

# Australian Markets Weekly

## A low CPI unlikely to sway the RBA; AUD valuation update: Dizzying Heights

- Tomorrow's CPI will be another low print but unlikely to sway the RBA into easing monetary policy given the continued resilience in the non-mining economy. NAB's forecast for the March quarter CPI is for Australia's official inflation rate to be 1.6% y/y (after 1.7% in Q4), the sixth quarter below the 2-3% official RBA target range.
- NAB's forecasts for the economy calls for a steady-to-lower trend rate of unemployment rate and a steady RBA this year.
- In this Weekly, Rodrigo Catril, Currency Strategist, outlines how we could be entering a new period of significant overvaluation for the AUD by replicating the RBA's medium-term model of the real exchange rate. Already the RBA has spoken about how "an appreciating exchange rate could complicate progress" in the economy's transition.
- While the RBA is watching developments closely, an overvalued currency on its own is unlikely to instigate the RBA to ease. The Bank would need to see evidence of a likely deterioration in economic activity (probably through their business liaison program) as a prerequisite to ease again.

### Recent developments

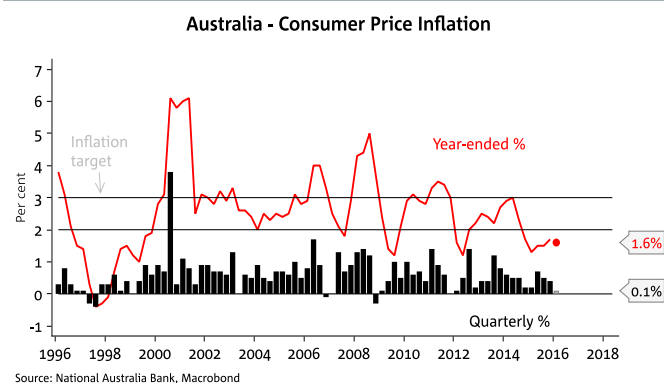
Lower petrol (-11.0% q/q) and fruit prices (-9% q/q) along with subdued rental growth and softer wages all contribute to NAB's forecast of a mere 0.1% q/q rise in the March quarter CPI. Underlying inflation is expected to be 0.5%-0.6%, leaving annual growth still low at 2%, leaving the door open for the RBA to ease, should the economy weaken. NAB's forecasts for the economy calls for no further easing from the RBA. (Please ask if you have not seen and would like to see our full CPI Preview note released last week.) Offshore, there are three central bank meetings, starting early Thursday morning with the FOMC, set to announce no change with no forecast update or press conference at this meeting. The FOMC is followed within hours by the RBNZ, our BNZ colleagues expecting (on-balance) a cut. The BoJ meeting later Thursday will then be under focus for any further monetary support measures. Finally, the key official Chinese Manufacturing and non-manufacturing PMIs are released this coming weekend.

### Key markets over the past week

	Last	% chg week		Last	bp / % chg week
AUD	0.7717	-1.2	RBA cash	2.00	0
AUD/CNY	5.01	-0.6	3y swap	2.24	5
AUD/JPY	85.7	0.6	ASX 200	5,231	1.8
AUD/EUR	0.685	-0.4	Iron ore	66.1	2.0
AUD/NZD	1.123	1.4	WTI oil	43.0	1.2

Source: Bloomberg

### Chart 1: CPI forecast to be 1.6%



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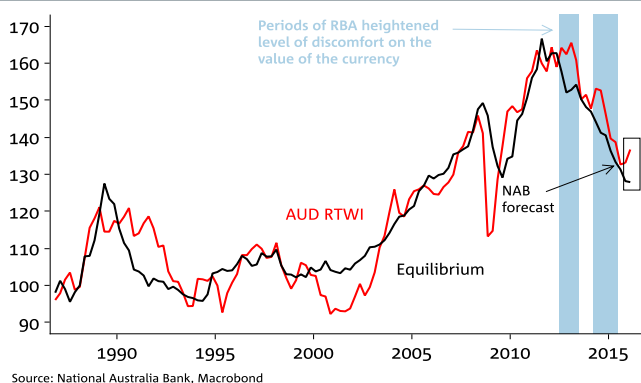
## AUD Valuation Update – Dizzying Heights

Last year we learned that the RBA<sup>1</sup> uses an Error Correction Model (ECM) in order to assess the fundamental value of the AUD Real Trade Weighted Index. We have replicated this model and this note provides a brief description of our calculations as well as our conclusions.

### The Technical bit: Replicating the RBA ECM

The RBA ECM attempts to “quantify the extent to which the real exchange rate is consistent with a level that would be expected based on its historical relationship with other variables”. The ECM estimates an “equilibrium” level of the exchange rate based on its historical relationship to the goods Terms of Trade (ToT) and the real interest rate differential (RIRD) differential between Australia and G3 economies (G3 economies are the US, Japan and the EU).

Chart 2: AUD RTWI and its fundamental equilibrium



The model also includes other, higher frequency, variables to account for short term influences on the exchange rate, namely the Commodity Research Bureau BLS/US Spot All Commodities index (CRB), the real (inflation adjusted) US S&P500 index (SPX) and the Chicago Board Options Exchange SPX Volatility Index (VIX). These variables seek to explain the currency deviation from its equilibrium level that could be justified by short term market dynamics.

The RBA baseline ECM model is specified by the following equation<sup>2</sup>.

$$\Delta RTWI_t = \mu + \gamma(RTWI_{t-1} + \beta_1 ToT_{t-1} + \beta_2 RIRD_{t-1}) + \alpha_1 \Delta CRB_t + \alpha_2 \Delta CRB_{t-1} + \alpha_3 \Delta SPX_t + \alpha_4 \Delta VIX_t + \alpha_5 \Delta RTWI_{t-1} + \alpha_6 \Delta ToT_t + \alpha_7 \Delta RIRD_t + \varepsilon_t$$

Because the model aims to explain movements in the RTWI over the medium term, the calculation is performed using quarterly data and, like the RBA, we have used data from 1986. The statistics and output from our model yield similar results to those published by the RBA.

<sup>1</sup> Research Discussion Paper – Modelling the Australian Dollar (RBA RDP 2015-12) <http://www.rba.gov.au/publications/rdp/2015/pdf/rdp2015-12.pdf>

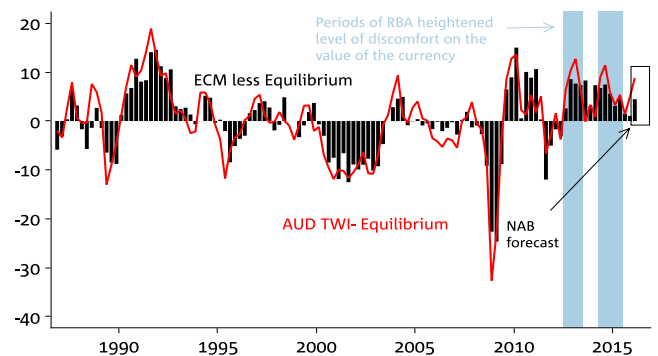
<sup>2</sup> The RBA baseline ECM model is a single equation, rather than a system of equations for each of the cointegrating variables. This approach is deemed suitable because there is only one cointegrating relationship between the variables and all other variables are weakly exogenous. The model is estimated using a ‘one-step’ autoregressive distributed lag (ADL) specification. This means that the equilibrium relationship and short-run dynamics are estimated simultaneously.

### Previous RBA claims of overvaluation and model results

Looking at RBA commentary since 2012, we have identified two distinct periods when the Bank has expressed a high degree of discomfort at the level of the currency: The first one ran from August 2012 to May 2013 and the second from July 2014 to May 2015.

While early in 2012 the RBA noted the currency was trading higher than the Bank had previously assumed, this level of discomfort rose as the year progressed and in August the rhetoric changed to “the exchange rate has remained high, despite the observed decline in the terms of trade and the weaker global outlook”. This rhetoric regarding the currency as overvalued relative to the terms of trade was maintained until May 2013.

Chart 3: Deviations from equilibrium explained by ECM



Source: National Australia Bank, Macrobond

The second heightened degree of jawboning started in the second half of 2014 when the RBA noted that “the exchange rate remains high by historical standards” changing later in the year to “the AUD remains above most estimates of its fundamental value”. This last sentence was maintained in the Governor’s post-meeting statements until April 2015.

The recent RBA FOI report also allows us to identify how the RBA’s internal thinking evolved during 2014 to 2015. In August 2014, in an RBA internal note that looks like it was written to the RBA Board they noted the dollar had appreciated even though key commodity prices had declined. Their TWI model at the time was 8% above the level consistent with its medium-term determinants in the June quarter of 2014 and outside of the 1 standard deviation. They also confirmed their assessment via external assessments of valuation, including by the IMF. They continued their internal commentary in their monthly review notes, and in February 2015 (five to six months later) they assessed the currency to be “too high to achieve desired domestic outcomes”. The internal timing largely tracks the change in the official language given in the Minutes with the RBA noting in December 2014 that “further exchange rate depreciation was likely to be needed to achieve balanced growth” and in February 2015 that “a lower exchange rate was likely to be needed” – with the RBA also cutting the cash rate in February.

Chart 2 shows the model equilibrium level (using only the two fundamental drivers – the (goods-only) terms of trade and the real interest rate differential – against the actual AUD RTWI. The shaded areas denote the two recent periods when the RBA was expressing a heightened level of discomfort at the value of the currency.

Looking at the shaded areas in Chart 2, the RBA's perception of an overvalued currency during these periods was justified by the large AUD RTWI deviation from their model-derived equilibrium levels.

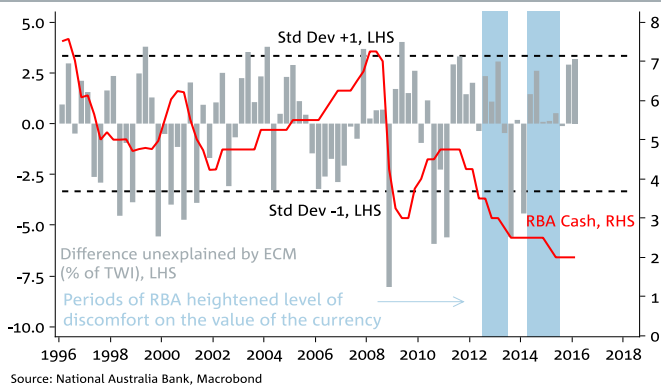
Chart 3 shows the AUD RTWI deviations from its equilibrium level (ie. the difference between the two time series in Chart 2) plotted against the deviation from equilibrium that can be explained by the high-frequency variables in the ECM model.

Looking at the shaded areas in Chart 3, the model results not only justified the RBA assertions that the currency was overvalued, but also show that these overvaluations were not readily explained by short term market dynamics.

Looking at the two periods of currency overvaluation it is notable that the RBA lowered the cash rate in both instances. The cash rate moved from 3.50% to 2.75% between August 2012 and May 2013 and from 2.5% to 2.0% between July 2014 and May 2015. .

Notable too is that the RBA rate cuts during these periods appear to have been instigated during episodes when short term variables were unable to explain the deviation in the currency from equilibrium values. This is illustrated by the grey bars in Chart 4 below. These bars represent the portion of the AUD RWTI deviation from equilibrium that is unexplained by the ECM model. The red line is the RBA cash rate and the shaded areas denotes the two most recent periods of overvaluation asserted by the RBA.

**Chart 4: Unexplained deviations by shorter run variables**



### Dizzying heights in Q1-2016

Hard data used to calculate the equilibrium value for the real AUD trade weighted index (RTWI) is only available through Q4 2015. To bring the model value closer to date, we have estimated the Q1 AUD RTWI level using the change in the nominal AUD TWI and we have used our economists' forecast for the Q1 goods terms of trade (the official numbers will be reported with the Q1 current account data on 31 May).

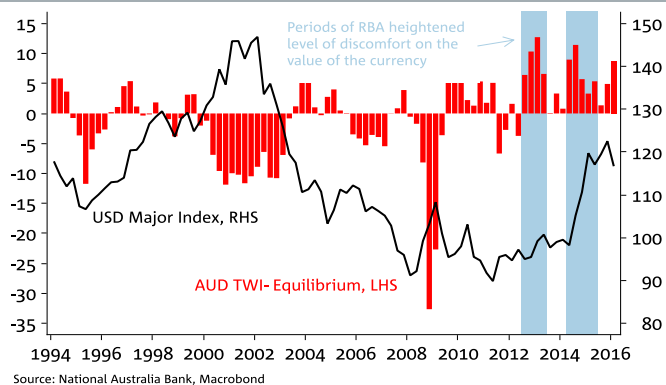
Our calculations suggest that the AUD RTWI deviation from equilibrium rose significantly in Q1 (see highlighted box in Chart 2) suggesting the appreciation of the currency has reached similar levels where in the past the RBA has expressed a heightened level of discomfort. The analysis also shows that the unexplained portion of the AUD RTWI deviation from equilibrium in Q1-16 appears to have reached an extreme level, close to the 1 standard deviation, in Chart 4 above.

Our estimate suggests we could be entering a new period of significant overvaluation in the AUD Real TWI. If sustained, history also shows the RBA does not tolerate extended periods of overvaluation, particularly if they are unexplained by short run dynamics. But this time could be different.

### Much ado about the big dollar: tougher road ahead

In the previous two periods of overvaluation, the AUD RTWI was effectively not falling fast enough relative to its fundamental drivers and short term dynamics. As Chart 5 below illustrates, corrections from these periods of overvaluation occurred against a backdrop of broad USD appreciation. So although the RBA lowered the cash rate and the currency eventually moved back to its expected medium term equilibrium level, arguably the moves down were also aided by the broad USD appreciation trend.

**Chart 5: AUD RTWI fair value deviations and the USD**



A renewed level of sustained AUD appreciation could force the RBA to act on its easing bias. If however, this appreciation occurs in an environment of broad USD weakness (as we are seeing currently) driving the currency back down towards its fundamental equilibrium would likely prove to be a tougher exercise than in previous instances. As such, we remain sceptical that the RBA will act on its professed easing bias anytime soon just because the exchange rate is perceived to be too high. It is likely to also require evidence of a likely deterioration in economic activity (as evidenced in the RBA's business liaison program) and/or indications that inflation threatens to remain below the RBA's 2-3% target range.

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*The author would like to acknowledge Tapas Strickland and Ray Attrill for their invaluable help and advice.*

# Calendar of Economic Releases

Country	Economic Indicator	Period	Forecast	Consensus	Actual	Previous	GMT	AEST
<b>Monday, 25 April 2016</b>								
AU/NZ	ANZAC Day holiday							
JN	PPI Services YoY	Apr				0.2	23:50	9:50
JN	Leading Index CI	Mar P				96.8	5:00	15:00
JN	Coincident Index	Mar P				110.7	5:00	15:00
GE	IFO Business Climate/Current Assessment	May		/		106.6/113.2	8:00	18:00
UK	CBI Trends Total Orders/Selling prices	May				-11.0/4.0	10:00	20:00
UK	CBI Business Optimism	Jul				-5.0	10:00	20:00
EC	ECB's Constancio, Coeure, Nouy at Conference in Frankfurt							
CA	Bloomberg Nanos Confidence	Apr 22				55.9	14:00	0:00
US	New Home Sales/MoM	Mar		520/1.6		511.0/-1.5	14:00	0:00
US	Dallas Fed Manf. Activity	Apr		-10		-13.9	14:30	0:30
<b>Tuesday, 26 April 2016</b>								
US	Durable Goods Orders/Core orders	Mar P		1.9/0.6		-3.0/-2.5	12:30	22:30
US	Cap Goods Orders Nondef Ex Air	Mar P		0.6		-2.5	12:30	22:30
US	S&P/Case-Shiller US HPI MoM/YoY	Feb		/5.5		0.5/5.8	13:00	23:00
US	Markit US Services/Composite PMI	Apr P		52/		51.3/51.3	13:45	23:45
US	Consumer Confidence Index	Apr		95.8		96.2	14:00	0:00
US	Richmond Fed Manufact. Index	Apr		12		22.0	14:00	0:00
<b>Wednesday, 27 April 2016</b>								
NZ	Trade Balance	Mar	-75	400.5		339.0	22:45	8:45
AU	ANZ Roy Morgan Weekly Consumer Confidence Index	Apr 24				115.8	23:30	9:30
CH	Industrial Profits YoY	Mar				-4.7	1:30	11:30
AU	CPI QoQ/YoY	1Q	0.1/1.6	0.2/1.7		0.4/1.7	1:30	11:30
AU	CPI Weighted Median QoQ/YoY	1Q	0.5/1.8	0.5/1.9		0.5/1.9	1:30	11:30
AU	CPI Trimmed Mean QoQ/YoY	1Q	0.6/2.1	0.5/2		0.6/2.1	1:30	11:30
AU	NAB SME Business Survey	1Q					1:30	11:30
CH	Westpac-MNI Consumer Sentiment	Apr				118.1	1:45	11:45
NZ	New Residential Lending YoY	Mar				11.7	3:00	13:00
JN	All Industry Activity Index MoM	Feb		-1.3		2.0	4:30	14:30
JN	Small Business Confidence	Apr		48.5		48.8	5:00	15:00
GE	GfK Consumer Confidence	May		9.4		9.4	6:00	16:00
UK	GDP QoQ/YoY	1Q A		0.4/2		0.6/2.1	8:30	18:30
UK	CBI Retailing Reported Sales	Apr		13		7.0	10:00	20:00
UK	CBI Total Dist. Reported Sales	Apr				20.0	10:00	20:00
US	Advance Goods Trade Balance	Mar		-62.8		-62.9	12:30	22:30
US	Pending Home Sales MoM/YoY	Mar		0.5/0.8		3.5/5.1	14:00	0:00
US	FOMC Rate Decision (Lower/Upper Bound)	Apr 27		0.25/0.5		0.3/0.5	18:00	4:00
<b>Thursday, 28 April 2016</b>								
NZ	RBNZ Official Cash Rate	Apr 28	2.00	2.25		2.3	21:00	7:00
JN	Jobless Rate	Mar		3.3		3.3	23:30	9:30
JN	Overall Household Spending YoY	Mar		-4.1		1.2	23:30	9:30
JN	Natl CPI/Ex fresh food, energy YoY	Mar		0/0.8		0.3/0.8	23:30	9:30
JN	Tokyo CPI/Ex fresh food, energy YoY	Apr		-0.2/0.5		-0.1/0.6	23:30	9:30
JN	Retail Sales MoM/YoY	Mar		0.5/-1.4		-2.3/0.5	23:50	9:50
JN	Industrial Production MoM/YoY	Mar P		2.8/-1.6		-5.2/-1.2	23:50	9:50
AU	Export/Import price index QoQ	1Q	-2.9/-1.3	-1.5/-0.9		-5.4/-0.3	1:30	11:30
AU	NAB Online Retail Sales Index MoM/YoY	Mar				0.8/10.4	1:30	11:30
AU	NAB Commercial Property Survey	1Q					1:30	11:30
JN	BOJ Policy Rate	Apr 28		-0.1		-0.1	4:35	14:35
GE	Unemployment Change (000's)	Apr		0		0.0	7:55	17:55
EC	Business Climate Indicator	Apr		0.14		0.1	9:00	19:00
GE	CPI MoM/YoY	Apr P		-0.2/0.1		0.8/0.3	12:00	22:00
GE	CPI EU Harmonized MoM/YoY	Apr P		-0.2/0		0.8/0.1	12:00	22:00
US	Initial Jobless Claims	Apr 23		259		247.0	12:30	22:30
US	GDP Annualized QoQ	1Q A		0.6		1.4	12:30	22:30
US	Bloomberg Consumer Comfort	Apr 24				42.9	13:45	23:45
US	Kansas City Fed Manf. Activity	Apr				-6.0	15:00	1:00
<b>Friday, 29 April 2016</b>								
NZ	Building Permits MoM	Mar				10.8	22:45	8:45
UK	Lloyds Business Barometer	Apr				43.0	23:10	9:10
UK	GfK Consumer Confidence	Apr		-1		0.0	23:50	9:50
NZ	ANZ Activity Outlook/Bus Confidence	Apr				29.4/3.2	1:00	11:00
AU	Private Sector Credit MoM/YoY	Mar	0.6/7.1	0.5/6.6		0.6/6.6	1:30	11:30
AU	PPI QoQ/YoY	1Q				0.3/1.9	1:30	11:30
NZ	Credit aggregates (household) YoY	Mar				7.6	3:00	13:00
AU	RBA's Debelle Gives Speech						3:45	13:45
UK	Mortgage Approvals	Mar		74.4		73.9	8:30	18:30
EC	Unemployment Rate	Mar		10.3		10.3	9:00	19:00
EC	CPI Estimate/Core YoY	Apr		0/0.9		-0.1/1.0	9:00	19:00
EC	GDP SA QoQ/YoY	1Q A		0.4/1.4		0.3/1.6	9:00	19:00
US	Fed's Kaplan Speaks in London						10:30	20:30
US	Employment Cost Index	1Q		0.6		0.6	12:30	22:30
US	Personal Income/Spending	Mar		0.3/0.2		0.2/0.1	12:30	22:30
US	PCE Deflator MoM/YoY	Mar		0.1/0.8		-0.1/1.0	12:30	22:30
US	PCE Core MoM/YoY	Mar		0.1/1.5		0.1/1.7	12:30	22:30
CA	Industrial Product/Raw Materials Prices MoM	Mar		0.5		-1.1/-2.6	12:30	22:30
CA	GDP MoM/YoY	Feb		-0.2		0.6	12:30	22:30
US	ISM Milwaukee	Apr				57.8	13:00	23:00
US	Chicago Purchasing Manager	Apr		52.8		53.6	13:45	23:45
US	U. of Mich. Sentiment	Apr F		90		89.7	14:00	0:00
US	U. of Mich. 5-10 Yr Inflation	Apr F				2.5	14:00	0:00
<b>Saturday, 30 April 2016</b>								
<b>Sunday, 1 May 2016</b>								
CH	Manufacturing PMI	Apr		50.3		50.2	1:00	11:00
CH	Non-manufacturing PMI	Apr				53.8	1:00	11:00
<b>Upcoming Central Bank Interest Rate Announcements</b>								
US Federal Reserve		28-Apr				0.25-0.50%		
New Zealand, RBNZ		28-Apr	2.00%	2.25%				
Japan, BoJ		28-Apr						
Australia, RBA		3-May	2.00%	2.00%		-0.1% to +0.1%		
UK BOE		12-May				0.50%		
Canada, BoC		26-May				0.50%		
Europe ECB		2-Jun				0.00%		

GMT: Greenwich Mean Time; AEST: Australian Eastern Standard Time

# Forecasts

## Economic Forecasts

	Annual % change						Quarterly % change							
			2014			2015			2016					
	2015	2016	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Australia Forecasts</b>														
Household Consumption	2.8	2.7	0.6	0.7	0.7	0.7	0.7	0.5	0.9	0.8	0.7	0.6	0.5	0.5
Underlying Business Investment	-10.1	-9.5	-1.9	-2.5	-0.6	-0.9	-4.3	-1.4	-5.5	-3.2	-2.1	-0.2	-3.2	-2.1
Residential Construction	9.5	5.4	4.3	1.5	-0.9	3.5	4.8	0.6	1.9	2.2	1.8	0.6	0.7	-0.4
Underlying Public Spending	1.9	2.0	0.1	-1.4	-0.9	0.3	1.0	2.0	-0.7	1.3	0.0	0.6	0.6	0.6
Exports	6.1	7.5	3.2	-0.4	2.5	1.7	3.7	-3.9	5.4	0.6	1.6	2.2	2.7	2.5
Imports	1.0	0.0	-2.8	3.2	-1.2	-1.4	2.6	0.3	-2.3	0.6	-0.1	0.9	0.1	0.2
Net Exports (a)	1.1	1.6	1.3	-0.7	0.8	0.7	0.3	-0.9	1.6	0.0	0.4	0.3	0.6	0.5
Inventories (a)	0.0	-0.1	-0.2	0.8	0.2	-0.9	0.4	0.1	-0.1	-0.2	0.1	0.0	0.1	-0.1
Domestic Demand - qtr%			0.3	-0.1	-0.1	0.5	0.3	0.6	-0.3	0.4	0.3	0.5	0.1	0.2
Dom Demand - ann %	1.0	1.1	1.8	1.4	0.5	0.6	0.6	1.3	1.2	1.1	1.0	0.9	1.3	1.1
<b>Real GDP - qtr %</b>			<b>0.9</b>	<b>0.5</b>	<b>0.4</b>	<b>0.4</b>	<b>0.9</b>	<b>0.3</b>	<b>1.1</b>	<b>0.6</b>	<b>0.6</b>	<b>0.6</b>	<b>0.8</b>	<b>0.6</b>
<b>Real GDP - ann %</b>	<b>2.5</b>	<b>2.7</b>	<b>3.0</b>	<b>2.7</b>	<b>2.6</b>	<b>2.2</b>	<b>2.2</b>	<b>2.0</b>	<b>2.7</b>	<b>3.0</b>	<b>2.6</b>	<b>3.0</b>	<b>2.7</b>	<b>2.7</b>
CPI headline - qtr %			0.6	0.5	0.5	0.2	0.2	0.7	0.5	0.4	0.2	0.6	0.8	0.9
CPI headline - ann %	1.5	2.1	2.9	3.0	2.3	1.7	1.3	1.5	1.5	1.7	1.7	1.7	2.1	2.7
CPI underlying - qtr %			0.6	0.6	0.4	0.6	0.6	0.5	0.3	0.5	0.5	0.6	0.6	0.6
CPI underlying - ann %	2.2	2.2	2.7	2.7	2.5	2.2	2.3	2.2	2.1	2.0	1.9	2.0	2.3	2.5
Wages (Pvte WPI -ann %)	2.1	2.4	2.5	2.4	2.4	2.5	2.3	2.2	2.1	2.0	2.1	2.3	2.5	2.7
Unemployment Rate (%)	6.0	5.7	5.8	6.0	6.2	6.2	6.2	5.9	6.2	5.9	5.9	5.8	5.6	5.6
Terms of trade	-11.4	-6.8	-1.7	-4.5	-3.3	-1.5	-3.2	-3.9	-2.4	-3.2	-4.3	4.4	-2.1	-0.9
G&S trade balance, \$Abn	-33.2	-33.6	2.2	-4.5	-4.1	-2.9	-4.7	-11.3	-7.3	-9.9	-11.9	-7.7	-7.5	-6.5
% of GDP	-2.0	-2.0	0.6	-1.1	-1.0	-0.7	-1.2	-2.8	-1.8	-2.4	-2.9	-1.8	-1.8	-1.5
Current Account (% GDP)	-4.6	-4.7	-2.4	-3.5	-3.3	-2.9	-3.4	-5.2	-4.6	-5.1	-5.6	-4.5	-4.4	-4.2

Source: NAB Group Economics; (a) Contributions to GDP growth

## Exchange Rate Forecasts

	26-Apr	Jun-16	Sep-16	Dec-16	Mar-17	Jun-17
<b>Majors</b>						
AUD/USD	0.7717	0.74	0.71	0.69	0.69	0.70
NZD/USD	0.6873	0.65	0.63	0.61	0.61	0.62
USD/JPY	111.04	115	115	117	118	120
EUR/USD	1.1272	1.12	1.11	1.09	1.09	1.09
GBP/USD	1.4490	1.43	1.44	1.43	1.43	1.44
USD/CNY	6.5000	6.55	6.60	6.65	6.60	6.55
USD/CAD	1.2674	1.34	1.39	1.45	1.44	1.43

## Australian Cross Rates

	26-Apr	Jun-16	Sep-16	Dec-16	Mar-17	Jun-17
AUD/JPY	85.7	85	82	81	81	84
AUD/EUR	0.6846	0.66	0.64	0.63	0.63	0.64
AUD/GBP	0.5326	0.52	0.49	0.48	0.48	0.49
AUD/NZD	1.1228	1.14	1.13	1.13	1.13	1.13
AUD/CNY	5.0161	4.85	4.69	4.59	4.55	4.59
AUD/CAD	0.9781	0.99	0.99	1.00	0.99	1.00
AUD/CHF	0.7523	0.74	0.70	0.69	0.72	0.74

## Interest Rate Forecasts

	26-Apr	Jun-16	Sep-16	Dec-16	Mar-17	Jun-17
<b>Aust rates</b>						
RBA Cash rate	2.00	2.00	2.00	2.00	2.00	2.50
3 month bill rate	2.27	2.25	2.25	2.25	2.50	2.85
3 Year Swap Rate	2.24	2.2	2.3	2.6	2.9	3.1
10 Year Swap Rate	2.79	2.9	3.1	3.4	3.6	3.7
<b>Offshore Policy Rates</b>						
US Fed funds	0.50	0.50	0.75	1.00	1.00	1.25
ECB deposit rate	-0.40	-0.40	-0.40	-0.40	-0.40	0.60
BoE repo rate	0.50	0.50	0.50	0.50	0.50	0.50
BoJ excess reserves rate	-0.10	-0.10	-0.10	-0.10	-0.10	0.90
RBNZ OCR	2.25	1.75	1.75	1.75	1.75	2.00
China 1yr lending rate	4.35	3.85	3.85	3.85	0.00	0.00
China Reserve Ratio	17.0	16.5	16.0	16.0	--	--
<b>10 Year Benchmark Bond Yields</b>						
Australia	2.66	2.8	3.0	3.25	3.5	3.5
United States	1.90	2.0	2.3	2.50	2.8	2.8
Europe/Germany	0.26	0.0	0.0	0.0	0.0	0.0
UK	1.61	0.0	0.0	0.0	0.0	0.0
New Zealand	2.88	3.1	3.3	3.3	3.5	3.6

Sources: NAB Global Markets Research; Bloomberg; ABS

## Global GDP

Dec year	2013	2014	2015	2016	2017	20 Yr Ave
Australia	2.0	2.6	2.5	2.7	3.0	3.4
US	1.5	2.4	2.4	2.2	2.3	2.6
Eurozone	-0.3	0.9	1.5	1.6	1.7	1.5
UK	2.2	2.9	2.3	2.2	2.2	2.4
Japan	1.4	-0.1	0.5	0.5	0.8	0.8
China	7.7	7.3	6.9	6.7	6.5	9.2
India	6.4	7.1	7.5	7.6	7.4	6.6
New Zealand	2.4	3.7	2.5	2.4	2.5	3.0
World	3.3	3.3	2.9	2.9	3.2	3.5
<i>MTP Top 5</i>	3.9	3.8	3.8	3.7	3.7	5.0

## Commodity prices (\$US)

	26-Apr	Jun-16	Sep-16	Dec-16	Mar-17	Jun-17
WTI oil	42.95	34	36	39	40	43
Gold	1239	1150	1100	1060	1040	1020
Iron ore	66	44	42	41	40	41
Hard cok. coal	89	79	81	82	83	84
Thermal coal	52	58	58	58	58	60
Copper	5008	4730	4870	5020	5070	5120
Japan LNG	8.1	5.2	5.8	6.2	6.4	6.6

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