Australia > Economics

Australian Markets Weekly

A weekly outlook for Australia, key global economies and markets

National Australia Bank

7 September 2015

AUD's Commodity Drivers

In this Weekly, we are enclosing a recent research piece from our Senior Currency Strategist Emma Lawson on the commodities that are (and which will be) important drivers of the Australian dollar, including the outlook. We also preview local data and RBA speeches for the week ahead.

Fed rate hike fright

Starting with the Federal Reserve and the US labour market data on Friday night, the data seems consistent with the FOMC's stated desire to see 'some' further improvement in the labour market before they move to lift the Fed Funds Rate. Although the headline payroll change of 173k came in below the 217k consensus, there were upward revisions to June and July, together with a 0.3% rise in average hourly earnings and a drop in the unemployment rate to 5.1%, from 5.3%.

While this locks in one of the Fed's dual mandates, the other mandate of inflation still remains below the Fed's target of 2%. At the G20, the IMF's Lagarde said the Fed should be certain the jobs market and inflation are strong enough to justify raising rates. Whether the Fed is on track to meet its inflation target will be debated intensely at upcoming meetings. Noted FOMC hawk Lacker suggested on Friday that inflation is not as low as headlines suggest and that while the economy is not perfect it is not "on the ropes". NAB expects a Fed rate lift-off (or should that be crawl-off?) to begin at the December meeting, with soft inflation data and recent market volatility likely helping the argument to delay until the December meeting.

Key markets over the past week

	Last	% chg week		Last	bp / % chg week
AUD	0.6922	-2.7	RBA cash	2.00	0
AUD/CNY	4.40	-3.1	3y swap	2.08	2
AUD/JPY	82.4	-4.4	ASX 200	5,041	-4.2
AUD/EUR	0.621	-2.1	Iron ore	56.5	0.8
AUD/NZD	1.100	-2.0	WTI oil	45.8	-7.0

Source: Bloomberg

Main AUD commodity drivers

On the AUD's commodity drivers, Emma's main findings are:

- **The decline in commodity prices is a net negative for the AUD. But we find that in the short term, it is the broad commodity indices that carry the most weight. We should be watching commodity sentiment, not particular commodities for a daily guide.**
- **Over time, the Australian specifics come to the fore. In this, iron ore has to share the spotlight with LNG.**
- **The price declines in commodities mean more pressure for AUD, but not to historical lows. The worst, from this source, is likely behind us.**
- **While iron ore is the main influence, LNG prices is growing in importance. The outlooks for both are subdued.**
- **While it is human nature to fixate on a particular factor, the broad commodity price index is a better predictor of the AUD (and the New Zealand dollar (NZD), the Canadian dollar (CAD) and the Norwegian Kroner (NOK) in the short term. NAB forecasts modest declines in the Australian commodity price index.**

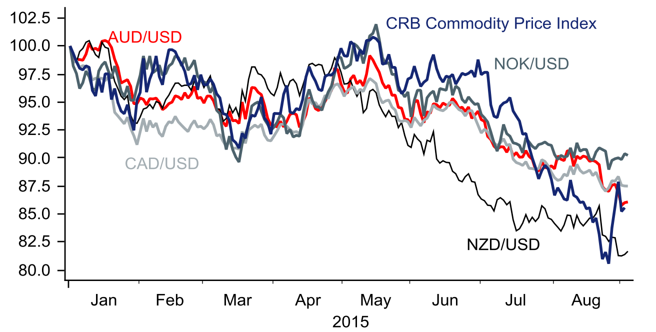
Which Commodities Are Markets Watching?

The commodities complex started declining in earnest last year but stabilised in the first half of 2015. The most recent bout of weakness was initially a surprise to markets, with oil dropping below $50bbl for the first time since 2004 (absent the financial crisis) and iron ore resuming its decline. The initial decline is a likely result of the global supply increases in particular commodities (oil, iron ore, LNG, coal etc), but with the unsettling news from China comes a rise in concern about global economic growth, precipitating the recent decline.

So what matters for the AUD? Many like to monitor the daily move in iron ore prices (Chart 2). Our own present value model uses the London Metals Exchange index, while our long term valuation model for the AUD TWI (which replicates the RBA's model) uses the Australian goods terms of trade.

Australia is no different to the other commodity currencies: there is an almost obsessive focus on NZ dairy prices for the NZD and oil prices for the CAD and NOK. These commodity currencies are similar, in that their main commodity export, be it iron ore, milk solids or oil, all account for around 35% of their commodity index. Substantial, but not all. In an analysis of the relationship between the commodity currencies and the price of their main export, we found that, historically, the individual price was not the best predictor of changes in the currency.

Chart 1 – Commodity Currencies vs Commodity Prices



Source: National Australia Bank, Macrobond

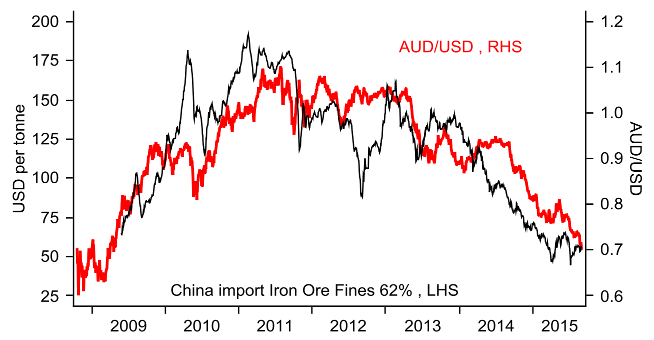
What is the Strongest Relationship?

We examine the regression of daily changes in the commodity currency against the USD, and on a trade weighted (TW), basis (AUD/USD, NZD/USD, CAD/USD and NOK/USD, we put USD on the right hand side for consistency). We ran the regressions from 2000 and also from 2011 which saw the peak in commodity prices. We regressed the USD cross and the TWI against the respective central bank commodity index (except for NOK, which doesn't have one), the individual dominant commodity, the London Metals Exchange index (LMEX) and the CRB commodity index. The latter two are broadly used and monitored global commodity indexes: the first is comprised exclusively of metals, the second covers a broad range of commodities.

For example, the AUD/USD and AU TW regressions were against the RBA's commodity price index, the iron ore price, the LMEX and the CRB. We understand that in daily changes against only one variable that the likely outcome is expected to show small R^2 outcomes, but we would expect positive relationships in all cases.

In all 60 regressions the strongest relationships were with the broad market indexes, be it the CRB or the LMEX. This was surprisingly consistent.

Chart 2 – AUD and Iron Ore



Source: National Australia Bank, Macrobond

Table 1 – AUD Regressions vs Commodity Prices

AUD (2000)		R2	t-stat	AUD (2011)		R2	t-stat
vs	RBA index	0%	1.46	vs	RBA index	0%	2.09
	Iron Ore	0%	1.77		Iron Ore	0%	0.98
	LMEX	15%	26.67		LMEX	16%	15.12
	CRB	17%	28.56		CRB	20%	16.30
AU TWI (2000)				**AU TWI (2011)**			
vs	RBA index	0%	1.80	vs	RBA index	1%	3.34
	Iron Ore	0%	2.81		Iron Ore	0%	1.63
	LMEX	17%	28.56		LMEX	18%	16.30
	CRB	12%	24.01		CRB	15%	14.40

Source: NAB, Macrobond

It suggests that in examining the short term drivers of currencies it is the broad market sentiment that is most likely to create movement, and not necessarily the individual feature commodity.

So on a daily basis, we should not be looking at iron ore, dairy or oil prices as a given, but rather the broad commodity complex and the general market sentiment on commodities. This adds to the belief that the "commodity currencies" indeed trade as a group rather than their own individual complexities in the short term.

AUD and NZD Results

In the case of the AUD, and the NZD, the relationship between the individual currency, be it at the USD or the TW level, and the country-specific central bank series, or individual commodity was generally insignificant (Table 1 and 2). This is a surprise. From a theoretical basis, the commodities most aligned with the economy should have the most influence on the currency.

Out of the broad indexes, the CRB index was a modestly stronger influence than the LMEX, but there wasn't much in it and for the TW the results were reversed. This makes us comfortable with the LMEX remaining part of our short term present value models.

For the NZD (in both the USD and TW; Table 2) there has been a significant rise in importance for the individual dairy price and changes in the currency since the peak in prices in 2011. That may be due to a rise in volatility.

In the full sample it remains clear that the broad indices are better predictors of daily changes in the NZD. However, since 2011, against the NZD/USD, there is a clear shift in that the daily changes in dairy prices are more significant than that of LMEX, but not CRB. That makes intuitive sense in that LMEX has no soft commodity component. The results are less divergent for the NZD TW with the LMEX the strongest. That is less obvious of course.

Table 2 – NZD Regressions vs Commodity Prices

NZD (2000)		R2	t-stat	NZD (2011)		R2	t-stat
vs	ANZ index	0%	1.53	vs	ANZ index	1%	3.13
	Dairy	0%	-0.69		Dairy	20%	17.54
	LMEX	11%	21.79		LMEX	14%	14.20
	CRB	11%	22.77		CRB	27%	20.98
NZ TWI (2000)				**NZ TWI (2011)**			
vs	ANZ index	0%	0.71	vs	ANZ index	1%	3.88
	Dairy	0%	-0.58		Dairy	12%	12.94
	LMEX	10%	21.41		LMEX	20%	17.34
	CRB	6%	16.81		CRB	19%	16.82

Source: NAB, Macrobond

The Other G10 Commodity Currencies: NOK and CAD

Table 3 shows the results for NOK and CAD; they too show the over-riding influence of the broad market indices. In seven out of eight cases, it is the CRB index which has the strongest relationship with currency changes.

However in the period since the peak in commodity prices, the oil price has had a far stronger influence than in the full sample. There is also less difference between the broad commodity indices.

These results suggest that for the AUD in particular, we should be less focussed on the daily change in iron ore prices but gauging the more broad market sentiment on commodities. The same is true for the other commodity currencies, but in the present bearish market, there may be an additional cross-check with the individual commodity moves.

Table 3 – NOK and CAD Regressions vs Commodity Prices

CAD (2000)	R2	t-stat	CAD (2011)	R2	t-stat
BoC index	0%	3.51	BoC index	65%	52.22
Oil	11%	22.18	Oil	52%	40.17
LMEX	13%	24.46	LMEX	63%	49.96
CRB	18%	29.91	CRB	72%	60.95
CA TWI (2000)			**CA TWI (2011)**		
BoC index	0%	3.32	BoC index	62%	48.52
Oil	8%	18.24	Oil	50%	38.45
LMEX	15%	26.64	LMEX	59%	46.43
CRB	14%	25.42	CRB	66%	53.77
NOK (2000)	**R2**	**t-stat**	**NOK (2011)**	**R2**	**t-stat**
Oil	9%	20.70	Oil	15%	14.53
LMEX	10%	21.42	LMEX	10%	11.93
CRB	16%	27.81	CRB	20%	17.42
NO TWI (2000)			**NO TWI (2011)**		
Oil	5%	14.41	Oil	7%	9.73
LMEX	6%	15.33	LMEX	7%	9.88
CRB	6%	16.79	CRB	9%	11.16

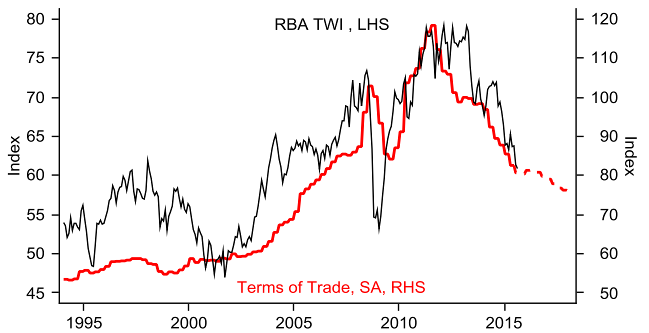
Source: NAB, Macrobond

The Australian Commodity Complex

While we show that it isn't the individual commodity that matters for the currency in the short term, but the whole complex, it is worth revisiting the changes in importance that are likely in Australia's commodity export basket.

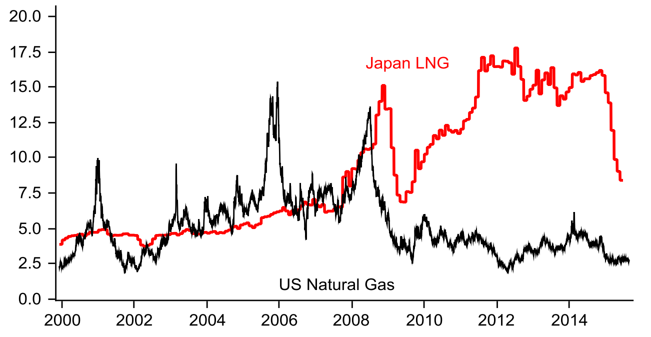
The longer term models of AUD fair value will continue to be derived, in part, from the goods terms of trade and those commodities. We examined this topic previously ("Fuel For Currencies," *FX Strategy*, 1 November 2013). And the drivers of the original report are as valid now. Then, as now, there is talk of the switch from iron ore into more agricultural exports, with some prominent players in the iron ore market buying cattle stations, getting involved in dairy exports, and one ore prospector switching to egg production. The results are unchanged: iron ore will remain the largest component of exports, but LNG is rapidly catching up.

Chart 3 – AUD TWI and Terms of Trade



Source: National Australia Bank, Macrobond

Chart 4 – LNG Prices Converging



Source: National Australia Bank, Macrobond

We have taken the estimates for both the volume and prices for all of Australia's commodities in the RBA's commodity price index[1] through to the 2017/18 financial year. From this we calculate the value changes in the index components and re-estimate the weights for the series. By doing this we can track the expected change in importance for different commodities, on the AUD (Chart 3).

Agricultural Goods Aren't the Answer

NAB's economics team estimates that the agricultural commodities are likely to experience pressure from the anticipated period of dry weather, weighing on volumes. There is also expected to be some lower prices. Agricultural goods should, in general, see their weight in the commodity index, decline by 2018 (Chart 5). Switching from iron ore mining to dairy farming isn't going to be AUD supportive.

The decline in the iron ore price from present to mid-2018 is expected to be counteracted by the rise in volumes, as such the value of iron ore exports is expected to grow. However, this growth is below that of the other large contributors to the index: thermal coal and crude oil. But far more importantly is the increase in LNG export values.

The price of LNG is expected to drop, although much of that adjustment has already been made. The premium Australia had extracted is no longer possible (Chart 4); Australia is exposed to the Japanese price, and that has compressed to the lower US price. Some spread will continue (due to transport costs etc), but the spread which Australia enjoyed earlier in the decade is eroded.

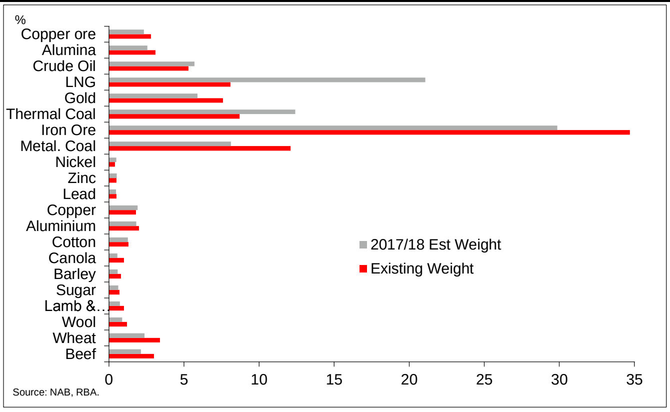
This comes about at the same time as we are anticipating a large pick up in export volumes. Given the projected supply coming from the North and West of Australia, the value of Australia's LNG exports is expected to increase 212% from now until mid-2018. This more than overwhelms any increase in the agricultural projects, but also that of iron ore, coal and oil.

Given these expected changes, Chart 5 shows the changing weights of Australia's commodity price index. This shows that the LNG price becomes particularly important; rising in weight from its current 8% to 21% This leaves it as important as iron

[1] We thank Vyanne Lai, Phin Ziebell and James Glenn for their assistance.

ore, which drops to 29.9% from 34.7%. These are the biggest expected changes in the index over the next three years.

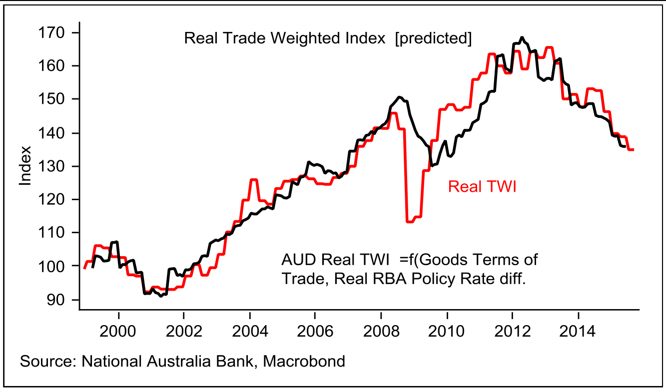
Chart 5 – Changing Weight of the Commodty Index



AUD's Path from Commodities

The forecasts for Australia's goods terms of trade are for a very modest decline from current levels, after the big falls which have already been seen (Chart 3).

Chart 6 – Real AUD Trade Weighted Index Model



Our Present Value model, which estimate the expected present value for AUD/USD based on interest rate differentials, LMEX and risk appetite (VIX), suggest that there may be very modest upward pressure to around 0.74. From here, the bigger likely driver of this model is from market volatility and interest rate differentials, rather than commodities.

Our Fair Value Model, which uses the goods terms of trade as a key input, also shows that the AUD is, at present, around fair value ("AUD Valuations – 'Adjusted Enough?," *FX Strategy*, 6 August 2015- Chart 6, updated).

All up, the pressure on the AUD remains to the downside from the commodity complex, but the outlook is for a little less downside than has been seen over the last few years. The worst is behind us, from this source at least.

The key is that while LNG is catching up on Iron Ore, don't look to it on a day to day basis. Once again, sentiment reigns.

Emma.lawson@nab.com.au

The week ahead

The main focus this week will be the always interesting monthly labour force report on Thursday, NAB Business Confidence and Conditions on Tuesday, Consumer Sentiment on Wednesday and three RBA speeches by Lowe, Debelle and Ellis.

The week kicks off today with the AiG PCI Construction index for August that was still below 50 in July at 47.1, hamstrung by the decline in resource sector spending outweighing the high levels of apartment construction in the East. The ANZ Job Ads release for August comes ahead of Thursday's Labour Force report. In July, Job Ads dipped 0.4%, growth having ebbed in recent months.

Tuesday sees the release of the NAB Business Survey for August. After a strong report in June, both Business Confidence and Conditions gave up some ground in July, both down four points, Confidence to 4 and Conditions to 6, both still around long term average levels.

Also on Tuesday is the first of three RBA speaking events for the week, this time with Luci Ellis, the Bank's Head of Financial Stability Department speaking to the timely topic: "*Property Markets and Financial Stability: What We Know So Far*". The market will be sensitive to any indication of heightened anxiety from the official monetary authorities about property markets, house prices, and progress with efforts to contain lending for investor housing, notwithstanding measurement issues and the role of foreign investment in supporting demand and development.

On Wednesday, RBA Deputy Governor Philip Lowe is speaking at a CEDA event in Melbourne. His speech is scheduled for midday. Whether he focuses on the current condition of the Australian economy, the international economy or other medium to longer terms aspects of growth remains to be seen. Either way, with this month's Board meeting out of the way, he has free rein to speak on any number of potential topics. The RBA's Guy Debelle, Assistant Governor (Financial Markets) is also speaking in London on Wednesday (7.00pm AEST) at a briefing on FX Global Code of Conduct. Debelle last year gave a very apposite speech on under-pricing of markets for volatility and he is not afraid of making his often forthright views known if the occasion and the time suits.

On Thursday the local market's economic attention turns to the monthly labour force report for August. Despite the severe issues that the Statistician has had properly calibrating its measures of the labour market, the market remains attuned to this release. We also think the market will become increasingly more sensitive given that better than expected employment outcomes have driven the RBA's more favourable assessment of the economy and hence economists' expectations of the RBA being at the end of its easing cycle.

NAB's models call for an increase of 6K in employment (call that pretty close to flat) that with some payback in a lower participation rate after last month's 0.3% out-sized rise would be sufficient to see the unemployment rate down a point to 6.2% from 6.3%. That forecast is very close to the consensus of estimates.

Offshore, there is Chinese trade data Tuesday, activity data on Sunday, the RBNZ is expected to cut rates on Thursday while it's not a massive data week this week ahead of the FOMC next week.

David.deGaris@nab.com.au

Calendar of Economic Releases

Country	Economic Indicator	Time Period	NAB Forecast	Consensus	Actual	Previous	GMT	AEST
Monday, 7 September 2015								
NZ	Wholesale trade	Q2	1.50%			-0.80%	22.45	8.45
AU	AiG Perf of Construction Index	Aug				47.1	23.30	9.30
AU	ANZ Job Advertisements MoM	Aug				-0.4%	1.30	11.30
JN	Leading Index CI	Jul P		104.9		106.5	5.00	15.00
GE	Industrial Production SA MoM	Jul		1.1%		-1.4%	6.00	16.00
EC	Sentix Investor Confidence	Sep		15		18.4	8.30	18.30
Tuesday, 8 September 2015								
NZ	ANZ Truckometer Heavy MoM	Aug				-0.3%	22.00	8.00
NZ	Mfg Activity Volume QoQ	2Q				-0.3%	22.45	8.45
UK	BRC Sales Like-For-Like YoY	Aug				1.2%	23.01	9.01
AU	RBA's Luci Ellis speaks on "Property Markets and Financial Stability: What We Know So Far" at Real Estate Symposium						23.05	9.05
AU	ANZ Roy Morgan Weekly Consumer Confidence Index	Sep-06				113.3/+0.3%	23.30	9.30
JN	BoP Current Account Balance, sa	Jul		¥1258.0B		¥1300.3B	23.50	9.50
JN	GDP SA QoQ/Annualised QoQ	2Q F		-0.4%/-1.8%		-0.4%/-1.6%	23.50	9.50
AU	NAB Business Conditions/Confidence	Aug				6/4	1.30	11.30
CH	Trade Balance, $US/CNY, bn	Aug		$48.0/ ..		$43.03B/263.0	1.50	11.50
CH	Exports/Imports YoY USD	Aug		-6.7%/-8.0%		-8.3%/-8.1%	1.50	11.50
JN	Economy watchers' survey, Current/Outlook	Aug		52.0/52.3		51.6/51.9	5.00	15.00
GE	Trade Balance	Jul		23.5B		24.0B	6.00	16.00
EC	GDP. Revision	Q2		0.3%/1.2%		0.3%/1.2%	9.00	19.00
US	NFIB Small Business Optimism	Aug		96		95.4	10.00	20.00
US	Labor Market Conditions Index Change	Aug		1.5		1.1	14.00	0.00
US	Consumer Credit	Jul		$18.6B		$20.740B	19.00	5.00
Wednesday, 9 September 2015								
US	Fed's Kocherlakota (nv) speaks on Monetary Policy							7.15
AU	Westpac Consumer Conf Index	Sep				99.5/7.8%	0.30	10.30
AU	Home Loans MoM	Jul	1.00%	0.80%		4.4%	1.30	11.30
AU	RBA's Philip Lowe, Deputy Governor, speaks at CEDA event, Melbourne (no title as yet)						2.00	12.00
JN	Consumer Confidence Index	Aug		40.5		40.3	5.00	15.00
JN	Machine Tool Orders YoY	Aug P				1.7%	6.00	16.00
UK	Industrial Production MoM/YoY	Jul		0.1%/1.4%		-0.4%/1.5%	8.30	18.30
UK	Trade Balance	Jul		-£1950		-£1601	8.30	18.30
AU	Briefing by RBA's Guy Debelle, Assistant Governor (Financial Markets), on FX Global Code of Conduct, London						9.00	19.00
US	MBA Mortgage Applications	Sep-04					11.00	21.00
CA	Housing Starts	Aug		190.5K		193.0K	12.15	22.15
CA	Bank of Canada Rate Decision	Sep-09		0.50%		0.50%	14.00	0.00
US	JOLTS Job Openings	Jul		5300		5249	14.00	0.00
Thursday, 10 September 2015								
NZ	RBNZ Official Cash Rate	Sep-10	2.75%	2.75%		3.00%	21.00	7.00
NZ	Card Spending Retail MoM	Aug	-0.20%			1.1%	22.45	8.45
UK	RICS House Price Balance	Aug		46%		44%	23.01	9.01
JN	Machine Orders MoM	Jul		3.30%		-7.9%	23.50	9.50
AU	Consumer Inflation Expectation	Sep				3.7%	1.00	11.00
CH	CPI/PPI YoY	Aug		1.9%/-5.6%		1.6%/-5.4%	1.30	11.30
AU	Employment Change	Aug	6K	5K		38.5K	1.30	11.30
AU	Unemployment Rate	Aug	6.20%	6.20%		6.3%	1.30	11.30
UK	Bank of England Bank Rate	Sep-10	0.50%	0.50%		0.50%	11.00	21.00
CA	Capacity Utilization Rate	2Q		81.7%		82.7%	12.30	22.30
CA	New Housing Price Index MoM	Jul		0.2%/..		0.3%/1.3%	12.30	22.30
US	Initial Jobless Claims	Sep-05		275K		282K	12.30	22.30
US	Wholesale Inventories MoM	Jul		0.30%		0.9%	14.00	0.00
Friday, 11 September 2015								
NZ	BNZ-BusinessNZ Manufacturing PMI	Aug				53.5	22.30	8.30
NZ	Food Prices MoM	Aug	flat			0.6%	22.45	8.45
JN	BSI Large All Industry QoQ	3Q				-1.2	23.50	9.50
NZ	Non Resident Bond Holdings	Aug				69.7%	3.00	13.00
GE	CPI MoM/YoY	Aug F		0.0%/0.2%		0.0%/0.2%	6.00	16.00
US	PPI Final Demand MoM	Aug		-0.1%		0.2%	12.30	22.30
US	U. of Mich. Sentiment	Sep P		91.2		91.9	14.00	0.00
US	Monthly Budget Statement	Aug		$-84.1B			18.00	4.00
Sunday, 13 September 2015								
CH	Retail Sales YoY	Aug		10.60%		10.5%	5.30	15.30
CH	Industrial Production YoY	Aug		6.30%		6.0%	5.30	15.30
CH	Fixed Assets Ex Rural YTD YoY	Aug		11.20%		11.2%	5.30	15.30
Upcoming Central Bank Interest Rate Announcements								
UK BOE		10-Sep				0.50%		
New Zealand, RBNZ		10-Sep	2.75%	2.75%		3.00%		
Canada, BoC		10-Sep				0.50%		
Japan, BoJ		15-Sep	0.0%-0.1%	0.0%-0.1%		0.0%-0.1%		
US Federal Reserve		18-Sep				0-0.25%		
Australia, RBA		6-Oct	2.00%	2.00%		2.00%		
Europe ECB		22-Oct				0.05%		

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

Forecasts

Economic Forecasts

Australia Forecasts	Annual % change 2013	2014	2015	2016	Quarterly % change 2013 Q1	Q2	Q3	Q4	2014 Q1	Q2	Q3	Q4	2015 Q1	Q2	Q3	Q4
Household Consumption	1.7	2.5	2.8	3.1	0.3	0.4	0.8	0.6	0.5	0.7	0.5	0.8	0.5	0.5	**0.8**	**0.7**
Underlying Business Investment	-4.5	-6.4	-10.2	-9.6	-4.9	-1.5	0.8	-3.5	-2.4	-0.9	-1.0	-1.5	-4.6	-0.7	**-3.5**	**-3.3**
Residential Construction	0.5	7.9	13.7	9.7	-2.7	3.0	0.3	1.3	4.3	1.7	-1.2	3.9	4.7	-1.1	**4.3**	**3.1**
Underlying Public Spending	0.4	0.8	0.2	1.4	2.7	-0.2	-0.5	1.3	0.3	0.5	-1.4	0.1	0.2	2.6	**0.3**	**0.3**
Exports	6.3	6.8	8.0	8.3	0.9	3.7	-0.6	1.7	4.1	-1.6	3.1	1.6	5.0	-3.3	**2.4**	**2.7**
Imports	-1.8	-1.6	1.7	0.8	-3.3	2.8	-1.4	-0.5	-2.5	3.1	-1.2	-1.6	3.1	-0.7	**0.3**	**0.2**
Net Exports (a)	1.6	1.7	1.3	1.7	0.9	0.1	0.2	0.4	1.4	-0.9	0.9	0.7	0.5	-0.6	**0.5**	**0.6**
Inventories (a)	-0.3	0.0	0.2	-0.1	-0.2	0.3	-0.3	-0.2	-0.3	0.9	0.1	-0.7	0.5	-0.2	**-0.1**	**-0.1**
Domestic Demand - qtr%					-0.1	0.2	0.5	0.2	0.3	0.6	-0.4	0.5	0.0	0.8	**0.4**	**0.3**
Dom Demand - ann %	0.5	1.1	1.2	1.6	0.5	0.0	0.6	0.7	1.1	1.5	0.7	1.0	0.8	1.2	**1.5**	**1.3**
Real GDP - qtr %					**0.3**	**0.7**	**0.4**	**0.8**	**1.0**	**0.6**	**0.3**	**0.5**	**0.9**	0.2	**0.7**	**0.7**
Real GDP - ann %	**2.1**	2.7	2.5	3.0	**2.0**	**2.1**	**1.9**	**2.2**	**2.9**	**2.8**	**2.7**	**2.4**	**2.3**	2.0	**2.7**	**2.9**
CPI headline - qtr %					0.4	0.4	1.2	0.8	0.6	0.5	0.5	0.2	0.2	0.7	**0.8**	**0.9**
CPI headline - ann %	2.4	2.5	1.8	3.1	2.5	2.4	2.2	2.7	2.9	3.0	2.3	1.7	1.3	1.5	**1.8**	**2.6**
CPI underlying - qtr %					0.5	0.6	0.7	0.9	0.6	0.6	0.4	0.6	0.7	0.5	**0.6**	**0.7**
CPI underlying - ann %	2.4	2.5	2.4	2.6	2.4	2.4	2.3	2.7	2.7	2.7	2.5	2.2	2.4	2.3	**2.5**	**2.5**
Wages (Pvte WPI -ann %)	2.9	2.5	2.2	2.2	3.1	3.0	2.8	2.5	2.6	2.4	2.4	2.5	2.2	2.2	**2.2**	**2.2**
Unemployment Rate (%)	5.7	6.0	6.1	6.1	5.6	5.7	5.7	5.9	5.8	6.0	6.2	6.1	6.2	5.9	**6.2**	**6.2**
Terms of trade	-3.8	-7.4	-10.4	-2.0	1.0	-0.3	-1.3	0.4	-1.9	-4.6	-2.9	-1.5	-2.9	-3.4	**-0.4**	**1.2**
G&S trade balance, $Abn	-10.4	-9.2	-26.6	-10.3	-3.0	-2.8	-3.3	-1.3	2.7	-5.1	-4.0	-2.7	-3.7	-9.6	**-8.2**	**-5.3**
% of GDP	-0.7	-0.6	-1.6	-0.6	-0.8	-0.7	-0.9	-0.3	0.7	-1.3	-1.0	-0.7	-0.9	-2.4	**-2.0**	**-1.3**
Current Account (% GDP)	-3.3	-2.8	-3.4	-2.3	-3.3	-3.4	-3.6	-3.1	-1.9	-3.6	-3.1	-2.5	-2.7	-4.7	**-3.8**	**-3.0**

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

Exchange Rate Forecasts

	7-Sep	Sep-15	Dec-15	Mar-16	Jun-16	Sep-16
Majors						
AUD/USD	**0.6927**	0.70	0.68	0.69	0.70	0.70
NZD/USD	**0.6287**	0.62	0.60	0.60	0.61	0.62
USD/JPY	**119.07**	125	126	126	127	127
EUR/USD	**1.1151**	1.05	1.03	1.03	1.04	1.06
GBP/USD	**1.5200**	1.52	1.51	1.51	1.53	1.54
USD/CNY	**6.3559**	6.55	6.60	6.62	6.65	6.70
USD/CAD	**1.3270**	1.35	1.37	1.36	1.34	1.34
Australian Cross Rates						
AUD/JPY	**82.5**	88	86	87	89	89
AUD/EUR	**0.6212**	0.67	0.66	0.67	0.67	0.66
AUD/GBP	**0.4557**	0.46	0.45	0.46	0.46	0.45
AUD/NZD	**1.1018**	1.13	1.13	1.15	1.15	1.13
AUD/CNY	**4.4027**	4.59	4.49	4.57	4.66	4.69
AUD/CAD	**0.9192**	0.95	0.93	0.94	0.94	0.94
AUD/CHF	**0.6733**	0.69	0.69	0.72	0.73	0.00

Interest Rate Forecasts

	7-Sep	Sep-15	Dec-15	Mar-16	Jun-16	Sep-16
Aust rates						
RBA Cash rate	**2.00**	2.00	2.00	2.00	2.00	2.00
3 month bill rate	**2.15**	2.15	2.15	2.15	2.20	2.40
3 Year Swap Rate	**2.04**	2.1	2.4	2.4	2.6	2.9
10 Year Swap Rate	**2.98**	3.1	3.5	3.5	3.5	3.7
Offshore Policy Rates						
US Fed funds	**0.25**	0.25	0.50	0.75	1.00	1.25
ECB refi rate	**0.05**	0.05	0.05	0.05	0.05	0.05
BoE repo rate	**0.50**	0.50	0.50	0.75	1.00	1.25
BoJ overnight call rate	**0.10**	0.10	0.10	0.10	0.10	0.10
RBNZ OCR	**3.00**	2.75	2.50	2.50	2.50	2.50
China 1yr lending rate	**4.60**	4.60	4.60	4.60	4.60	4.60
China Reserve Ratio	**18.5**	18.0	17.5	17.0	17.0	17.0
10 Year Benchmark Bond Yields						
Australia	**2.64**	2.8	3.1	3.1	3.1	3.3
United States	**2.12**	2.25	2.50	2.5	2.5	2.8
Europe/Germany	**0.67**	0.8	0.9	1.0	1.2	0.0
UK	**1.83**	2.2	2.2	2.4	2.6	0.0
New Zealand	**3.28**	3.2	3.4	3.5	3.6	3.7

Sources: NAB Global Markets Research; Bloomberg; ABS

Global GDP

Dec year	2013	2014	2015	2016	20 Yr Avge
Australia	2.1	2.7	2.5	3.0	3.4
US	2.2	2.4	2.3	2.6	2.6
Eurozone	-0.4	0.9	1.4	1.8	1.5
UK	1.7	3.0	2.6	2.4	2.4
Japan	1.6	-0.1	0.9	1.2	0.8
China	7.7	7.4	7.1	6.9	9.2
India	6.4	7.1	7.6	7.6	6.6
New Zealand	2.2	3.3	2.4	2.2	3.0
World	3.3	3.3	3.2	3.3	3.5

Commodity prices ($US)

	7-Sep	Sep-15	Dec-15	Jun-16	Dec-16
WTI oil	45.84	55	60	65	70
Gold	1121	1150	1100	1060	1060
Iron ore	57	60	61	58	54
Hard cok. coal	112	98	95	93	97
Thermal coal	62	68	68	62	62
Copper	5134	6080	6260	6200	6170
Japan LNG	8.4	11.0	11.0	11.0	11.0

Global Markets Research

Peter Jolly
Global Head of Research
+61 2 9237 1406

Australia

Economics

Ivan Colhoun
Chief Economist, Markets
+61 2 9237 1836

David de Garis
Senior Economist
+61 3 8641 3045

Tapas Strickland
Economist
+61 2 9237 1980

FX Strategy

Ray Attrill
Global Co-Head of FX Strategy
+61 2 9237 1848

Emma Lawson
Senior Currency Strategist
+61 2 9237 8154

Interest Rate Strategy

Skye Masters
Head of Interest Rate Strategy
+61 2 9295 1196

Rodrigo Catril
Interest Rate Strategist
+61 2 9293 7109

Credit Research

Michael Bush
Head of Credit Research
+61 3 8641 0575

Simon Fletcher
Senior Credit Analyst – FI
+61 2 9237 1076

Distribution

Barbara Leong
Research Production Manager
+61 2 9237 8151

New Zealand

Stephen Toplis
Head of Research, NZ
+64 4 474 6905

Craig Ebert
Senior Economist
+64 4 474 6799

Doug Steel
Senior Economist
+64 4 474 6923

Kymberly Martin
Senior Market Strategist
+64 4 924 7654

Raiko Shareef
Currency Strategist
+64 4 924 7652

Yvonne Liew
Publications & Web Administrator
+64 4 474 9771

Asia

Christy Tan
Head of Markets Strategy/Research, Asia
+852 2822 5350

UK/Europe

Nick Parsons
Head of Research, UK/Europe,
and Global Co-Head of FX Strategy
+44 207 710 2993

Gavin Friend
Senior Markets Strategist
+44 207 710 1588

Derek Allassani
Research Production Manager
+44 207 710 1532

Group Economics

Alan Oster
Group Chief Economist
+61 3 8634 2927

Riki Polygenis
Head of Economics, Australia
+61 3 8697 9534

James Glenn
Senior Economist – Australia
+61 3 9208 8129

Vyanne Lai
Economist – Australia
+61 3 8634 0198

Phin Ziebell
Economist – Agribusiness
+61 475 940 662

Amy Li
Economist – Australia
+61 3 8634 1563

Dean Pearson
Head of Industry Analysis
+61 3 8634 2331

Robert De Iure
Senior Economist – Industry Analysis
+61 3 8634 4611

Brien McDonald
Senior Economist – Industry Analysis
+61 3 8634 3837

Karla Bulauan
Economist – Industry Analysis
+61 3 8641 4028

Tom Taylor
Head of Economics, International
+61 3 8634 1883

Tony Kelly
Senior Economist – International
+61 3 9208 5049

Gerard Burg
Senior Economist – Asia
+61 3 8634 2788

John Sharma
Economist – Sovereign Risk
+61 3 8634 4514

Jacqui Brand
Personal Assistant
+61 3 8634 2181