially and subsequently at fair value. They are reported as either assets or liabilities depending on whether the derivative is in a net gain or net loss position respectively. Recognition of the movements in the value of derivatives depends on whether the derivative is designated as a hedging instrument and, if so, the nature of the item being hedged (see Hedging section below).

Derivatives that are not designated for hedge accounting are classified as held-for-trading financial instruments with fair value gains or losses recognised in the statement of financial performance. Such derivatives may be entered into for risk management purposes, although not formally designated for hedge accounting, or for tactical trading.

Hedging

Individual entities consolidated within the Government reporting entity apply hedge accounting after considering the costs and benefits of adopting hedge accounting, including:

- whether an economic hedge exists and the effectiveness of that hedge
- whether the hedge accounting qualifications could be met, and
- the extent to which it would improve the relevance of reported results.

(a) Cash flow hedge

Where a derivative qualifies as a hedge of variability in asset or liability cash flows (cash flow hedge), the effective portion of any gain or loss on the derivative is recognised in the statement of comprehensive revenue and expense and the ineffective portion is recognised in the statement of financial performance. Where the hedge of a forecast transaction subsequently results in the recognition of a non-financial asset or non-financial liability (eg, where the hedge relates to the purchase of an asset in a foreign currency), the amount recognised in the statement of comprehensive revenue and expense is included in the initial cost of the asset or liability. Otherwise, gains or losses recognised in the statement of comprehensive revenue and expense transfer to the statement of financial performance in the same period as when the hedged item affects the statement of financial performance (eg, when the forecast sale occurs). Effective portions of the hedge are recognised in the same area of the statement of financial performance as the hedged item.

When a hedging instrument expires or is sold, or when a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in net worth at that time remains in net worth and is recognised when the forecast transaction is ultimately recognised in the statement of financial performance. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was reported in the statement of comprehensive revenue and expense is transferred to the statement of financial performance.

(b) Fair value hedge

Where a derivative qualifies as a hedge of the exposure to changes in fair value of an asset or liability (fair value hedge) any gain or loss on the derivative is recognised in the statement of financial performance together with any changes in the fair value of the hedged asset or liability. The carrying amount of the hedged item is adjusted by the fair value gain or loss on the hedged item in respect of the risk being hedged.

Inventories

Inventories are recorded at the lower of cost (calculated using a weighted average method) and net realisable value. Inventories held for distribution for public benefit purposes are recorded at cost adjusted where applicable for any loss of service potential. Where inventories are acquired at no cost, or for nominal consideration, their cost is deemed to be fair value, usually determined through an assessment of current replacement cost at the date of acquisition.

Inventories include unissued currency and harvested agricultural produce (eg, logs, wool). The cost of harvested agricultural produce is measured at fair value less estimated costs to sell at the point of harvest.

Property, plant and equipment – forecasting policy

Forecasts of the value of property, plant and equipment (PPE) (including state highways and rail infrastructure) use the valuations recorded in the Financial Statements of the Government for the prior year and any additional valuations that have occurred up to the forecast preparation date. As a consequence, no further realised or unrealised gains or losses are forecast for the entire forecast period.

Property, plant and equipment – accounting policies

Measurement on initial recognition

Items of PPE are initially recorded at cost. Cost may include transfers from net worth of any gains or losses on qualifying cash flow hedges of foreign currency purchases of PPE. Where an asset is acquired for nil or nominal consideration the asset is recognised initially at fair value, where fair value can be reliably determined, as revenue in the statement of financial performance.

Capitalisation of borrowing costs

Generally, Government borrowings are not directly attributable to individual assets. Therefore, borrowing costs incurred during the period, including any that could be allocated as a cost of completing and preparing assets for their intended use are expensed rather than capitalised.

Subsequent measurement

Subsequent to initial recognition, classes of PPE are accounted for as set out below.

Revaluations are carried out for a number of classes of PPE to reflect the service potential or economic benefit obtained through control of the asset. Revaluation is based on the fair value of the asset, with changes reported by class of asset.

Class of PPE	Accounting policy
Land and buildings	Land and buildings are recorded at fair value and, for buildings, less depreciation accumulated since the assets were last revalued. Land associated with the rail network and state highways is valued using an estimate based on adjacent use, as an approximation to fair value. Valuations undertaken in accordance with standards issued by the New Zealand Property Institute are used where applicable. Otherwise, valuations conducted in accordance with the Rating Valuation Act 1998, may be used if they have been confirmed as appropriate by an independent valuer. When revaluing buildings, there must be componentisation to the level required to ensure adequate representation of the material components of the buildings. At a minimum, this requires componentisation to three levels: structure, building services and fit-out.
Specialist military equipment	Specialist military equipment is recorded on a depreciated replacement cost basis less depreciation accumulated since the assets were last revalued. Valuations are obtained through specialist assessment by New Zealand Defence Force advisers, and the basis for the valuation is confirmed as appropriate by an independent valuer.
State highways	State highways are recorded on a depreciated replacement cost basis less depreciation accumulated since the assets were last revalued.
Rail network	Rail infrastructure used for freight services (freight only and dual use lines required for freight operations) are recorded at fair value less depreciation accumulated since the assets were last revalued. Rail infrastructure not required for freight operations and used for metro services is recorded on a depreciated replacement cost basis less depreciation accumulated since the assets were last revalued.
Aircraft	Aircraft (excluding specialised military equipment) are recorded at fair value less depreciation accumulated since the assets were last revalued.
Electricity distribution	Electricity distribution network assets are recorded at cost, less depreciation and impairment losses accumulated since the assets were purchased.
Electricity generation	Electricity generation assets are recorded at fair value less depreciation accumulated since the assets were last revalued.
Specified cultural and heritage assets	Specified cultural and heritage assets comprise national parks, conservation areas and related recreational facilities, as well as National Archives holdings and the collections of the National Library, Parliamentary Library and Te Papa. Of these, non-land assets are recorded at fair value less subsequent impairment losses. Assets are not reported with a financial value in cases where they are not realistically able to be reproduced or replaced, and where no market exists to provide a valuation. For example, Crown research institutes own various collections, library resources and databases that are an integral part of the research work they undertake. These collections are highly specialised and there is no reliable basis for establishing a valuation. They have therefore not been valued for financial reporting purposes.
Other plant and equipment	Other plant and equipment, which includes motor vehicles and office equipment, are recorded at cost less depreciation and impairment losses accumulated since the assets were purchased.

Revaluation

Classes of PPE that are revalued are revalued at least every five years or whenever the carrying amount differs materially to fair value.

Items of PPE are revalued to fair value for the highest and best use of the item on the basis of the market value of the item, or on the basis of market evidence, such as discounted cash flow calculations. If no market evidence of fair value exists, an optimised depreciated replacement cost approach is used as the best proxy for fair value. Where an item of PPE is recorded at its optimised depreciated replacement cost, this cost is based on the estimated present cost of constructing the existing item of PPE by the most appropriate method of construction, less allowances for physical deterioration and optimisation for obsolescence and relevant surplus capacity. Where an item of PPE is recorded at its optimised depreciated replacement cost, the cost does not include any borrowing costs.

When an item of property, plant and equipment is revalued, any accumulated depreciation at the date of revaluation is eliminated against the gross carrying amount of the asset and the net amount restated to the revalued amount of the asset.

Unrealised gains and losses arising from changes in the value of PPE are recognised as at balance date. To the extent that a gain reverses a loss previously charged to the statement of financial performance for the asset class, the gain is credited to the statement of financial performance. Otherwise, gains are added to an asset revaluation reserve for that class of asset. To the extent that there is a balance in the asset revaluation reserve for the asset class, any loss is deducted from that reserve. Otherwise, losses are reported in the statement of financial performance.

Depreciation

Depreciation is charged on a straight-line basis at rates calculated to allocate the cost or valuation of an item of PPE, less any estimated residual value, over its remaining useful life. Typically, the estimated useful lives of different classes of PPE are as follows:

Class of PPE	**Estimated useful lives**
Buildings	25 to 150 years
Specialist military equipment (SME)	5 to 55 years
State highways: Pavement (surfacing) Pavement (other) Bridges	 7 years 50 years 70 to 105 years
Rail Network: Track and ballast Tunnels and bridges Overhead traction and signalling	 40 to 50 years 75 to 200 years 15 to 80 years
Aircraft (excluding SME)	10 to 20 years
Electricity distribution network	2 to 80 years
Electricity generation assets	25 to 100 years
Other plant and equipment	3 to 30 years

Specified heritage and cultural assets are generally not depreciated.

Impairment

For assets held at cost, where an asset's recoverable amount is less than its carrying amount, it is reported at its recoverable amount and an impairment loss is recognised. The main reason for holding some assets (for example, electricity generation assets) is to generate cash. For these assets the recoverable amount is the higher of the amount that could be recovered by sale (after deducting the costs of sale) or the amount that will be generated by using the asset through its useful life. Some assets do not generate cash (for example, state highways) and for those assets, depreciated replacement cost is used. Losses resulting from impairment are reported in the statement of financial performance, unless the asset is carried at a revalued amount in which case any impairment loss is treated as a revaluation decrease.

Disposal

Realised gains and losses arising from disposal of PPE are generally recognised in the statement of financial performance when the significant risks and rewards of ownership of the asset have transferred to the acquirer. Any balance attributable to the disposed asset in the asset revaluation reserve is transferred to taxpayer funds.

Public private partnerships

A public private partnership (also known as a service concession arrangement) is an arrangement between the Government and a private sector partner in which the private sector partner uses specified assets to supply a public service on behalf of the Government for a specified period of time and is compensated for its services over the period of the arrangement. The costs of the specified assets are financed by the private sector partner, except where existing assets of the Government (generally land) are allocated to the arrangement. Payments made by the Government to a private sector partner over the period of a service concession arrangement cover the costs of the provision of services, interest expenses and repayment of the liability incurred to acquire the specified assets.

The assets in a public private partnership are recognised as assets of the Government. If the assets are progressively constructed, the Government progressively recognises work-in-progress at cost and a financial liability of the same value is also recognised. When the assets are fully constructed, the total asset cost and the matching financial liability reflect the value of the future compensation to be provided to the private-sector partner for the assets.

Subsequent to initial recognition:

- the assets are accounted for in accordance with the accounting policy applicable to the classes of property, plant and equipment that the specified assets comprise, and
- the financial liabilities are measured at amortised cost.

Equity accounted investments

NZ GAAP determines the combination bases for entities that make up the Government reporting entity and is used by public benefit entities to determine whether they control another entity.

However, NZ GAAP is not clear about how the definitions of control and significant influence should be applied in some circumstances in the public sector, for example, where legislation provides public sector entities with statutory autonomy and independence, in particular with Tertiary Education Institutions. Treasury's view is that because the Government cannot determine their operating and financing policies, but does have a number of powers in relation to these entities, it is appropriate to treat them as associates.

Biological assets

Biological assets (eg, trees and sheep) managed for harvesting into agricultural produce (eg, logs and wool) or for transforming into additional biological assets are measured at fair value less estimated costs to sell, with any realised and unrealised gains or losses reported in the statement of financial performance. Where fair value cannot be reliably determined, the asset is recorded at cost less accumulated depreciation and accumulated impairment losses. For commercial forests, fair value takes into account age, quality of timber and the forest management plan.

Biological assets managed for harvesting into agricultural produce, or being transformed into additional biological assets are reported as other assets. Other biological assets are recorded as other property, plant and equipment in accordance with the policies for property, plant and equipment.

Intangible assets

Intangible assets are initially recorded at cost.

The cost of an internally generated intangible asset represents expenditure incurred in the development phase of the asset only. The development phase occurs after the following can be demonstrated: technical feasibility; ability to complete the asset; intention and ability to sell or use; and development expenditure can be reliably measured. Research is “original and planned investigation undertaken with the prospect of gaining new scientific or technical knowledge and understanding”. Expenditure incurred on the research phase of an internally generated intangible asset is expensed when it is incurred. Where the research phase cannot be distinguished from the development phase, the expenditure is expensed when incurred.

Where an intangible asset with a market value is internally generated for nil or nominal consideration it is initially reported at cost, which by definition is nil/nominal.

The Government’s holdings of assigned amount units arising from the Kyoto protocol are reported at fair value. Other intangible assets with finite lives are subsequently recorded at cost less any amortisation and impairment losses. Amortisation is charged to the statement of financial performance on a straight-line basis over the useful life of the asset. Typically, the estimated useful life of computer software is three to five years.

Intangible assets with indefinite useful lives are not amortised, but are tested at least annually for impairment.

Realised gains and losses arising from disposal of intangible assets are recognised in the statement of financial performance when the significant risks and rewards of ownership have transferred to the acquirer.

Intangible assets with finite lives are reviewed at least annually to determine if there is any indication of impairment. Where an intangible asset’s recoverable amount is less than its carrying amount, it is reported at its recoverable amount and an impairment loss is recognised. Losses resulting from impairment are reported in the statement of financial performance.

Goodwill is tested for impairment annually.

Non-current assets held for sale and discontinued operations

Non-current assets or disposal groups are separately classified where their carrying amount will be recovered through a sale transaction rather than continuing use; that is, where such assets are available for immediate sale and where sale is highly probable. Non-current assets held for sale, or disposal groups, are recorded at the lower of their carrying amount and fair value less costs to sell.

Investment property

Investment property is property held primarily to earn rentals or for capital appreciation or both. It does not include property held primarily for strategic purposes or to provide a social service (eg, affordable housing) even though such property may earn rentals or appreciate in value – such property is reported as property, plant and equipment.

Investment properties are measured at fair value. Gains or losses arising from fair value changes are included in the statement of financial performance. Valuations are undertaken in accordance with standards issued by the New Zealand Property Institute.

Employee benefits

Pension liabilities

Obligations for contributions to defined contribution retirement plans are recognised in the statement of financial performance as they fall due. Obligations for defined benefit retirement plans are recorded at the latest actuarial value of the Crown liability. All movements in the liability, including actuarial gains and losses, are recognised in full in the statement of financial performance in the period in which they occur.

Other employee entitlements

Employee entitlements to salaries and wages, annual leave, long service leave, retiring leave and other similar benefits are recognised in the statement of financial performance when they accrue to employees. Employee entitlements to be settled within 12 months are reported at the amount expected to be paid. The liability for long-term employee entitlements is reported as the present value of the estimated future cash outflows.

Termination benefits

Termination benefits are recognised in the statement of financial performance only when there is a demonstrable commitment to either terminate employment prior to normal retirement date or to provide such benefits as a result of an offer to encourage voluntary redundancy. Termination benefits settled within 12 months are reported at the amount expected to be paid, otherwise they are reported as the present value of the estimated future cash outflows.

Insurance contracts

The future cost of outstanding insurance claims liabilities are valued based on the latest actuarial information. The estimate includes estimated payments associated with claims reported and accepted, claims incurred but not reported, claims that may be re-opened, and the costs of managing these claims. Movements of the claims liabilities are reflected in the statement of financial performance. Financial assets backing these liabilities are designated at fair value through the operating balance.

Reinsurance

Premiums paid to reinsurers are recognised as reinsurance expense in the statement of financial performance. Premiums are measured from the attachment date over the period of indemnity of the reinsurance contract, in accordance with the expected pattern of the incidence of risk. Prepaid reinsurance premiums are included in prepayments in the statement of financial position.

Reinsurance and other recoveries receivable

Reinsurance and other recoveries receivable on paid claims and outstanding claims, are recognised as revenue in the statement of financial performance.

Recoveries receivable are assessed in a manner similar to the assessment of outstanding claims and are measured as the present value of the expected future receipts.

Leases

Finance leases transfer, to the Crown as lessee, substantially all the risks and rewards incident on the ownership of a leased asset. Initial recognition of a finance lease results in an asset and liability being recognised at amounts equal to the lower of the fair value of the leased property or the present value of the minimum lease payments. The capitalised values are amortised over the period in which the Crown expects to receive benefits from their use.

Operating leases, where the lessor substantially retains the risks and rewards of ownership, are recognised in a systematic manner over the term of the lease. Leasehold improvements are capitalised and the cost is amortised over the unexpired period of the lease or the estimated useful life of the improvements, whichever is shorter. Lease incentives received are recognised evenly over the term of the lease as a reduction in rental expense.

Other liabilities and provisions

Other liabilities and provisions are recorded at the best estimate of the expenditure required to settle the obligation. Liabilities and provisions to be settled beyond 12 months are recorded at the present value of their estimated future cash outflows.

Contingent liabilities and contingent assets

Contingent liabilities and contingent assets are reported at the point at which the contingency is evident or when a present liability is unable to be measured with sufficient reliability to be recorded in the financial statements (unquantifiable liability). Contingent liabilities, including unquantifiable liabilities, are disclosed if the possibility that they will crystallise is more than remote. Contingent assets are disclosed if it is probable that the benefits will be realised.

Commitments

Commitments are future expenses and liabilities to be incurred on contracts that have been entered into at balance date.

Commitments are classified as:

- Capital commitments: aggregate amount of capital expenditure contracted for but not recognised as paid or provided for at balance date.
- Lease commitments: non-cancellable operating leases with a lease term exceeding one year.

Cancellable commitments that have penalty or exit costs explicit in the agreement on exercising the option to cancel are reported at the value of those penalty or exit costs (ie, the minimum future payments).

Interest commitments on debts, commitments for funding, and commitments relating to employment contracts are not separately reported as commitments.

Comparatives

When presentation or classification of items in the financial statements is amended or accounting policies are changed voluntarily, comparative figures have been restated to ensure consistency with the current period unless it is impracticable to do so.

Comparatives referred to as Previous Budget were forecasts published in the 2017 Budget Economic and Fiscal Update.

Segment analysis

The Government reporting entity is not required to provide segment reporting as it is a public benefit entity. Nevertheless, information is presented for material institutional components and major economic activities within or undertaken by the Government reporting entity. The three major institutional components of the Crown are:

- **Core Crown**: This group, which includes Ministers, government departments, Offices of Parliament, the Reserve Bank of New Zealand and the New Zealand Superannuation Fund most closely represents the budget sector and provides information that is useful for fiscal analysis purposes. Investments in Crown entities and SOEs are reported at historic cost with no impairment. This ensures losses in those entities are reflected in the appropriate segment.
- **Crown entities**: This group includes entities governed by the Crown Entities Act 2004. These entities have separate legal form and specified governance frameworks (including the degree to which each Crown entity is required to give effect to, or be independent of, government policy).
- **State-owned Enterprises**: This group includes entities governed by the State-owned Enterprises Act 1986, and (for the purposes of these statements) also includes Air New Zealand, Mercury NZ Limited (previously Mighty River Power), Meridian Energy and Genesis Energy. This group represents entities that undertake commercial activity.

Functional analysis is also provided of a number of financial statements items. This functional analysis is drawn from the Classification of the Functions of Government as developed by the Organisation for Economic Co-operation and Development (OECD).