COMMERCE COMMISSION NEW ZEALAND

Electricity Distribution Business
Price-Quality Regulation 1 April 2015 Reset
Model 8. Forecast change in CPI
Final determination version

Version 2.0.   28 November 2014

Description and Status

General Description

The financial model accepts the following two outputs from this CPI model:

A. Change in CPI, 2 index, no lag.

To calculate revaluations, clause 4.2.3(3) of the EDB IMs applies the formula

● CPI4 ÷ CPI4-4, where: CPI4 means forecast CPI for the quarter that coincides with the end of the disclosure year; and CPI4-4 means forecast CPI for the quarter that coincides with the end of the preceding disclosure year.

B. Change in CPI, 8 index, lagged.

To calculate allowable notional revenue the reset determination may apply formulas of the form used in the Schedules 1C and 1D of the EDB 2010–2015 DPP reset determination—

● $\Delta CPI2014/15 =(CPIDec,2012 + CPIMar,2013 + CPIJun,2013 + CPISep,2013)/(CPIDec,2011 + CPIMar,2012 + CPIJun,2012+ CPISep,2012)$

A compensatory adjustment is required to CPI values for quarters prior to December 2010 to take account of the effect of the Government's increase to the Goods and Services Tax (GST) from 12.5% to 15%, which took effect from 1 October 2010, on the CPI. The definition of CPI in the EDB IMs accordingly multiplies CPI values prior to December 2010 by an adjustment factor of 1.02, based on an estimate by the Reserve Bank.

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Inputs

General Inputs

	Value
Mid-point of government inflation target range	2.0%
GST adjustment factor	1.02
GST adjustment factor end date	Dec 2010
Final date for historic CPI series	Jun 2014
Final date for forecast CPI series	Sep 2017
First date of change in CPI forecast required for DPP forecast period	Mar 2010
Last date of change in CPI forecast required for DPP forecast period	Mar 2020
Number of years until mid-point of inflation range is targeted	3

Sources:

● *The 'midpoint of the government inflation target range' is sourced from Reserve Bank of New Zealand Monetary Policy Statement March 2014 ISSN 1770-4829, Appendix E clause 2(b) at http://www.rbnz.govt.nz/monetary_policy/monetary_policy_statement/2014/MPSmar14.pdf*

● *GST adjustment factor of 1.02 as specified in paragraph (b) in the definition of CPI (EDB IM determination [2012] NZCC 26, as amended). GST factor end date is a date that falls in the first quarter for which the GST adjustment factor is not applied (ie, any date in the December 2010 quarter).*

CPI Estimates

Sources:

● *The historic CPI series is sourced from Statistics NZ CPI Table 1 SE9A at http://www.stats.govt.nz/~/media/Statistics/Browse%20for%20stats/ConsumersPriceIndex/HOTPJun14qtr/cpi-jun14-all-tables.xls*

● *The forecast CPI series is sourced from RBNZ forecast CPI changes, Figure 2.3 at http://www.rbnz.govt.nz/monetary_policy/monetary_policy_statement/2014/MPSSep14_data.xls*

	Historic CPI	Forecast CPI
Mar 2007	1010	
Jun 2007	1020	
Sep 2007	1025	
Dec 2007	1037	
Mar 2008	1044	
Jun 2008	1061	
Sep 2008	1077	
Dec 2008	1072	
Mar 2009	1075	
Jun 2009	1081	
Sep 2009	1095	
Dec 2009	1093	
Mar 2010	1097	
Jun 2010	1099	
Sep 2010	1111	
Dec 2010	1137	
Mar 2011	1146	
Jun 2011	1157	
Sep 2011	1162	
Dec 2011	1158	
Mar 2012	1164	
Jun 2012	1168	
Sep 2012	1171	
Dec 2012	1169	
Mar 2013	1174	
Jun 2013	1176	
Sep 2013	1187	
Dec 2013	1188	
Mar 2014	1192	
Jun 2014	1195	
Sep 2014		1.3479
Dec 2014		1.3468
Mar 2015		1.4262
Jun 2015		1.6736
Sep 2015		1.5794
Dec 2015		1.5781
Mar 2016		1.7370
Jun 2016		1.8107
Sep 2016		1.9640
Dec 2016		2.0442
Mar 2017		2.1138
Jun 2017		2.1019
Sep 2017		2.1669
Dec 2017		
Mar 2018		
Jun 2018		
Sep 2018		
Dec 2018		
Mar 2019		
Jun 2019		
Sep 2019		
Dec 2019		
Mar 2020		
Jun 2020		
Sep 2020		
Dec 2020		
Mar 2021		
Jun 2021		
Sep 2021		
Dec 2021		
Mar 2022		
Jun 2022		
Sep 2022		
Dec 2022		
Mar 2023		
Jun 2023		
Sep 2023		
Dec 2023		
Mar 2024		
Jun 2024		
Sep 2024		
Dec 2024		

Calculations

Inputs

	Value
GST adjustment factor	1.02
GST adjustment factor end date	1 Dec 10
Last date of historic CPI series	1 Jun 14
Last date of RBNZ forecast	1 Sep 17
Last date of CPI forecast required for DPP forecast period	1 Mar 20
Number of years until mid-point of inflation range is targeted	3
Midpoint of inflation target range (%)	2.00

Explanation

Calculation added. CPI used for MAR smoothing IM 5.3.4 (9).

Calculations

Midpoint of inflation target range (%)	2.00
Date from which midpoint of inflation target range applies	1 Sep 20

	CPI forecast method	Historic CPI series	Annual change in		Forecast change in CPI series (%)	CPI series, no GST adjustment	CPI series, with GST adjustment	Change in CPI, quarter on quarter, no lag	Change in CPI, year on year, lagged	Change in CPI, year on year, for CPP, no lag
			RBNZ forecast change in CPI (%)	CPI beyond RBNZ forecast (%)						
Mar-06	–									
Jun-06	–									
Sep-06	–									
Dec-06	–									
Mar-07	–	1010				1,010	1,030			
Jun-07	–	1020				1,020	1,040			
Sep-07	–	1025				1,025	1,046			
Dec-07	–	1037				1,037	1,058			
Mar-08	–	1044				1,044	1,065	3.37%		
Jun-08	–	1061				1,061	1,082	4.02%		
Sep-08	–	1077				1,077	1,099	5.07%		
Dec-08	–	1072				1,072	1,093	3.38%		3.96%
Mar-09	–	1075				1,075	1,097	2.97%		3.85%
Jun-09	–	1081				1,081	1,103	1.89%		3.31%
Sep-09	–	1095				1,095	1,117	1.67%		2.47%
Dec-09	–	1093				1,093	1,115	1.96%		2.12%
Mar-10	–	1097				1,097	1,119	2.05%		1.89%
Jun-10	–	1099				1,099	1,121	1.67%	3.96%	1.84%
Sep-10	–	1111				1,111	1,133	1.46%	3.85%	1.78%
Dec-10	–	1137				1,137	1,137	1.99%	3.31%	1.79%
Mar-11	–	1146				1,146	1,146	2.42%	2.47%	1.88%
Jun-11	–	1157				1,157	1,157	3.21%	2.12%	2.27%
Sep-11	–	1162				1,162	1,162	2.54%	1.89%	2.54%
Dec-11	–	1158				1,158	1,158	1.85%	1.84%	2.50%
Mar-12	–	1164				1,164	1,164	1.57%	1.78%	2.29%
Jun-12	–	1168				1,168	1,168	0.95%	1.79%	1.72%
Sep-12	–	1171				1,171	1,171	0.77%	1.88%	1.28%
Dec-12	–	1169				1,169	1,169	0.95%	2.27%	1.06%
Mar-13	–	1174				1,174	1,174	0.86%	2.54%	0.88%
Jun-13	–	1176				1,176	1,176	0.68%	2.50%	0.82%
Sep-13	–	1187				1,187	1,187	1.37%	2.29%	0.97%
Dec-13	–	1188				1,188	1,188	1.63%	1.72%	1.13%
Mar-14	–	1192				1,192	1,192	1.53%	1.28%	1.30%
Jun-14	–	1195				1,195	1,195	1.62%	1.06%	1.54%
Sep-14	1		1.35		1.35	1,203	1,203	1.35%	0.88%	1.53%
Dec-14	1		1.35		1.35	1,204	1,204	1.35%	0.82%	1.46%
Mar-15	1		1.43		1.43	1,209	1,209	1.43%	0.97%	1.43%
Jun-15	1		1.67		1.67	1,215	1,215	1.67%	1.13%	1.45%
Sep-15	1		1.58		1.58	1,222	1,222	1.58%	1.30%	1.51%
Dec-15	1		1.58		1.58	1,223	1,223	1.58%	1.54%	1.56%
Mar-16	1		1.74		1.74	1,230	1,230	1.74%	1.53%	1.64%
Jun-16	1		1.81		1.81	1,237	1,237	1.81%	1.46%	1.68%
Sep-16	1		1.96		1.96	1,246	1,246	1.96%	1.43%	1.77%
Dec-16	1		2.04		2.04	1,248	1,248	2.04%	1.45%	1.89%
Mar-17	1		2.11		2.11	1,256	1,256	2.11%	1.51%	1.98%
Jun-17	1		2.10		2.10	1,263	1,263	2.10%	1.56%	2.06%
Sep-17	1		2.17		2.17	1,273	1,273	2.17%	1.64%	2.11%
Dec-17	2			–	2.17	1,275	1,275	2.17%	1.68%	2.14%
Mar-18	2			–	2.17	1,283	1,283	2.17%	1.77%	2.15%
Jun-18	2			–	2.17	1,290	1,290	2.17%	1.89%	2.17%
Sep-18	2			(0.06)	2.11	1,300	1,300	2.11%	1.98%	2.15%
Dec-18	2			–	2.11	1,302	1,302	2.11%	2.06%	2.14%
Mar-19	2			–	2.11	1,310	1,310	2.11%	2.11%	2.13%
Jun-19	2			–	2.11	1,318	1,318	2.11%	2.14%	2.11%
Sep-19	2			(0.06)	2.06	1,327	1,327	2.06%	2.15%	2.10%
Dec-19	2			–	2.06	1,329	1,329	2.06%	2.17%	2.08%
Mar-20	2			–	2.06	1,337	1,337	2.06%	2.15%	2.07%
Jun-20	3				2.00	1,344	1,344	2.00%	2.14%	2.04%
Sep-20	3				2.00	1,353	1,353	2.00%	2.13%	2.03%
Dec-20	3				2.00	1,355	1,355	2.00%	2.11%	2.01%
Mar-21	3				2.00	1,364	1,364	2.00%	2.10%	2.00%
Jun-21	3				2.00	1,371	1,371	2.00%	2.08%	2.00%
Sep-21	3				2.00	1,380	1,380	2.00%	2.07%	2.00%
Dec-21	3				2.00	1,382	1,382	2.00%	2.04%	2.00%
Mar-22	3				2.00	1,391	1,391	2.00%	2.03%	2.00%
Jun-22	3				2.00	1,398	1,398	2.00%	2.01%	2.00%
Sep-22	3				2.00	1,408	1,408	2.00%	2.00%	2.00%
Dec-22	3				2.00	1,410	1,410	2.00%	2.00%	2.00%
Mar-23	3				2.00	1,419	1,419	2.00%	2.00%	2.00%
Jun-23	3				2.00	1,426	1,426	2.00%	2.00%	2.00%
Sep-23	3				2.00	1,436	1,436	2.00%	2.00%	2.00%
Dec-23	3				2.00	1,438	1,438	2.00%	2.00%	2.00%
Mar-24	3				2.00	1,447	1,447	2.00%	2.00%	2.00%
Jun-24	3				2.00	1,455	1,455	2.00%	2.00%	2.00%
Sep-24	3				2.00	1,465	1,465	2.00%	2.00%	2.00%
Dec-24	3				2.00	1,467	1,467	2.00%	2.00%	2.00%
Mar-25	3				2.00	1,476	1,476	2.00%	2.00%	2.00%
Jun-25	3				2.00	1,484	1,484	2.00%	2.00%	2.00%
Sep-25	3				2.00	1,494	1,494	2.00%	2.00%	2.00%
Dec-25	3				2.00	1,496	1,496	2.00%	2.00%	2.00%
Mar-26	3				2.00	1,506	1,506	2.00%	2.00%	2.00%
Jun-26	3				2.00	1,514	1,514	2.00%	2.00%	2.00%
Sep-26	3				2.00	1,524	1,524	2.00%	2.00%	2.00%
Dec-26	3				2.00	1,526	1,526	2.00%	2.00%	2.00%
Mar-27	3				2.00	1,536	1,536	2.00%	2.00%	2.00%
Jun-27	3				2.00	1,544	1,544	2.00%	2.00%	2.00%
Sep-27	3				2.00	1,554	1,554	2.00%	2.00%	2.00%
Dec-27	3				2.00	1,557	1,557	2.00%	2.00%	2.00%
Mar-28	3				2.00	1,567	1,567	2.00%	2.00%	2.00%
Jun-28	3				2.00	1,575	1,575	2.00%	2.00%	2.00%
Sep-28	3				2.00	1,585	1,585	2.00%	2.00%	2.00%
Dec-28	3				2.00	1,588	1,588	2.00%	2.00%	2.00%
Mar-29	3				2.00	1,598	1,598	2.00%	2.00%	2.00%
Jun-29	3				2.00	1,606	1,606	2.00%	2.00%	2.00%
Sep-29	3				2.00	1,617	1,617	2.00%	2.00%	2.00%
Dec-29	3				2.00	1,620	1,620	2.00%	2.00%	2.00%

Outputs

	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Explanation
Change in CPI, quarter on quarter, no lag	2.05%	2.42%	1.57%	0.86%	1.53%	1.43%	1.74%	2.11%	2.17%	2.11%	2.06%	2.00%	RY21 added. Consistent with IM 4.2.3 (3) & (4) and IM variation request.
Change in CPI, year on year, lagged	–	2.47%	1.78%	2.54%	1.28%	0.97%	1.53%	1.51%	1.77%	2.11%	2.15%		
Change in CPI, year on year, no lag	1.89%	1.88%	2.29%	0.88%	1.30%	1.43%	1.64%	1.98%	2.15%	2.13%	2.07%	2.00%	Output added. CPI used for MAR smoothing IM 5.3.4 (9).