

Australian Markets Weekly

The RBA's other housing problem...

- For this week's weekly article, we look at what has caused the low underlying inflation prints seen recently and what implications this has for the outlook for inflation and for the RBA. Your scribes find that housing costs (rents and construction costs) have been a very important driver of recent inflation trends, with slowing rental growth statistically explaining as much as one half of the recent moderation in core measures of inflation the RBA uses in setting monetary policy.
- Our analysis also finds that subdued labour costs have also contributed to weak core inflation reads recently, though again here it is important to distinguish the reasons for this result for monetary policy with wages growth picking up in the non-mining states of NSW and Victoria, while wages growth is well below trend rates in the more mining-orientated states of WA and QLD.
- Given the mining investment unwind is only around half way through and there is a significant number of new apartments due for completion over coming years, the RBA may have to get used to subdued core inflation readings for some time to come.
- For markets, the past week has been one of talk of further monetary easing coming from a range of central banks. The Bank of England has flagged the need for 'muscular easing' to ward off recession risks stemming from the uncertainty from the Brexit vote; the RBNZ has implicitly flagged a likely rate cut at its next meeting; while rumors fly on the scale of Japan's expected monetary easing and upcoming fiscal stimulus.
- This week for markets will likely again be driven by central banks. CPI numbers will dominate domestically with the RBA Board meeting the following week "live". Internationally, the US Fed meets Tuesday-Wednesday (announcement due Thursday 4.00am AEST), the Bank of Japan meets Friday, while Q2 GDP figures are released Friday for the US and Eurozone. Profit reporting season will also drive sentiment, with Apple Tuesday, Deutsche Bank Wednesday and Alphabet (aka Google) Thursday.

Recent market developments

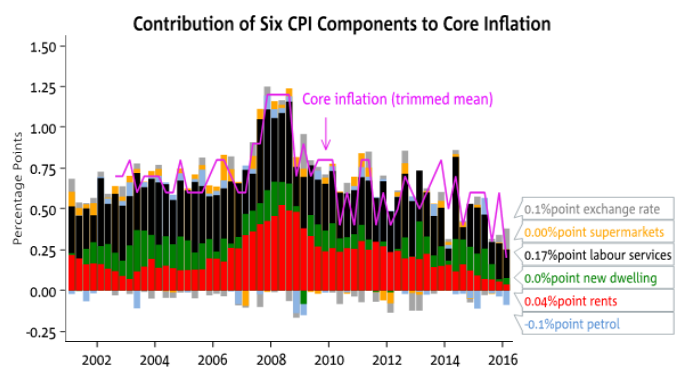
The RBA Board Minutes last week were the largest piece of domestic data in a quiet week. The Minutes read considerably more dovishly than the Minutes of one month ago and confirmed that the RBA August Board meeting was "live" and contingent on the CPI this week (as well as the labour market and the housing market). That tone saw the AUD lower against

Key markets over the past week

	Last	% chg week		Last	bp / % chg week
AUD	0.7458	-1.8	RBA cash	1.75	0
AUD/CNY	4.98	-2.1	3y swap	1.71	-6
AUD/JPY	79.2	-1.7	ASX 200	5,498	1.3
AUD/EUR	0.680	-0.8	Iron ore	55.9	-4.4
AUD/NZD	1.066	0.0	WTI oil	44.2	-3.9

Source: Bloomberg

Chart 1: Rents and labour costs dragging on core inflation



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most major currencies with the Aussie 1.8% lower against the US dollar, along with generally lower commodity prices. Equity markets globally were generally mixed with small increases in the US alongside a solid profit reporting season, while small declines were experienced in Europe. Australia's equity market ended the week 1.3% higher over the week.

The RBA's other housing problem

Over the past few years, the rate of increase of Australian house prices has at times been of concern to the RBA. The Bank has been worried that borrowers may be over-extending and in so doing, risk creating a more severe economic downturn when the business cycle next slows or contracts.

Our topic of focus today is less about house price developments from a financial stability perspective, but more about the impact that new housing supply will have on measures of underlying inflation over the next few years. The significant increase in apartment supply in train is likely to weigh on rental growth further, which is a large component of the CPI basket and means that the RBA will find it difficult to return inflation to its target band in the near term.

Interestingly, seeking to return inflation more quickly to the target band by repeatedly cutting interest rates could potentially be counter-productive as it could risk encouraging additional housing supply in a market where fears of oversupply are emerging.

A different way of analysing trends in Australian inflation

My colleague, Tapas Strickland, has adopted a novel approach to analysing the trend for Australian inflation. Using Principal Component Analysis, he statistically analysed the most important drivers of developments in Australia's underlying inflation rate over recent years. The results are illustrated in chart 1 (page 1), but in essence, the analysis found that there were six key (principal) drivers of core inflation, namely: (i) rents and new dwelling costs (ie. both housing related components); (ii) the exchange rate; (iii) petrol prices; (iv) a number of services prices (which effectively proxy wages costs); and (v) supermarket prices (an aggregate of many food prices including fruit and vegetable prices, the latter often excluded from measures of underlying inflation). It should be noted that lower supermarket prices likely largely reflect additional competition rather than consumer demand weakness).

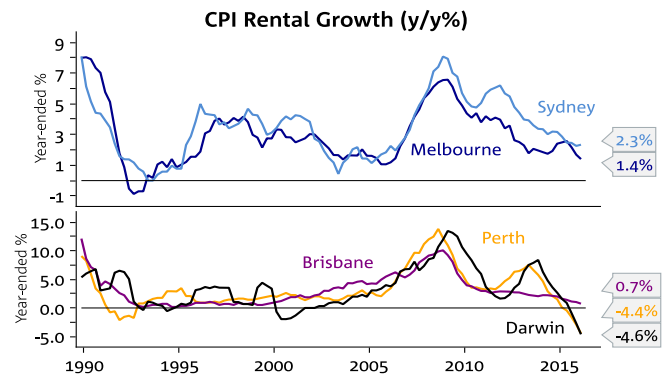
There are a number of important conclusions that drop out of this analysis that are apparent in the chart:

- First, rents have been an important explanation of lower core inflation outcomes in Australia since the Global Financial Crisis, though dwelling construction costs have also played a role in recent quarters. Rents have been able to explain as much as half of the moderation in core inflation in recent years – roughly four times their weight in the CPI basket. [In subsequent research we will look at whether this result reflects rents picking up general developments in economic activity and prices or whether this correlates with other factors – for example

the indexation of prior low headline CPI outcomes into other components of the basket].

- Slower wages growth has also been an important factor moderating core inflation, now contributing around half as much to core inflation as at the peak of measured core inflation rates in 2008. Lower petrol prices – a global rather than Australian development – and relatively less exchange rate pass-through than might have been expected given the substantial decline in the \$A over the past two years, have also been important.

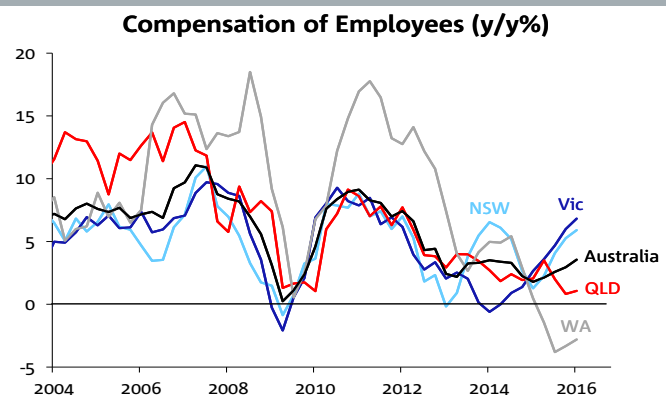
Chart 2: Rental growth slowing sharply in all states



Source: National Australia Bank, ABS

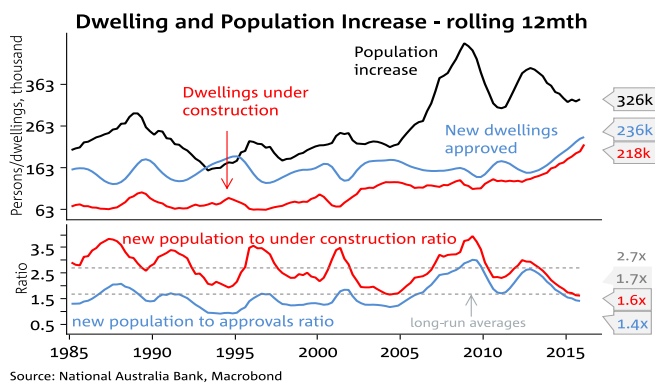
This method of analysis and the insight it provides on the importance of rental trends is important for a number of reasons. First, it partially explains the very high core rates of inflation that were in evidence in Australia just prior to the financial crisis. This was a time when the RBA's traditional models of inflation consistently underestimated core inflation. High wages and rental growth were driven significantly by the mining boom, though financial intermediation charges were also an important part of the story. We can of course see that the aftermath of the mining boom has seen wages and rents slow – more so in the mining states. This is not something that can be addressed easily with monetary policy – fiscal policy is better able to impact sustained regional divergences in activity (Charts 2 and 3).

Chart 3: Wages growth stronger in non-mining states



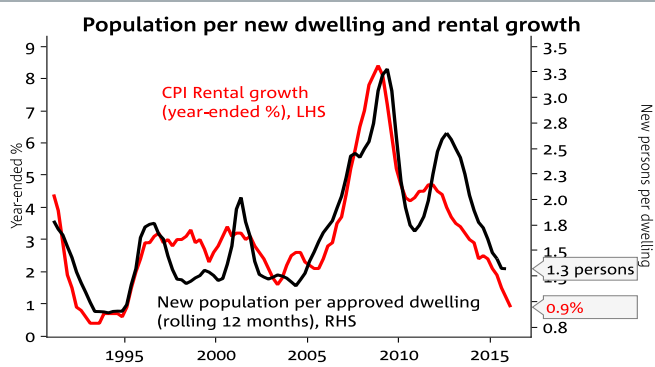
The previous comments and analysis are of course more about the moderation in Australian inflation that has already taken place. Looking ahead – and as is also widely known – large numbers of residential apartments are due for completion in Melbourne, Sydney and Brisbane over the next two years (Chart 4). This new supply is likely to add

Chart 4: New supply largest ever relative to population



Source: National Australia Bank, Macrobond

Chart 5: New dwelling supply tracks/drives rental growth



Source: National Australia Bank, ABS

further to the moderation in rental growth – and falling rents and even lower apartment prices are possible for a time (Chart 5).

As detailed above, this is likely to mean that an important and large part of core inflation is likely to remain very low – and likely even moderate further – in the quarters ahead, meaning core inflation will likely remain low in Australia in the next few years. Some offset is likely to be provided by the recent recovery in petrol prices and by the recent minimum wage increase that took effect from 1 July this year.

Implications for monetary policy

It is also important to consider, what the appropriate policy response might be to a sustained undershoot of the RBA’s inflation target? While some central banks tend to follow their inflation targets very rigidly, the Reserve Bank has a flexible inflation target, whereby it only requires inflation average between 2 and 3 percent over the course of the cycle, not over any short period of time. The reason for the departure from target is also likely to be of consequence in inferring the correct policy response: is the departure signalling underlying weakness in the Australian economy – or something else? And does the extent of the departure risk impacting inflationary expectations, which could make the departure more permanent or undermine the credibility of the inflation target itself.

These are all important (and difficult) questions, especially as there are a number of competing influences at play. To the extent slower wages growth reflects spare capacity in the labour market, inflation target undershoots could

be seen as a reason for easing monetary policy further, allowing the economy to grow more quickly and the unemployment rate to fall more quickly than otherwise would have been the case. There is of course an element of this in current inflation developments. To the extent, however, that the drop in core inflation reflects slower rents due to actual and prospective additional housing supply, the same conclusion is not immediately apparent. That part of the drop in core inflation would not be reflecting demand weakness in the economy – but rather an increase and a lower interest rate that encourages even more houses to be built and borrowers to overextend would be counter-productive

Conclusion

Wednesday’s CPI will allow a further update on latest inflationary trends in Australia, which will broadly reveal that inflation remains low. As argued above, it will likely be important to distinguish the reasons for the inflation outcome that results, with developments that reflect weak demand/low wages arguably more important for monetary policy considerations than developments reflecting low rents and lower new dwelling construction costs. Either way, given the significant new apartment supply in prospect over coming years, the RBA is likely to have to get used to, to some extent, subdued core inflation readings for some time.

This week: Aussie CPI, Central Banks and US GDP

Aussie CPI Wednesday dominates domestically with the RBA Board meeting the following week “live”. Internationally, the US Fed meets Tuesday-Wednesday (announcement due Thursday 4.00am AEST), the Bank of Japan meets Friday, while Q2 GDP figures are released Friday for the US and Eurozone. Profit reporting season will also drive sentiment, with Apple Tuesday, Deutsche Bank Wednesday and Alphabet (aka Google) Thursday.

All eyes domestically will be on Wednesday’s Q2 CPI. There is no doubt that the August RBA Board meeting is “live” and contingent on Wednesday’s Q2 CPI outcome. The market is currently pricing around a 67% chance the RBA cuts rates, and the consensus CPI outcome for Wednesday is 0.4% q/q for both headline and underlying.

NAB’s modelling of prices and tracking of goods and services points to a close but on hold outcome as far as the August Board meeting is concerned. We expect headline inflation to have risen 0.7% q/q, resulting in an annual inflation rate of 1.4%, buoyed this quarter by increases in petrol prices, and in fruit and vegetable prices. As for the underlying inflation rate, NAB expects that to average 0.5% q/q, an outcome that we assess would be sufficient for the RBA to remain be on hold.

NAB reads the RBA’s May forecast track for underlying inflation as an outcome of 0.4% q/q, so an outcome of around ½% would be a comfortable enough reading for the central bank to give it confidence that its forecast of inflation getting back to the 2-3% target band by 2018 remains on track. Other domestic data due this week include Merchandise Export and Import Prices Thursday and RBA Credit Friday.

The US Fed meeting (along with the BoJ Friday) will be the other major focus for markets. While the Fed is likely to keep rates unchanged, the post meeting release will be closely scrutinised to see whether the Fed is edging towards a rate hike at upcoming meetings given recent Fed commentary. Many of the ambiguities that the Fed cited in the June FOMC Minutes – the labour market and Brexit – have cleared following the stellar June payrolls number and the limited effects from the Brexit vote on financial markets. The US also releases its first read on Q2 GDP on Friday, where it is expected the pace of growth has picked up with the Atlanta Fed's GDPnow measure tipping an annualised 2.4% increase, up from the 1.1% pace in Q1.

The BoJ meeting is the other major event this week. The expectation is that the BoJ will eventually ease policy, while the government is expected to announce key elements of its widely expected stimulus plan by the end of this month – so anytime this week is likely.

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Calendar of Economic Releases

Country	Economic Indicator	Period	Forecast	Consensus	Actual	Previous	GMT	AEST
Monday, 25 July 2016								
JN	Trade Balance Adjusted	Jun		244.15		269.8	23.50	9.50
JN	Exports/Imports YoY	Jun		-11.3/-20		-11.3/-13.8	23.50	9.50
JN	Leading Index CI	May F				100.0	5.00	15.00
NZ	RBNZ Governor Wheeler Speaks in Auckland (Not Public) on "Keeping our financial system safe in a changing world"						7.30	17.30
GE	IFO Business Climate	Jul		107.5		108.7	8.00	18.00
GE	IFO Current Assessment/Expectations	Jul		114/101.6		114.5/103.1	8.00	18.00
UK	CBI Trends Total Orders/Selling Prices	Jul		-6/		-2.0/1.0	10.00	20.00
UK	CBI Business Optimism	Jul		-15		-5.0	10.00	20.00
CA	Bloomberg Nanos Confidence	Jul 22				57.3	14.00	0.00
US	Dallas Fed Manf. Activity	Jul		-10		-18.3	14.30	0.30
Tuesday, 26 July 2016								
NZ	Trade Balance/12m YTD	Jun	-297	127		358/-3633	22.45	8.45
AU	ANZ Roy Morgan Weekly Consumer Confidence Index	Jul 24				114.9	23.30	9.30
JN	PPI Services YoY	Jun		0.1		0.2	23.50	9.50
NZ	New Residential Lending YoY	Jun				18.3	3.00	13.00
UK	BBA Loans for House Purchase	Jun		39650		42187	8.30	18.30
US	S&P/CS 20 City MoM/YoY	May		0.2/5.6		0.5/5.4	13.00	23.00
US	Markit US Services/Composite PMI	Jul P		52/		51.4/51.2	13.45	23.45
US	Consumer Confidence Index	Jul		95.5		98.0	14.00	0.00
US	Richmond Fed Manufact. Index	Jul		-5		-7.0	14.00	0.00
US	New Home Sales, #/MoM	Jun		560/1.6		551.0/-6.0	14.00	0.00
Wednesday, 27 July 2016								
CH	Industrial Profits YoY	Jun				3.7	1.30	11.30
AU	CPI QoQ/YoY	2Q	0.7/1.4	0.4/1.1		-0.2/1.3	1.30	11.30
AU	CPI Trimmed Mean QoQ/YoY	2Q	0.5/1.7	0.4/1.5		0.2/1.7	1.30	11.30
AU	CPI Weighted Median QoQ/YoY	2Q	0.4/1.3	0.4/1.3		0.1/1.4	1.30	11.30
CH	Westpac-MNI Consumer Sentiment	Jul				115.9	1.45	11.45
JN	Small Business Confidence	Jul				46.5	5.00	15.00
GE	GfK Consumer Confidence	Aug		9.9		10.1	6.00	16.00
EC	M3 Money Supply YoY	Jun		5		4.9	8.00	18.00
UK	GDP QoQ/YoY	2Q A		0.5/2.1		0.4/2.0	8.30	18.30
UK	Index of Services MoM/3M/3M	May		0.1/0.3		0.6/0.5	8.30	18.30
UK	CBI Retailing Reported Sales/Total Dist. Sales	Jul		1/		4.0/14.0	10.00	20.00
US	Durable Goods Orders	Jun P		-1.1		-2.3	12.30	22.30
US	Cap Goods Core Orders/Shipments	Jun P		0.2/0.5		-0.4/-0.5	12.30	22.30
US	Pending Home Sales MoM/YoY	Jun		1.2/3		-3.7/2.4	14.00	0.00
US	FOMC Rate Decision (Lower/Upper Bound)	Jul 27		0.25		0.3	18.00	4.00
Thursday, 28 July 2016								
AU	Export/Import Price Index QoQ	2Q	1.3/3.2	3/1.5		-4.7/-3.0	1.30	11.30
AU	NAB SME Business Survey	2Q					1.30	11.30
GE	Unemployment Change (000's)	Jul		-3.5		-6.0	7.55	17.55
EC	Business Climate Indicator	Jul		0.17		0.2	9.00	19.00
GE	CPI EU Harmonized MoM/YoY	Jul P		0.3/0.3		0.1/0.2	12.00	22.00
US	Advance Goods Trade Balance	Jun		-61		-60.6	12.30	22.30
US	New U.S. Census Bureau Report on Advance Economic Indicators						12.30	22.30
US	Initial Jobless Claims	Jul 23		263		253.0	12.30	22.30
US	Bloomberg Consumer Comfort	Jul 24				42.9	13.45	23.45
UK	Nationwide House PX MoM/YoY	Jul		0/4.5		0.2/5.1	28 Jul-4 Aug release	
US	Kansas City Fed Manf. Activity	Jul		4		2.0	15.00	1.00
EC	ECB's Coeure speaks on financial crisis management							
Friday, 29 July 2016								
NZ	Building Permits MoM	Jun				-0.9	22.45	8.45
UK	Lloyds Business Barometer	Jul				6.0	23.10	9.10
UK	GfK Consumer Confidence	Jul		-8		-1.0	23.50	9.50
JN	Jobless Rate/Jobless-to-applicants ratio	Jun		3.2/1.37		3.2/1.4	23.30	9.30
JN	Overall Household Spending YoY	Jun		-0.5		-1.1	23.30	9.30
JN	Natl CPI YoY/Ex Fresh Food YoY	Jun		-0.4/0.5		-0.4/0.6	23.30	9.30
JN	Industrial Production MoM/YoY	Jun P		0.5/-3		-2.6/-0.4	23.50	9.50
JN	Retail Sales MoM/YoY	Jun		0.3/-1.3		0.0/-1.9	23.50	9.50
NZ	ANZ Activity Outlook/Business Confidence	Jul				35.1/20.2	1.00	11.00
AU	Private Sector Credit MoM/YoY	Jun	0.5/6.6	0.45/6.5		0.4/6.5	1.30	11.30
JN	BOJ Policy Rate					-0.1	2.45	12.45
NZ	Credit aggregates, household YoY	Jun				8.1	3.00	13.00
JN	Natl CPI Ex Fresh Food, Energy YoY	Jun		0.7		0.8	5.00	15.00
UK	Mortgage Approvals	Jun		65.8		67.0	8.30	18.30
EC	Unemployment Rate	Jun		10.1		10.1	9.00	19.00
EC	CPI Estimate YoY/Core YoY	Jul		0.1/0.8		0.1/0.9	9.00	19.00
EC	GDP SA QoQ/YoY	2Q A		0.3/1.5		0.6/1.7	9.00	19.00
US	Employment Cost Index	2Q		0.6		0.6	12.30	22.30
US	GDP Annualized QoQ	2Q A		2.6		1.1	12.30	22.30
CA	Industrial Product Price/Raw Material Prices MoM	Jun		0.55		1.1/6.7	12.30	22.30
US	Fed's Williams Discusses at event "What's Left in the Fed's Toolkit?"						13.30	23.30
CA	GDP MoM/YoY	May		-0.5/1.3		0.1/1.5	12.30	22.30
US	Chicago Purchasing Managers' Index	Jul		54		56.8	13.45	23.45
US	U. of Mich. Sentiment/5-10y Inflationary Expectations	Jul F		90/		89.5/2.6	14.00	0.00
Upcoming Central Bank Interest Rate Announcements								
US	Federal Reserve	27-Jul				0.25-0.50%		
Japan	BoJ	29-Jul				-0.1% to +0.1%		
Australia	RBA	2-Aug	1.75%	1.50%		1.75%		
UK	BOE	4-Aug		0.25%		0.50%		
New Zealand	RBNZ	11-Aug	2.00%	2.00%		2.25%		
Canada	BoC	7-Sep				0.50%		
Europe	ECB	8-Sep				0.00%		

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

Forecasts

Economic Forecasts

	Annual % change				Quarterly % change																
	2015	2016	2017	2018	2015				2016			2017			2018						
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Australia Forecasts																					
Household Consumption	2.8	2.8	2.5	2.4	0.6	0.6	0.9	0.8	0.7	0.6	0.7	0.5	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.5	0.5
Underlying Business Investment	-10.5	-13.2	-8.0	1.4	-3.3	-2.4	-6.0	-2.7	-3.4	-2.0	-3.2	-3.2	-1.8	-1.8	-1.1	0.1	0.9	1.0	0.8	0.8	0.8
Residential Construction	9.8	5.5	0.4	-3.5	4.3	1.0	1.5	2.8	1.4	0.6	0.6	0.1	0.2	0.2	-0.8	-0.6	-1.3	-1.1	-0.8	-0.8	-0.8
Underlying Public Spending	2.1	2.5	2.6	2.6	1.0	2.4	-0.9	1.4	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7
Exports	5.9	8.2	9.0	5.4	3.2	-3.4	5.3	0.4	4.4	-0.3	2.3	2.5	2.4	2.3	2.3	1.5	1.1	1.0	0.6	0.9	0.9
Imports	1.5	-2.3	1.2	3.3	3.4	0.0	-1.7	0.5	-0.8	-1.3	-0.1	0.1	0.5	0.6	0.7	0.8	0.9	0.9	0.8	0.7	0.7
Net Exports (a)	1.0	2.3	1.8	0.7	0.0	-0.8	1.5	0.0	1.1	0.2	0.6	0.6	0.5	0.4	0.4	0.2	0.1	0.1	0.0	0.1	0.1
Inventories (a)	0.1	0.0	-0.1	0.0	0.4	0.0	-0.2	0.0	0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	-0.1
Domestic Demand - qtr%					0.3	0.6	-0.3	0.5	0.1	0.3	0.2	0.1	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
Dom Demand - ann %	1.1	0.9	1.2	1.9	0.7	1.4	1.1	1.1	0.9	0.6	1.2	0.8	1.0	1.1	1.2	1.6	1.8	1.9	2.0	2.0	2.0
Real GDP - qtr %					0.8	0.3	1.0	0.7	1.1	0.3	0.6	0.7	0.8	0.8	0.8	0.8	0.5	0.6	0.5	0.5	0.5
Real GDP - ann %	2.5	2.9	2.8	2.5	2.3	2.1	2.7	2.9	3.1	3.2	2.8	2.7	2.4	2.9	3.1	3.2	2.9	2.8	2.4	2.1	2.1
CPI headline - qtr %					0.2	0.7	0.5	0.4	-0.2	0.7	0.9	0.7	0.9	0.5	0.8	0.5	0.8	0.5	0.8	0.5	0.8
CPI headline - ann %	1.5	1.6	2.9	2.6	1.3	1.5	1.5	1.7	1.3	1.4	1.8	2.1	3.1	2.9	2.8	2.6	2.6	2.6	2.6	2.6	2.6
CPI underlying - qtr %					0.6	0.5	0.3	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.6
CPI underlying - ann %	2.2	1.6	1.9	1.9	2.3	2.2	2.1	2.0	1.5	1.5	1.7	1.7	2.0	1.9	1.9	1.8	1.8	1.8	1.9	2.1	2.1
Wages (Pvte WPI - ann %)	2.1	1.9	1.9	2.5	2.3	2.2	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.2	2.4	2.6	2.8	2.8	2.8
Unemployment Rate (%)	6.0	5.7	5.7	5.8	6.2	6.0	6.2	5.9	5.9	5.7	5.7	5.6	5.6	5.6	5.7	5.7	5.7	5.7	5.8	5.9	5.9
Terms of trade	-11.5	-6.6	-3.9	-0.6	-2.7	-4.1	-2.8	-3.2	-1.9	2.1	-2.1	-1.8	-1.0	-0.5	-0.4	-1.8	-0.3	-0.3	-1.2	-0.7	-0.7
G&S trade balance, \$Abn	-35.9	-24.2	-13.6	-17.6	-5.3	-11.4	-8.3	-10.9	-8.1	-5.7	-5.4	-5.0	-4.4	-3.4	-2.4	-3.4	-3.5	-3.7	-5.0	-5.5	-5.5
% of GDP	-2.2	-1.4	-0.8	-1.0	-1.3	-2.8	-2.0	-2.7	-2.0	-1.4	-1.3	-1.2	-1.0	-0.8	-0.5	-0.8	-0.8	-0.8	-1.1	-1.2	-1.2
Current Account (% GDP)	-4.8	-4.5	-3.8	-4.0	-3.5	-5.3	-4.8	-5.5	-5.0	-4.4	-4.3	-4.2	-4.1	-3.8	-3.6	-3.8	-3.8	-3.8	-4.1	-4.2	-4.2

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

Exchange Rate Forecasts

	25-Jul	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17
Majors						
AUD/USD	0.7461	0.72	0.70	0.69	0.69	0.69
NZD/USD	0.6994	0.68	0.66	0.66	0.65	0.66
USD/JPY	106.21	105	105	103	103	102
EUR/USD	1.0972	1.08	1.06	1.05	1.05	1.06
GBP/USD	1.3136	1.28	1.25	1.22	1.20	1.22
USD/CNY	6.6795	6.73	6.80	6.78	6.76	6.74
USD/CAD	1.3140	1.33	1.40	1.40	1.42	1.42

Australian Cross Rates

	25-Jul	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17
AUD/JPY	79.2	76	74	71	71	70
AUD/EUR	0.6800	0.67	0.66	0.66	0.66	0.65
AUD/GBP	0.5680	0.56	0.56	0.57	0.58	0.57
AUD/NZD	1.0668	1.06	1.06	1.05	1.06	1.05
AUD/CNY	4.9836	4.85	4.76	4.68	4.66	4.65
AUD/CAD	0.9804	0.96	0.98	0.97	0.98	0.98
AUD/CHF	0.7371	0.72	0.68	0.68	0.70	0.72

Interest Rate Forecasts

	25-Jul	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17	Dec-17
Aust rates							
RBA Cash rate	1.75	1.75	1.75	1.75	1.75	1.75	1.75
3 month bill rate	1.90	1.95	1.95	1.95	1.95	1.95	1.95
3 Year Swap Rate	1.72	1.7	1.8	1.8	1.8	1.8	2.0
10 Year Swap Rate	2.12	2.1	2.3	2.3	2.4	2.4	2.7
Offshore Policy Rates							
US Fed funds	0.50	0.50	0.75	0.75	1.00	1.25	1.50
ECB deposit rate	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40
BoE repo rate	0.50	0.25	0.10	0.10	0.10	0.10	0.10
BoJ excess reserves rate	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10
RBNZ OCR	2.25	2.00	1.75	1.75	1.75	1.75	2.00
China 1yr lending rate	4.35	3.85	3.85	3.60	3.60	3.60	3.60
China Reserve Ratio	17.0	16.0	16.0	16.0	16.0	16.0	16.0
10 Year Benchmark Bond Yields							
Australia	1.91	1.95	2.10	2.10	2.25	2.25	2.45
United States	1.57	1.50	1.75	1.75	2.00	2.00	2.25
New Zealand	2.21	2.25	2.35	2.55	2.65	2.75	2.95

Sources: NAB Global Markets Research; Bloomberg; ABS

Global GDP

Dec year	2013	2014	2015	2016	2017	2018	20 Yr Ave
Australia	2.0	2.7	2.5	2.9	2.8	2.5	3.4
US	1.5	2.4	2.4	1.8	2.1	1.9	2.6
Eurozone	-0.3	0.9	1.5	1.3	1.3	1.5	1.5
UK	2.2	2.9	2.3	1.2	0.6	1.2	2.4
Japan	1.4	-0.1	0.6	0.5	0.6	0.6	0.8
China	7.7	7.3	6.9	6.7	6.5	6.3	9.2
India	6.3	7.0	7.2	7.7	7.7	7.5	6.6
New Zealand	2.4	3.7	2.5	2.9	2.9	1.9	3.0
World	3.3	3.3	3.0	2.8	3.0	3.1	3.5
MTP Top 5	3.9	3.8	3.8	3.6	3.6	3.4	5.0

Commodity prices (\$US)

	25-Jul	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17	Dec-17
WTI oil	44.15	45	52	54	56	58	60
Gold	1321	1320	1300	1250	1210	1170	1120
Iron ore	56	44	41	40	41	41	40
Hard cok. coal	89	93	85	83	84	85	85
Thermal coal	61	62	62	62	58	58	58
Copper	4915	4650	4750	4790	4840	4890	4940
Japan LNG	6.6	6.8	7.1	8.0	8.3	8.5	8.6

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