

# Australian Markets Weekly

## At the bottom of the mining cycle?

- In this weekly, we look at a number of indicators that are increasingly suggesting we are broadly at the bottom of the mining cycle (admittedly after five very tough years). Business confidence has improved in mining and in WA in recent months, commodity prices have been more stable – and in the case of coal prices have surged – while job ads in mining have bottomed and are rising in engineering.
- While NAB retains a cautious medium-term view on the outlook for major Australian commodity prices, this bottoming should provide some support for company profits, company tax receipts and the budget, nominal GDP growth and state government royalty receipts. It will likely add somewhat to the concern that global inflation and bond yields have broadly bottomed.
- The key events in Australia this week will be a speech by RBA Governor Lowe on Tuesday morning entitled “Inflation and Monetary Policy” and Thursday’s September Labour Market report. The Governor’s speech should be closely watched to gain insight into how patient the RBA may be in terms of returning inflation to the target band. NAB is looking for an unchanged 5.6% unemployment rate (market looks for 5.7%), but we highlight the risk of a stronger-than-expected employment result (+30K or greater) as a weak employment cohort rotates out of the sample.
- Offshore, we will monitor this week’s NZ CPI closely to finalise our Q3 CPI pick as some NZ components provide a guide to the Australian outcome. Our preliminary forecasts are 0.8% q/q for the headline and 0.4/0.5% q/q for the core rate – outcomes that should see the RBA leave interest rates unchanged in November and over coming months.
- In markets, the trend remains to higher bond yields, which has been broadly US\$ supportive. The \$A has been supported against the US\$, but has gained against the crosses as a result.

### Market moves in the past week

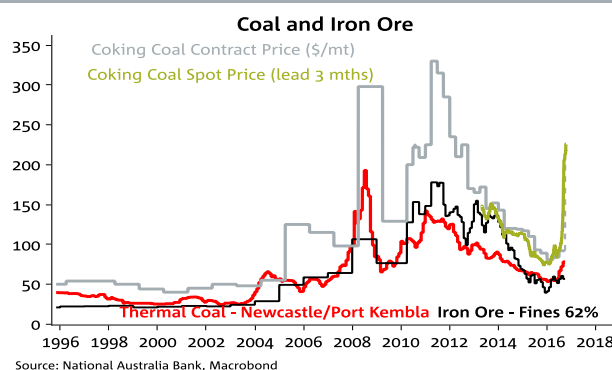
Rising bond yields and a stronger US\$ were the key themes in markets over the past week. Global yields continue to rise on the back of a combination of factors, including less dovish central banks. This week, it was the turn of Fed Chairman Janet Yellen to hypothesize that the Fed might be able to reverse some of the lasting effects of the great recession by allowing the economy to run hot for a while. Long bond yields did not like that suggestion, though the US\$ benefited. The \$A was broadly unchanged over the week against the US\$. However, with the

### Key markets over the past week

	Last	% chg week		Last	bp / % chg week
AUD	0.7601	-0.1	RBA cash	1.50	0
AUD/CNY	5.12	1.3	3y swap	1.82	6
AUD/JPY	79.2	0.4	ASX 200	5,419	-1.0
AUD/EUR	0.693	1.5	Iron ore	57.3	2.5
AUD/NZD	1.073	0.6	WTI oil	50.1	-2.5

Source: Bloomberg

### Chart 1: Coal prices surging and iron ore more stable

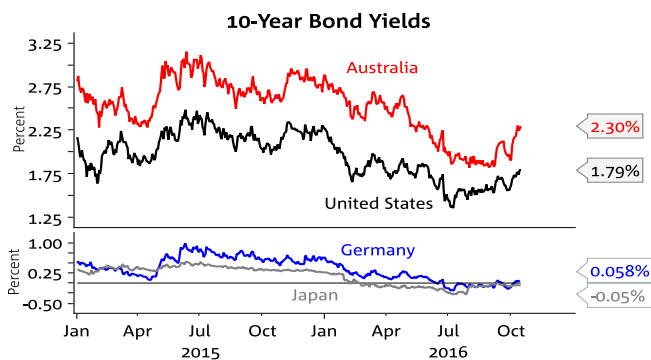


### Author:

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US\$ making good gains particularly against the EUR, the \$A rose against most of the crosses. While oil and iron ore prices were broadly unchanged, there were relatively strong gains in grains, with the market speculating that poor weather in the US and Australia might impact harvests.

Chart 2: Yields higher on theme of less future easing



Source: National Australia Bank, Bloomberg

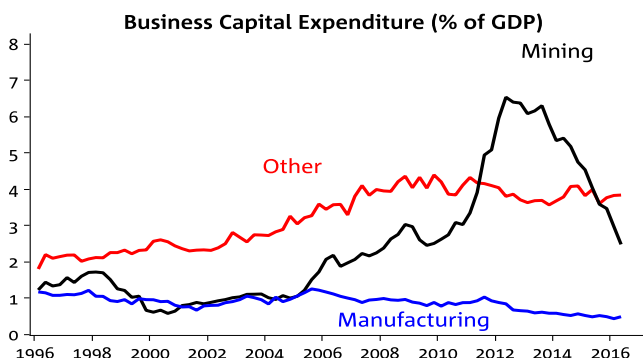
### At the bottom of the mining cycle?

The downturn in commodity prices and mining investment began in 2012 and has been a dominant feature of Australian economic developments over the past four years. Activity is clearly divided between the mining and non-mining sectors of the economy, with regions heavily exposed to mining such as Western Australia, the Northern Territory and parts of Queensland, experiencing softer conditions than the rest of the country. But recently, there have been some suggestions that we may be closing in on the bottom of the cycle. We look at some of these indications below.

The RBA has been on the record suggesting that the economy is around three quarters of the way through the mining investment downturn. That seems a reasonable estimate on the basis of charts 3 and 4, with a little more weakness likely still to come in WA than in QLD. A slight upturn in engineering construction work is also evident in NSW and Victoria – the big non-mining states, likely reflecting infrastructure investment.

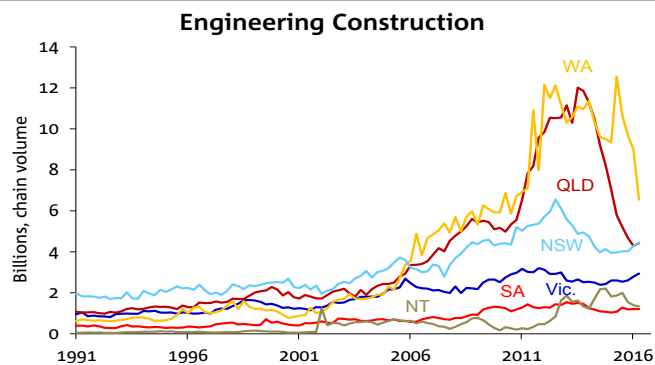
Recently, major resource commodity prices have generally stabilised, with iron ore trading around US\$55-60 a tonne, oil prices rebounding towards US\$50 a barrel while gold prices remain elevated compared to other commodity prices. And contrary to expectations, coal prices have

Chart 3: RBA estimates 75% through investment downturn



Source: National Australia Bank, Macrobond

Chart 4: WA a little further still to run than QLD



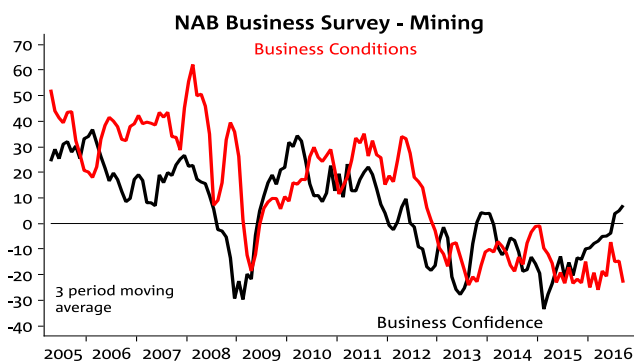
Source: NAB, ABS

strengthened, with coking coal prices surging in recent weeks (chart 1).

Charts 5 to 8 show that these developments seem to be showing up in high frequency indicators of the economy, with the NAB business survey reporting positive business confidence in mining and improved confidence in WA (and confidence appearing to be a leading indicator of business conditions), while SEEK data reveal a stabilisation in job advertising in Mining (albeit at a low level) and a strengthening in advertisements for engineers (also from a low level – and likely reflecting some of the strengthening in infrastructure spending in the eastern states).

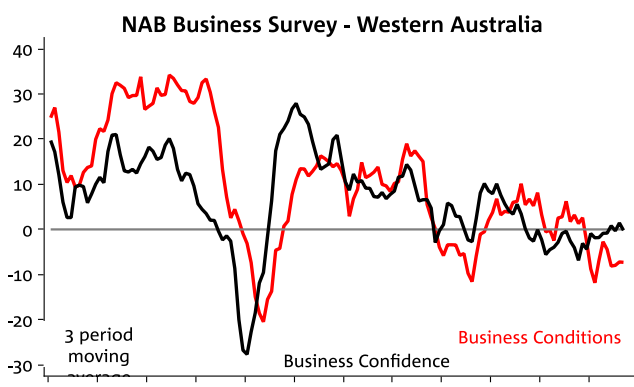
The recent surge in coal prices will likely see some further gains in conditions and confidence recorded in mining in the months ahead, though more of this should show up in the Queensland and NSW economies, which dominate coal,

Chart 5: Rising (and positive) confidence in mining



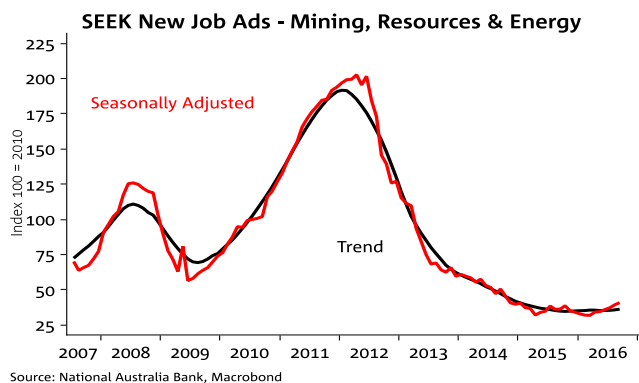
Source: National Australia Bank, Macrobond

Chart 6: Confidence in WA improving a little

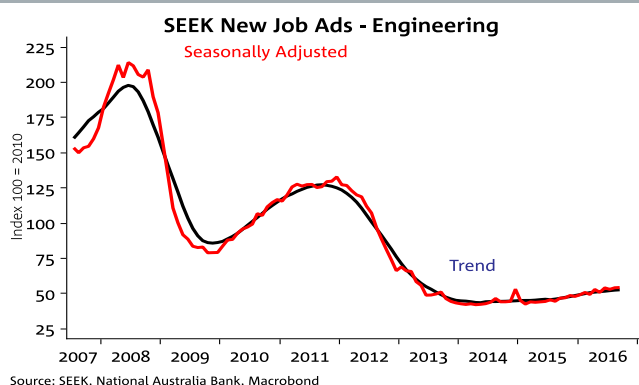


Source: National Australia Bank, Macrobond

### Chart 7: Mining job ads have bottomed



### Chart 8: Engineering job ads rising



rather than in WA. That said, NAB continues to maintain a cautious view of the outlook for bulk commodity prices in the years ahead (see our recent report *Minerals & Energy Outlook – September 2016* of 6 October 2016).

Together, these trends suggest the bottom of the mining cycle is more clearly upon us, which should increasingly lessen the drag on the economy from this source as we move into 2017. This effect is likely to be an important part of the RBA’s forecast that Australian economic growth should gradually strengthen over the next two years, and should see the RBA remain on hold over the next 3-6 months. NAB’s economic forecasts are somewhat more concerned about the outlook for growth in 2018 as housing

construction slows, but that medium-term call still sees the Bank on hold until well into 2017.

Interestingly, a number of non-correlated commodity prices have bottomed at broadly the same time, suggesting the long period of price falls may have finally produced greater supply rationalisation. If sustained, these prices will likely add to thoughts that global inflation and bond yields may have bottomed and will provide some support for Australian company profits, corporate tax receipts, nominal GDP and state government royalty receipts.

#### The week ahead

It’s a big week ahead, with plenty of potentially market-moving developments both at home and abroad.

The key events in Australia will be a speech by RBA Governor Lowe on Tuesday morning entitled “Inflation and Monetary Policy” and Thursday’s September Labour Market report. Tuesday also has the RBA October Board Meeting Minutes. The Governor’s speech should be closely watched to gain insight into how patient the RBA may be in terms of returning inflation to the target band. NAB is looking for an unchanged 5.6% unemployment rate (market looks for 5.7%), but we highlight the risk of a stronger-than-expected employment result (+30K or greater) as a weak employment cohort rotates out of the sample. The Board Minutes might contain more detail on recent housing market developments than the actual Board statement.

Offshore, we will monitor this week’s NZ CPI closely to finalise our Q3 CPI pick – some components provide a guide to the Australian outcome. Our preliminary forecasts are 0.8% q/q for the headline and 0.4/0.5% q/q for the core rate – outcomes that should see the RBA remaining on hold in coming months.

Also on the international calendar are the Beige Book – which should be watched for commentary on wage pressures and labour market trends and the US CPI, along with Q3 Chinese GDP on Wednesday.

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# Calendar of Economic Releases

Country	Economic Indicator	Period	Forecast	Consensus	Actual	Previous	GMT	AEDST
<b>Monday, 17 October 2016</b>								
NZ	Performance Services Index	Sep				57.9	22.30	8.30
UK	Rightmove House Prices MoM/YoY	Oct				0.7/4.0	0.10	10.10
JN	Industrial Production MoM/YoY	Aug F				1.5/4.6	5.30	15.30
EC	CPI MoM/YoY	Sep		0.4		0.1/0.2	10.00	20.00
EC	CPI Core YoY	Sep F		0.8		0.8	10.00	20.00
CA	Int'l Securities Transactions	Aug				5.2	13.30	23.30
US	Empire Manufacturing	Oct		1		-2.0	13.30	23.30
CA	Existing Home Sales MoM	Oct				0.8	15.00	1.00
US	Industrial Production MoM	Sep		0.2		-0.4	14.15	0.15
US	Bloomberg Economic Expectations	Oct				41.5	14.45	0.45
CA	Bloomberg Nanos Confidence	Oct 14				57.1	15.00	1.00
<b>Tuesday, 18 October 2016</b>								
AU	RBA Governor Lowe Speech at Aust & NZ Investment Conference in Sydney						22.10	8.10
NZ	CPI QoQ/YoY	3Q	0/0.1	0/0.1		0.4/0.4	22.45	8.45
AU	ANZ Roy Morgan Weekly Consumer Confidence Index	Oct 16				117.5	23.30	9.30
AU	RBA Oct. Meeting Minutes						1.30	11.30
AU	New Motor Vehicle Sales MoM/YoY	Sep				0.1/2.9	1.30	11.30
NZ	Non Resident Bond Holdings	Sep				66.7	3.00	13.00
EC	ECB Bank Lending Survey						9.00	19.00
UK	CPI MoM/YoY	Sep		0.2/0.9		0.3/0.6	9.30	19.30
UK	CPI Core YoY	Sep		1.4		1.3	9.30	19.30
UK	PPI Input NSA MoM/YoY	Sep		0.4/7.4		0.2/7.6	9.30	19.30
UK	PPI Output Core NSA MoM/YoY	Sep		0.2/1.4		0.2/1.3	9.30	19.30
UK	House Price Index YoY	Aug		7.8		8.3	9.30	19.30
CA	Manufacturing Sales MoM	Aug		0.2		0.1	13.30	23.30
US	CPI MoM/YoY	Sep		0.3/1.5		0.2/1.1	13.30	23.30
US	CPI Ex Food and Energy MoM/YoY	Sep		0.2/2.3		0.3/2.3	13.30	23.30
US	NAHB Housing Market Index	Oct		63		65.0	15.00	1.00
US	Total Net TIC Flows	Aug				140.6	21.00	7.00
US	Net Long-term TIC Flows	Aug				103.9	21.00	7.00
NZ	Global Dairy Auction, early am NZT (GDT-weighted index)					-3.0%		
<b>Wednesday, 19 October 2016</b>								
AU	Westpac Leading Index MoM	Sep				0.0	0.30	10.30
AU	Skilled Vacancies MoM	Sep				-0.4	1.00	11.00
CH	Industrial Production YoY/YTD YoY	Sep		6.4/6.1		6.3/6.0	3.00	13.00
CH	Retail Sales YoY/YTD YoY	Sep		10.7/10.3		10.6/10.3	3.00	13.00
CH	Fixed Assets Ex Rural YTD YoY	Sep		8.2		8.1	3.00	13.00
CH	GDP SA QoQ/YoY	3Q		1.8/6.7		1.8/6.7	3.00	13.00
CH	GDP YTD YoY	3Q		6.7		6.7	3.00	13.00
JN	All Industry Activity Index MoM	Aug		0.2		0.3	5.30	15.30
UK	Jobless Claims Change	Sep		3.15		2.4	9.30	19.30
UK	Average Weekly Earnings/ex Bonus 3M/YoY	Aug		2.3		2.3	9.30	19.30
UK	ILO Unemployment Rate/Employment change 3Mths	Aug		4.9		4.9	9.30	19.30
EC	Construction Output MoM/YoY	Aug				1.8	10.00	20.00
US	MBA Mortgage Applications	Oct 14				-6.0	12.00	22.00
US	Housing Starts #/MoM	Sep		1175/2.9		1142.0/-5.8	13.30	23.30
US	Building Permits #/MoM	Sep		1165/1.1		1139.0/-0.4	13.30	23.30
US	Fed's Williams Speaks in New Jersey						13.45	23.45
UK	Chancellor Hammond testifies to Treasury Committee						14.15	0.15
CA	Bank of Canada Rate Decision/Monetary Policy Report			0.5		0.5	15.00	1.00
US	U.S. Federal Reserve Releases Beige Book						19.00	5.00
<b>Thursday, 20 October 2016</b>								
US	NY Fed President Dudley speaks on NYC economic history in NYC						0.45	10.45
AU	NAB Business Confidence	3Q				2.5	1.30	11.30
AU	Employment Change/Unemployment Rate	Sep	30/5.6	15/5.7		-3.9/5.6	1.30	11.30
AU	Participation Rate	Sep	64.9	64.8		64.7	1.30	11.30
AU	RBA FX Transactions Market	Sep				607.0	1.30	11.30
JN	Machine Tool Orders YoY	Sep F				-6.3	7.00	17.00
EC	ECB Current Account SA	Aug				21.0	9.00	19.00
UK	Retail Sales Ex Auto Fuel MoM/YoY	Sep		0.2/4.4		-0.3/5.9	9.30	19.30
UK	Retail Sales Inc Auto Fuel MoM/YoY	Sep		0.3/4.8		-0.2/6.2	9.30	19.30
EC	ECB Main Refinancing/Deposit Facility Rate	Oct 20		0/-0.4		0.0/-0.4	12.45	22.45
EC	ECB Marginal Lending Facility/Asset Purchase Target	Oct 20		0.25/80		0.3/80.0	12.45	22.45
US	Initial Jobless Claims	Oct 15		250		246.0	13.30	23.30
US	Philadelphia Fed Business Outlook	Oct		6		12.8	13.30	23.30
US	Bloomberg Consumer Comfort	Oct 16				42.1	14.45	0.45
US	Existing Home Sales #/MoM	Sep		5.35/0.38		5.3/-0.9	15.00	1.00
US	Leading Index	Sep		0.2		-0.2	15.00	1.00
<b>Friday, 21 October 2016</b>								
NZ	Net Migration SA	Sep				5600	22.45	8.45
CH	Property Prices	Sep					2.30	12.30
CH	MNI Business Indicator	Oct					2.45	12.45
NZ	Credit Card Spending MoM/YoY	Sep				-1.4/1.9	3.00	13.00
UK	Public Finances (PSNCR)/PSNB ex Banking Groups	Sep				0.7/10.5	9.30	19.30
EC	ECB Survey of Professional Forecasters						9.00	19.00
EC	Govt Debt/GDP Ratio	2015				90.7%	10.00	20.00
CA	Retail Sales MoM	Aug		0.3		-0.1	13.30	23.30
CA	CPI NSA MoM/YoY	Sep		0.2/1.4		-0.2/1.1	13.30	23.30
EC	Consumer Confidence	Oct A		-8		-8.2	15.00	1.00
US	Fed Governor Tarullo speaks in New York						15.15	1.15
US	San Francisco Fed President Williams speaks in San Francisco						19.30	5.30
<b>Upcoming Central Bank Interest Rate Announcements</b>								
Europe	ECB	20-Oct				0.00%		
Canada	BoC	20-Oct				0.50%		
Australia	RBA	1-Nov	1.50%	1.50%		1.50%		
Japan	BoJ	1-Nov				-0.1% to +0.1%		
US	Federal Reserve	3-Nov				0.25-0.50%		
UK	BOE	3-Nov				0.25%		
New Zealand	RBNZ	10-Nov	1.75%	1.75%		2.00%		

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

# Forecasts

## Economic Forecasts

	Annual % change				Quarterly % change													
	2015	2016	2017	2018	2015				2016				2017					
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
<b>Australia Forecasts</b>																		
Household Consumption	2.8	2.7	2.1	2.3	0.6	0.6	0.9	0.7	0.8	0.4	0.5	0.6	0.5	0.5	0.6	0.7		
Underlying Business Investment	-10.4	-9.3	-5.4	3.2	-4.0	-1.5	-6.3	-2.0	-3.4	-2.2	-0.4	-0.5	-2.9	-1.9	-0.4	0.8		
Residential Construction	9.7	7.4	2.3	-3.8	4.6	0.6	1.5	2.8	2.1	1.6	1.3	0.9	0.7	0.5	-0.9	-0.4		
Underlying Public Spending	2.1	4.1	2.9	2.6	1.0	1.9	-0.7	1.6	0.6	2.4	0.3	0.6	0.6	0.6	0.6	0.6		
Exports	6.0	7.8	9.7	6.8	3.5	-3.1	4.8	0.2	3.1	1.3	2.4	2.4	2.4	2.4	2.5	2.2		
Imports	1.7	0.4	4.0	5.1	3.3	0.4	-1.6	0.3	-0.8	2.7	1.0	1.1	0.5	0.7	1.0	1.5		
Net Exports (a)	0.9	1.6	1.4	0.6	0.1	-0.8	1.4	0.0	1.1	-0.2	0.3	0.3	0.5	0.4	0.4	0.3		
Inventories (a)	0.1	-0.1	0.0	0.1	0.6	-0.3	0.1	-0.1	-0.1	0.2	-0.2	0.0	0.0	0.0	0.0	0.1		
Domestic Demand - qtr%					0.3	0.6	-0.4	0.6	0.1	0.6	0.4	0.5	0.2	0.3	0.4	0.6		
Dom Demand - ann %	1.1	1.6	1.5	2.0	0.7	1.3	1.1	1.1	1.3	1.2	2.0	1.9	1.7	1.4	1.4	1.4		
<b>Real GDP - qtr %</b>					<b>0.9</b>	<b>0.2</b>	<b>1.0</b>	<b>0.7</b>	<b>1.0</b>	<b>0.5</b>	<b>0.5</b>	<b>0.8</b>	<b>0.6</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>		
<b>Real GDP - ann %</b>	2.4	3.0	2.8	2.6	<b>2.3</b>	<b>2.0</b>	<b>2.6</b>	<b>2.8</b>	<b>3.0</b>	<b>3.3</b>	<b>2.8</b>	<b>2.9</b>	<b>2.5</b>	<b>2.7</b>	<b>3.0</b>	<b>3.0</b>		
CPI headline - qtr %					0.2	0.7	0.5	0.4	-0.2	0.4	0.7	0.9	0.5	0.5	0.7	0.8		
CPI headline - ann %	1.5	1.3	2.6	2.6	1.3	1.5	1.5	1.7	1.3	1.0	1.3	1.8	2.5	2.6	2.6	2.6		
CPI underlying - qtr %					0.7	0.5	0.3	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.4	0.4		
CPI underlying - ann %	2.2	1.6	1.8	1.8	2.4	2.2	2.1	2.0	1.5	1.5	1.7	1.6	1.9	1.9	1.8	1.8		
Wages (Pvte WPI - ann %)	2.1	2.0	2.0	2.5	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Unemployment Rate (%)	6.0	5.7	5.6	5.6	6.2	6.0	6.1	5.9	5.9	5.7	5.7	5.6	5.6	5.6	5.7	5.7		
Terms of trade	-11.5	-2.1	-5.7	-1.3	-2.6	-4.5	-2.3	-3.3	-1.9	2.2	6.2	-0.6	-4.3	-4.1	-2.1	-2.7		
G&S trade balance, \$Abn	-36.3	-20.4	-23.9	-47.2	-5.0	-11.5	-8.6	-11.3	-8.6	-8.0	-2.1	-1.6	-3.6	-5.7	-6.4	-8.2		
% of GDP	-2.2	-1.2	-1.4	-2.6	-1.2	-2.8	-2.1	-2.8	-2.1	-1.9	-0.5	-0.4	-0.8	-1.3	-1.5	-1.9		
Current Account (% GDP)	-4.7	-2.9	-3.1	-4.4	-3.4	-5.2	-4.8	-5.5	-3.6	-3.7	-2.3	-2.1	-2.6	-3.1	-3.2	-3.6		

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

## Exchange Rate Forecasts

	17-Oct	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17	Dec-17
<b>Majors</b>							
AUD/USD	<b>0.7596</b>	0.75	0.73	0.72	0.70	0.70	0.69
NZD/USD	<b>0.7089</b>	0.72	0.70	0.68	0.67	0.67	0.68
USD/JPY	<b>104.24</b>	102	103	103	102	101	100
EUR/USD	<b>1.0968</b>	1.12	1.10	1.09	1.07	1.06	1.06
GBP/USD	<b>1.2168</b>	1.26	1.22	1.20	1.17	1.16	1.16
USD/CNY	<b>6.7225</b>	6.70	6.70	6.68	6.65	6.65	6.65
USD/CAD	<b>1.3158</b>	1.29	1.33	1.35	1.37	1.37	1.38

### Australian Cross Rates

	17-Oct	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17	Dec-17
AUD/JPY	<b>79.2</b>	77	75	74	71	71	69
AUD/EUR	<b>0.6926</b>	0.67	0.66	0.66	0.65	0.66	0.65
AUD/GBP	<b>0.6243</b>	0.60	0.60	0.60	0.60	0.60	0.59
AUD/NZD	<b>1.0715</b>	1.04	1.04	1.06	1.04	1.04	1.01
AUD/CNY	<b>5.1064</b>	5.03	4.89	4.81	4.66	4.66	4.59
AUD/CAD	<b>0.9995</b>	0.97	0.97	0.97	0.96	0.96	0.95
AUD/CHF	<b>0.7524</b>	0.75	0.71	0.69	0.67	0.68	0.67

## Interest Rate Forecasts

	17-Oct	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17	Dec-17
<b>Aust rates</b>							
RBA Cash rate	<b>1.50</b>	1.50	1.50	1.50	1.25	1.00	1.00
3 month bill rate	<b>1.75</b>	1.75	1.75	1.75	1.50	1.25	1.25
3 Year Swap Rate	<b>1.83</b>	1.6	1.6	1.6	1.4	1.5	1.5
10 Year Swap Rate	<b>2.39</b>	2.1	2.3	2.3	2.3	2.3	2.3
<b>Offshore Policy Rates</b>							
US Fed funds	<b>0.50</b>	0.50	0.75	0.75	1.00	1.00	1.25
ECB deposit rate	<b>-0.40</b>	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40
BoE repo rate	<b>0.25</b>	0.25	0.10	0.10	0.10	0.10	0.10
BoJ excess reserves rate	<b>-0.10</b>	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10
RBNZ OCR	<b>2.00</b>	2.00	1.75	1.50	1.50	1.50	1.50
China 1yr lending rate	<b>4.35</b>	4.35	4.35	4.10	4.10	4.10	4.10
China Reserve Ratio	<b>17.0</b>	15.5	15.0	15.0	15.0	15.0	15.0
<b>10 Year Benchmark Bond Yields</b>							
Australia	<b>2.31</b>	1.90	2.05	1.95	2.00	2.00	2.15
United States	<b>1.80</b>	1.50	1.75	1.75	2.00	2.00	2.25
New Zealand	<b>2.53</b>	2.30	2.30	2.40	2.65	2.65	2.75

Sources: NAB Global Markets Research; Bloomberg; ABS

## Global GDP

Dec year	2013	2014	2015	2016	2017	2018	20 Yr Avg
Australia	2.0	2.7	2.4	3.0	2.8	2.6	3.4
US	1.7	2.4	2.6	1.5	2.1	1.9	2.6
Eurozone	-0.3	1.1	1.9	1.6	1.5	1.6	1.5
UK	1.9	3.1	2.2	1.7	0.7	1.7	2.4
Japan	1.3	-0.1	0.6	0.5	0.6	0.6	0.8
China	7.7	7.3	6.9	6.6	6.5	6.3	9.2
India	6.3	7.0	7.2	7.4	7.5	7.5	6.6
New Zealand	2.4	3.7	2.5	3.2	3.0	1.9	3.0
World	3.3	3.3	3.0	2.9	3.1	3.2	3.5
<i>MTP Top 5</i>	3.9	3.9	3.9	3.5	3.6	3.5	5.0

## Commodity prices (\$US)

	17-Oct	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17	Dec-17
WTI oil	50.14	45	49	51	52	53	55
Gold	1253	1340	1290	1260	1240	1210	1180
Iron ore	57	58	54	49	45	42	41
Hard cok. coal	89	93	130	106	97	93	88
Thermal coal	87	62	62	62	65	65	65
Copper	4656	4777	4830	4830	4800	4800	4800
Japan LNG	6.6	6.3	6.7	7.0	7.2	7.8	8.2

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