



Australian Markets Weekly

A weekly outlook for Australia, key global economies and markets

National
Australia
Bank

28 September 2015

Slower population growth

In this *Weekly* we tease out some implications of slower population growth that's been evident now for the past two years, with a further step down reported by the Australian Statistician last week.

For the economy and markets for the week ahead, it's a very big week of data with the US and China dominating. Last week US Fed Chair Yellen put the base case for the Fed to begin its Fed rate lift-off later this year – and also stated most of the FOMC participants agreed. The market is still yet to price a 2015 hike more fully at 50% by year end, and with only two meetings left (29 October and 17 December), focus will be on the US data flow and upcoming Fed speeches to see if the base case for hiking holds and whether markets start pricing this. NAB's forecast calls for the Fed to commence lift-off at its December meeting.

Although Yellen remains confident that inflation will return to 2% over the next few years, mostly because of well anchored inflation expectations, her post FOMC press conference indicated some FOMC members still harbour doubts and are waiting on more evidence, "including some further improvement in the labour market, to bolster its confidence that inflation will rise to 2% in the medium term". This should put the emphasis on non-farm payrolls Friday, as well as the less well observed participation rate and wages measures for any hints that underutilisation is starting to close. Of course inflation measures themselves will also be important, particularly for any evidence that underlying inflation is looking likely to remain subdued, and today we get the August PCE deflators, the Fed's preferred inflation gauge.

China's PMI will be watched closely by the domestic market. The unofficial Caixin caused some market volatility last week when it unexpectedly dipped to 47.0. Thursday sees the usually more stable official PMIs. Importantly, with anecdotes of China's services sector holding up – along with other less well known private measure such as the China Beige Book – the non-manufacturing (services) PMIs could prove more interesting.

The local market is currently pricing in a 40% chance of a rate cut by year-end and we continue to expect the RBA to remain on hold through the remainder of this year and beyond.

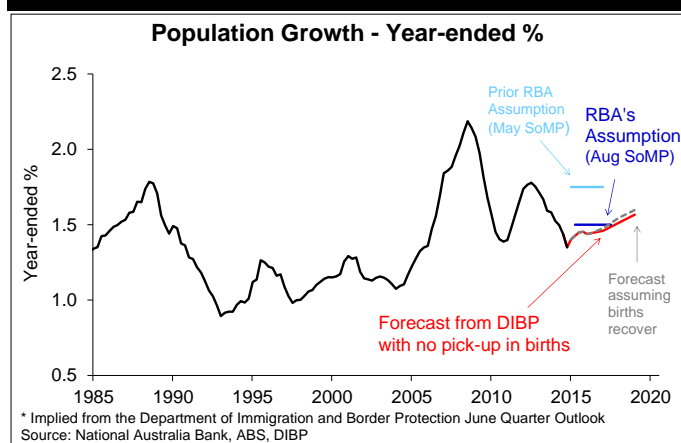
The non-mining economy has been showing further resilience with NAB business conditions and capacity utilization above average. At the same time employment outcomes have continued to be better than expected.

The RBA governor noted the more positive outlook in his parliamentary testimony and the RBA appears to be in no hurry to cut anytime soon with the Governor assessing they have the balance between growth supportive policy and not wanting to promote risks in the financial space (housing prices) 'about right'.

Implications of slowing population growth

Australia's population growth has slowed dramatically in recent years with the Australian Statistician reporting last week that growth had slowed to 1.35% y/y in Q1 2015, down from 1.6% a year earlier and 1.75% two years ago (Chart 1). This *Weekly* provides an opportunity to discuss some of the market implications of slowing population growth.

Chart 1: Population growth at 1.35% is the lowest since 2006



What is driving population growth lower?

Population growth has slowed primarily due to lower rates of net migration. Around 173k people entered Australia in net terms in the 12-months to March, down from the 240k recorded in 2013 (Chart 2). Net migration is the largest driver of population growth. This latest data suggests that the RBA's assumptions of population growth are looking optimistic. Incorporating the Department of Immigration and Border Protection (DIBP) recently released forecasts of net migration, with two assumptions of births – one with no recovery and one with a recovery, suggests population growth is likely to range between 1.3% to 1.5% through to 2020. We are already at the lower end of that range and further downside risk may remain.

Also contributing to the decline has been a decrease in the natural increase (births less deaths). The number of births has been declining recently (Chart 3), especially in NSW, and more recently Victoria. A lower birth rate may be reflective of slower economic growth in recent years (with preliminary internal

Key markets over the past week

	Last	% chg week		Last	bp / % chg week
AUD	0.7016	-1.6	RBA cash	2.00	0
AUD/CNY	4.47	-1.5	3y sw ap	2.08	-8
AUD/JPY	84.6	-1.6	ASX 200	5,042	-2.5
AUD/EUR	0.627	-1.6	Iron ore	57.0	-1.2
AUD/NZD	1.100	-2.5	WTI oil	45.4	-3.4

Source: Bloomberg

research suggesting greater economic uncertainty in the last few years may have weighed) as well as some deterioration in housing affordability and constrained income growth.

Chart 2: Lower immigration driving growth lower

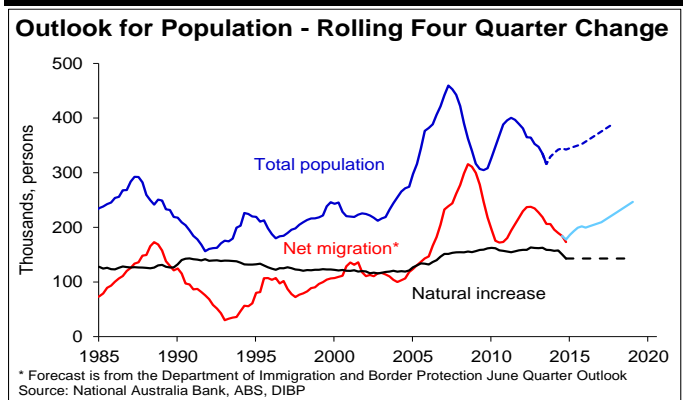
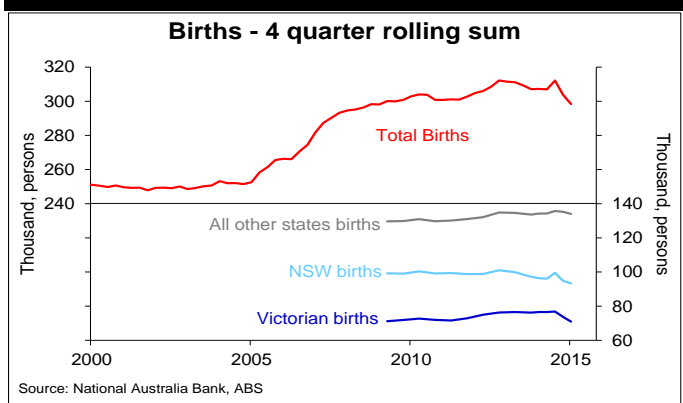


Chart 3: The birth rate is declining



Implications of slowing population growth

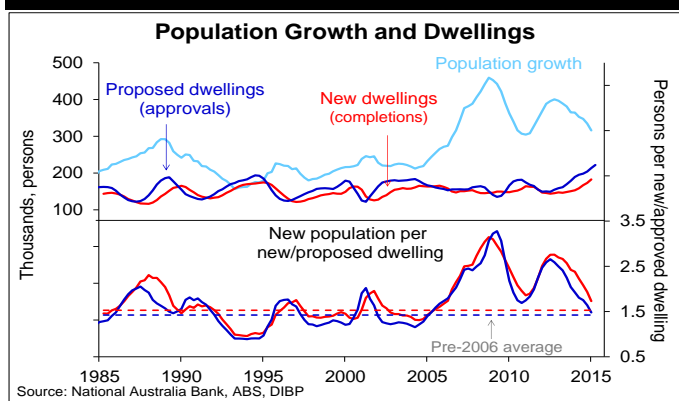
A slowing in population growth has implications for markets, both in interpreting economic data – particularly employment growth and GDP, but also for the outlook for monetary policy:

- Slower population growth (if sustained) lowers potential economic growth over time. This flows from the fact that GDP growth can be decomposed into growth in the labour supply and the productivity of that labour supply when combined with capital to produce output. The RBA has recently downgraded what it thinks potential growth is to around 2.8% - down from the 3-3.25% previously. The RBA’s new assessment of potential growth has population growth at 1.5%. We note in this context that population growth in Q1 was 1.35%, so it is quite conceivable that potential growth could be even lower without a sustained uplift in productivity.
- A slower rate of potential output growth also lowers the degree of expected spare capacity in the economy (read unemployment rate). This was evident in the RBA’s August Statement on Monetary Policy (SoMP) where the RBA lowered its forecast for the unemployment rate in part from better labour demand but also from lower population growth, changing their forecast from a previous peak at 6.5% to now remaining close to current levels over the next 18 months, before declining over 2017. Lower spare

capacity also means less need for further monetary policy easing to close a now lower output gap.

- With population growth lower, monthly employment growth does not need to be as strong each month to keep a lid on the unemployment rate. We estimate that only 14-15k jobs a month are needed to keep the unemployment rate from rising, down from the 15-18k previously. Of course this does not say whether achieving a lower unemployment rate is easier, with population growth affecting both the rate of growth in productive capacity in the economy (the supply of labour), but also the demand for labour – though it is likely supply effects will dominate in the short run.
- Lastly, slower population growth will also translate to slower future growth in underlying demand for dwellings and lower growth in some other elements of domestic demand such as consumption and non-mining business investment. Currently dwelling supply is rising, while population growth is slowing. With dwelling supply initially slow to respond to the pick-up in population that occurred from 2006 (Chart 4), this likely contributed initially to growth in unsatisfied (pent up) demand in some cities. However, with population growth slowing, any future developments that were planned on higher population growth assumptions may need to be revised and we also know that dwelling supply is now rising.

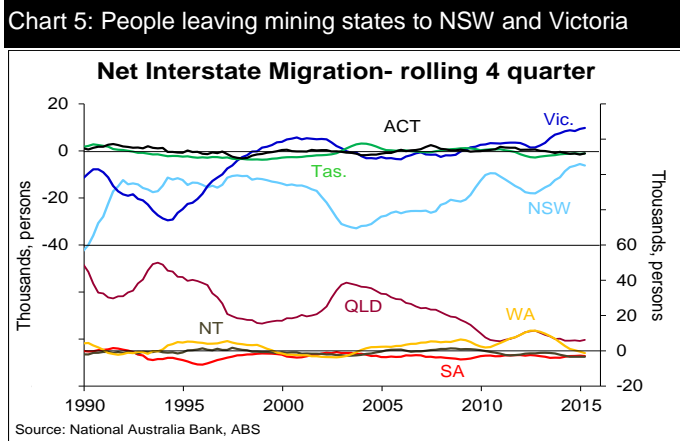
Chart 4: Population growth moderating as dwelling supply rises



Implications for the States

- Most notably there has been a net exodus of people migrating out of the mining states with net interstate migration negative in WA (-1.3k persons in the year) and in NT (-3.4k persons in the year). With signs of growth rotation to the East, Victoria has seen net interstate immigration (+9.8k in the year, a new high) while in NSW, net outflows were negligible having recently peaked in 2012 when job opportunities in the mining states were abundant (Chart 5). This was also noted in the NSW State Budget, with these workers adding to infrastructure pressures in these states, but given their high skilled nature – should be quickly absorbed into the labour market. A recent RBA speech by Alex Heath points to “people leaving the mining sector hav[ing] skills that have made it possible for them to find jobs in the construction industry” with consequently “relatively few skill shortages given the size of the pick-up in housing construction” –

aside from bricklaying (see [The Role of the RBA's Business Liaison Program](#)). This should at the margin keep aggregate wage pressures down and hence keep inflation well contained (by not bidding workers away from other non-mining industries as had occurred during the mining investment boom).



Tapas.Strickland@nab.com.au

The week ahead

The data flow cranks back up this week with the absolute highlight not until Friday with the release of retail sales for August, one of the most sensitive market monthly indicators. Before then there's more than enough to interest the market and analysts with the Weekly ANZ-RM Consumer Confidence Tuesday, RBA credit and Building approvals Wednesday, AiG's PMI, CoreLogic RP Data House prices, Job vacancies and RBA Commodity prices out on Thursday.

Tuesday's weekly update on consumer sentiment will reveal another update on consumer spirits after last week's record weekly bounce following the change in Prime Minister to Malcolm Turnbull – and which also revealed a larger lift in consumers' assessments and outlook for the economy.

For Wednesday's RBA credit, after aggregate 0.6% growth in July, when we saw a noticeable deceleration in investor credit growth (from 1.0% to 0.6% in July), loan approvals in July for owner occupiers have also been very soft (+0.3% m/m) and investor loan approvals have been essentially flat for two months, softness pointing to some further incremental easing in housing credit growth. After business credit growth of 0.7% m/m in July, some resilience could be expected given the pick-up in business conditions in August. Together with still likely flat other personal credit growth, we look for 0.5% growth in RBA credit growth in August.

After last month's 4.2% rise in residential building approvals in July, we expect only partial payback with a 2% dip in August

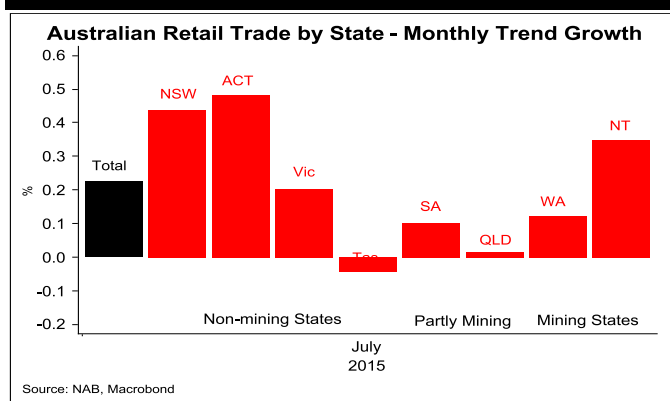
our forecast. Leading indicators of demand such as the AiG PCI Construction index and the HIA new home sales still indicate resilient demand.

The more limited coverage from the HIA survey of apartment sales hints at some stabilization in activity in demand while the AiG PCI Construction Index new orders index jumped 10.8 points to 60.9, pointing to the likelihood of resilient approvals and activity in the months ahead. Of course, building approvals is a supply side measure and monthly readings are inevitably affected by the lumpiness of major development approvals and always the possibility of an outsized monthly change.

Thursday sees the AiG PMI Manufacturing Index (at 51.7 in August, it was above 50 for the second month), and also the monthly capital cities CoreLogic RP Data September House prices report for September. For the first three weeks of September, prices have risen across the five major capitals by 0.5%, with Sydney flat, and Melbourne and Brisbane/Gold Coast stronger. August Job vacancies, September RBA Commodity prices, and NAB's online retail sales are also released Thursday.

Then on Friday is the flagship ABS Retail Sales report for August. Retail sales values continue to grow in trend terms and we expect this to be also evident in the August report, looking for a return to monthly growth after last month's 0.1% dip that broke a long sequence of monthly gains. Business conditions in the retail industry have not only continued to make some gains but stepped up another notch in August. While this may not map one-to-one with the ABS series, it's a reminder that retailers are reporting somewhat better trading conditions overall, notwithstanding what the monthly data point to. NAB looks for growth of 0.3% in August; we are also mindful that fruit and vegetable prices dipped 0.5% in August, crimping the value of food retailing sales, but still likely resulting in strong volumes growth.

Chart 6: Stronger retailing in the East: holding up elsewhere



David.deGaris@nab.com.au

Calendar of Economic Releases

Country	Economic Indicator	Period	Forecast	Consensus	Actual	Previous	GMT	AEST
Monday, 28 September 2015								
CH	Industrial Profits YoY	Aug				-2.9	1.30	11.30
JN	Leading Index	Jul F				104.9	5.00	15.00
US	Fed's Dudley (v) speaks on Monetary Policy						12.30	22.30
US	Personal Spending MoM	Aug		0.3		0.3	12.30	22.30
US	PCE Deflator MoM/YoY	Aug		0/0.3		0.1/0.3	12.30	22.30
US	PCE Core MoM/YoY	Aug		0.1/1.3		0.1/1.2	12.30	22.30
GE	Retail Sales MoM/YoY	Aug		0.2		1.4	14.00	0.00
US	Pending Home Sales MoM	Aug		0.4		0.5	14.00	0.00
US	IMF publishes Analytical chapters of forthcoming World Economic Outlook: Adjusting to Lower Commodity prices						14.00	0.00
US	Dallas Fed Manf. Activity	Sep		-10		-15.8	14.30	0.30
US	Fed's Evans (nv) speaks on Monetary Policy						17.30	3.30
US	Fed's Williams (nv) speaks on Economic Outlook						21.00	7.00
Tuesday, 29 September 2015								
AU	ANZ Roy Morgan Weekly Consumer Confidence Index	Sep-27				114.5	23.30	9.30
JN	Small Business Confidence	Sep				48.8	5.00	15.00
EC	Business Climate Indicator	Sep		0.21		0.21	9.00	19.00
GE	CPI MoM/YoY	Sep P		-0.1/0.1		0/0.2	12.00	22.00
CA	Industrial Product Price MoM	Aug		-0.85		0.7	12.30	22.30
CA	Raw Materials Price Index MoM	Aug		-7.5		-5.9	12.30	22.30
US	S&P/CS 20 City MoM SA	Jul		0.1		-0.12	13.00	23.00
US	Consumer Confidence Index	Sep		96		101.5	14.00	0.00
Wednesday, 30 September 2015								
NZ	Building Permits MoM	Aug				20.4	21.45	7.45
UK	GfK Consumer Confidence	Sep		5		7	23.05	9.05
JN	Retail Trade YoY	Aug		1.2		1.6	23.50	9.50
JN	Industrial Production MoM/YoY	Aug P		1/1.8		-0.8/0	23.50	9.50
NZ	ANZ Business Confidence	Sep				-29.1	0.00	10.00
JN	Labor Cash Earnings YoY	Aug				0.6	1.30	11.30
AU	Private Sector Credit MoM/YoY	Aug	0.5/6.2	0.5/6.2		0.6/6.1	1.30	11.30
AU	Building Approvals MoM/YoY	Aug	-2/7.4	-2/7.4		4.2/13.4	1.30	11.30
NZ	Credit aggregates, Household YoY	Aug				6	2.00	12.00
GE	Unemployment Claims Rate SA	Sep		6.4		6.4	7.55	17.55
UK	Current Account Balance	2Q		-22		-26.5	8.30	18.30
UK	GDP QoQ/YoY	2Q F		0.7/2.6		0.7/2.6	8.30	18.30
EC	Unemployment Rate	Aug		10.9		10.9	9.00	19.00
EC	CPI Estimate YoY	Sep		0		0.2	9.00	19.00
EC	CPI Core YoY	Sep A		0.9		0.9	9.00	19.00
US	Fed's Dudley speaks on Market Liquidity						12.00	22.00
US	ADP Employment Change	Sep		190		190	12.15	22.15
CA	GDP MoM/YoY	Jul		0.2		0.5/0.6	12.30	22.30
US	Chicago Purchasing Manager	Sep		53		54.4	13.45	23.45
US	Fed's Yellen (v) and Bullard (nv) speak on Community Banking						19.00	5.00
Thursday, 1 October 2015								
NZ	QV House Prices YoY	Sep				11.3	23.00	9.00
AU	AiG Perf of Mfg Index	Sep				51.7	23.30	9.30
JN	Tankan Large Mfg Index	3Q		13		15	23.50	9.50
US	Fed's Brainard (v) speaks on Community Banking						0.00	10.00
AU	CoreLogic RP Data House Px MoM	Sep				0.3	0.00	10.00
NZ	ANZ Commodity prices, world prices MoM					-5.2	0.00	10.00
CH	Manufacturing PMI	Sep		49.7		49.7	1.00	11.00
CH	Non-manufacturing PMI	Sep				53.4	1.00	11.00
AU	NAB Online Retail Sales Index	Aug				-1.4/6.2	1.30	11.30
AU	Job vacancies	Aug				2.1	1.30	11.30
CH	Caixin China PMI Mfg	Sep F		47		47	1.45	11.45
CH	Caixin China PMI Services	Sep				51.5	1.45	11.45
JN	Nikkei Japan PMI Mfg	Sep F				50.9	1.35	11.35
AU	Commodity Index AUD/YoY	Sep				79.7/-20.9	6.30	16.30
GE	Markit/BME Germany Manufacturing PMI	Sep F		52.5		52.5	7.55	17.55
EC	Markit Eurozone Manufacturing PMI	Sep F		52		52	8.00	18.00
UK	Markit UK PMI Manufacturing SA	Sep		51.3		51.5	8.30	18.30
US	Challenger Job Cuts YoY	Sep				2.9	11.30	21.30
US	Initial Jobless Claims	Sep-26		271.5		267	12.30	22.30
CA	RBC Canadian Manufacturing PMI	Sep				49.4	13.30	23.30
US	Markit US Manufacturing PMI	Sep F		53		53	13.45	23.45
US	Wards Total Vehicle Sales	Sep		17.5		17.72	14.00	0.00
US	Construction Spending MoM	Aug		0.6		0.7	14.00	0.00
US	ISM Manufacturing	Sep		50.6		51.1	14.00	0.00
Friday, 2 October 2015								
US	Fed's Williams (nv) Speaks						18.30	4.30
JN	Jobless Rate	Aug		3.3		3.3	23.30	9.30
NZ	ANZ Commodity Price	Sep				-5.2	0.00	10.00
AU	Retail Sales MoM	Aug	0.3	0.4		-0.1	1.30	11.30
UK	Markit/CIPS UK Construction PMI	Sep		57.5		57.3	8.30	18.30
US	Change in Nonfarm Payrolls	Sep		202		173	12.30	22.30
US	Unemployment Rate	Sep		5.1		5.1	12.30	22.30
US	Average Hourly Earnings MoM/YoY	Sep		0.2		0.3/2.2	12.30	22.30
US	Factory Orders/ex transport	Aug		-1.3		0.4/-0.6	14.00	0.00
US	Fed's Fischer (v) addresses Boston Fed Conference on Monetary Policy						17.00	3.00
Upcoming Central Bank Interest Rate Announcements								
Australia, RBA		6-Oct	2.00%	2.00%		2.00%		
Japan, BoJ		7-Oct	0.0%-0.1%	0.0%-0.1%		0.0%-0.1%		
UK, BOE		8-Oct				0.50%		
Europe, ECB		22-Oct				0.05%		
Canada, BoC		22-Oct				0.50%		
US Federal Reserve		29-Oct				0-0.25%		
New Zealand, RBNZ		29-Oct	2.50%	2.50%		2.75%		

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

Forecasts

Economic Forecasts

	Annual % change			Quarterly % change											
	2014	2015	2016	2014			2015			2016					
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Australia Forecasts															
Household Consumption	2.4	2.5	2.6	0.5	0.6	0.5	0.8	0.6	0.5	0.6	0.7	0.6	0.7	0.6	0.7
Underlying Business Investment	-6.1	-8.5	-8.5	-1.9	-0.8	-1.4	-1.9	-3.8	-0.3	-3.6	-2.0	-2.6	-1.6	-2.1	-1.9
Residential Construction	8.0	11.0	10.1	4.3	1.7	-1.1	4.0	5.6	-1.1	4.5	3.1	2.3	2.8	1.6	1.1
Underlying Public Spending	0.7	2.0	1.8	0.5	-0.2	-1.4	0.8	0.3	2.7	-0.5	0.4	0.4	0.4	0.4	0.5
Exports	6.7	5.4	7.3	3.3	-0.6	2.9	1.3	3.7	-3.3	3.0	1.9	1.9	1.9	2.2	2.3
Imports	-1.7	1.4	1.5	-2.3	2.9	-1.3	-1.8	3.2	-0.7	-0.1	0.7	0.3	0.8	0.4	0.5
Net Exports (a)	1.7	0.9	1.3	1.2	-0.7	0.9	0.6	0.2	-0.6	0.6	0.3	0.3	0.3	0.4	0.4
Inventories (a)	0.0	0.1	0.0	-0.3	0.7	0.2	-0.7	0.5	-0.2	-0.1	0.1	0.0	0.0	0.0	0.0
Domestic Demand - qtr%				0.4	0.4	-0.5	0.6	0.3	0.8	0.1	0.5	0.3	0.5	0.3	0.4
Dom Demand - ann %	1.1	1.4	1.6	1.3	1.5	0.6	1.0	0.9	1.2	1.8	1.6	1.6	1.4	1.6	1.6
Real GDP - qtr %				0.9	0.6	0.4	0.5	0.9	0.2	0.6	0.8	0.6	0.8	0.7	0.8
Real GDP - ann %	2.7	2.3	2.7	2.9	2.8	2.8	2.5	2.5	2.0	2.2	2.5	2.2	2.8	3.0	2.9
CPI headline - qtr %				0.6	0.5	0.5	0.2	0.2	0.7	0.8	0.9	0.8	0.7	0.7	0.8
CPI headline - ann %	2.5	1.8	3.1	2.9	3.0	2.3	1.7	1.3	1.5	1.8	2.6	3.2	3.2	3.1	2.9
CPI underlying - qtr %				0.6	0.6	0.4	0.6	0.7	0.5	0.6	0.7	0.7	0.6	0.6	0.6
CPI underlying - ann %	2.5	2.4	2.6	2.7	2.7	2.5	2.2	2.4	2.3	2.5	2.5	2.5	2.6	2.7	2.6
Wages (Pvte WPI -ann %)	2.5	2.2	2.2	2.6	2.4	2.4	2.5	2.3	2.2	2.2	2.2	2.3	2.2	2.2	2.2
Unemployment Rate (%)	6.0	6.1	6.1	5.8	6.1	6.2	6.1	6.2	6.0	6.2	6.1	6.2	6.0	6.2	6.1
Terms of trade	-7.5	-9.2	-0.1	-1.5	-4.6	-3.2	-1.8	-2.6	-3.5	-1.3	1.8	0.8	-0.1	-0.7	-0.9
G&S trade balance, \$Abn	-9.4	-29.0	-11.9	2.1	-4.7	-3.9	-2.9	-4.8	-9.6	-8.5	-6.2	-4.3	-3.4	-2.5	-1.7
% of GDP	-0.6	-1.8	-0.7	0.5	-1.2	-1.0	-0.7	-1.2	-2.4	-2.1	-1.5	-1.0	-0.8	-0.6	-0.4
Current Account (% GDP)	-3.0	-4.0	-2.9	-2.4	-3.6	-3.3	-2.9	-3.3	-4.7	-4.4	-3.8	-3.3	-3.1	-2.8	-2.6

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

Exchange Rate Forecasts

	28-Sep	Dec-15	Mar-16	Jun-16	Sep-16	Dec-16
Majors						
AUD/USD	0.7015	0.70	0.68	0.69	0.70	0.70
NZD/USD	0.6377	0.62	0.60	0.60	0.61	0.62
USD/JPY	120.55	125	126	126	127	127
EUR/USD	1.1193	1.05	1.03	1.03	1.04	1.06
GBP/USD	1.5199	1.52	1.51	1.51	1.53	1.54
USD/CNY	6.3745	6.55	6.60	6.62	6.65	6.70
USD/CAD	1.3326	1.35	1.37	1.36	1.34	1.34

Australian Cross Rates

AUD/JPY	84.6	88	86	87	89	89
AUD/EUR	0.6267	0.67	0.66	0.67	0.67	0.66
AUD/GBP	0.4615	0.46	0.45	0.46	0.46	0.45
AUD/NZD	1.1000	1.13	1.13	1.15	1.15	1.13
AUD/CNY	4.4717	4.59	4.49	4.57	4.66	4.69
AUD/CAD	0.9348	0.95	0.93	0.94	0.94	0.94
AUD/CHF	0.6870	0.69	0.69	0.72	0.73	0.00

Interest Rate Forecasts

	28-Sep	Dec-15	Mar-16	Jun-16	Sep-16	Dec-16
Aust rates						
RBA Cash rate	2.00	2.00	2.00	2.00	2.00	2.00
3 month bill rate	2.18	2.15	2.15	2.15	2.20	2.40
3 Year Swap Rate	2.08	2.1	2.4	2.4	2.6	2.9
10 Year Swap Rate	2.97	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	2.75	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	18.0	18.0	17.5	17.0	17.0	17.0
10 Year Benchmark Bond Yields						
Australia	2.68	2.8	3.1	3.1	3.1	3.3
United States	2.16	2.25	2.50	2.5	2.5	2.8
Europe/Germany	0.65	0.7	0.8	0.9	1.1	0.0
UK	1.84	2.1	2.1	2.3	2.4	0.0
New Zealand	3.32	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 Ave
Australia	0.0	2.7	2.3	2.7	3.4
US	2.2	2.4	2.5	2.5	2.6
Eurozone	-0.3	0.9	1.3	1.7	1.5
UK	1.7	3.0	2.6	2.4	2.4
Japan	1.6	-0.1	0.7	1.2	0.8
China	7.7	7.4	7.1	6.9	9.2
India	6.4	7.1	7.4	7.5	6.6
New Zealand	2.2	3.3	2.4	1.9	3.0
World	3.4	3.3	3.1	3.2	3.5

Commodity prices (\$US)

	28-Sep	Sep-15	Dec-15	Jun-16	Dec-16
WTI oil	45.39	46	49	54	58
Gold	1146	1090	1050	990	970
Iron ore	57	55	54	53	50
Hard cok. coal	112	88	90	94	99
Thermal coal	62	68	68	62	62
Copper	5041	5360	5330	5280	5330
Japan LNG	8.4	10.1	10.2	11.1	11.3

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

Group Economics

Alan Oster
Group Chief Economist
+61 3 8634 2927

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

Kymerly 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

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

Important Notice

This document has been prepared by National Australia Bank Limited ABN 12 004 044 937 AFSL 230686 ("NAB"). Any advice contained in this document has been prepared without taking into account your objectives, financial situation or needs. Before acting on any advice in this document, NAB recommends that you consider whether the advice is appropriate for your circumstances. NAB recommends that you obtain and consider the relevant Product Disclosure Statement or other disclosure document, before making any decision about a product including whether to acquire or to continue to hold it.

Please click [here](#) to view our disclaimer and terms of use.