

AUSTRALIAN MARKETS WEEKLY

Revisiting the odds of QE



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Analysis – Revisiting the odds of QE

- The effective lower bound for the policy rate is negative, but the Reserve Bank only seems comfortable with a 0.25-0.5% floor for the cash rate. However, the decline in the neutral cash rate from 3.5% in 2017 to around 3% points to a roughly 25% risk that policy breaches this 0.25-0.5% range based on the past distribution of the cash rate, which would put unconventional policy on the table.
- Governor Lowe is speaking on unconventional policy this week, but our joint work with NAB strategists suggests that cutting the cash rate as low as 0.25% is unlikely to achieve the Reserve Bank's goal of achieving full employment. Making some strong assumptions, we estimate that buying \$115bn of government bonds - or 6% of GDP - could meet this target, although there is much uncertainty around this estimate.
- Our strategist colleagues point out that the Reserve Bank would find it difficult to quickly amass this many bonds, such that in this scenario the bank would have to consider other unconventional options and/or the government needs to deliver an additional fiscal stimulus.

The week ahead – RBA's Lowe & Debelle speak; AU GDP partials; RBNZ FSR; Fed's Powell

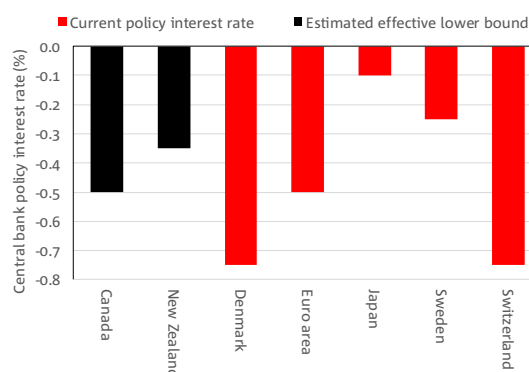
- Governor Lowe speaks Tuesday on "Unconventional monetary policy – some lessons from overseas". Lowe is likely to deliver the RBA's assessment of unconventional policy options and possibly outline the conditions that would warrant such a programme. Deputy Governor Debelle speaks the same day on "Employment and wages". For the GDP partials, NAB forecasts a 1.5% fall in construction work done (mkt: -1.0%), led by a 3.5% fall in residential construction and a 1% fall in equipment investment. In NZ, there is likely solid Q3 retail trade (Tuesday), the RBNZ Financial Stability Report (Wednesday), the ANZ business survey (Thursday), and the inaugural release of monthly employment data (Thursday).
- Globally, markets wait for news on a possible US-China trade deal. Fed Chair Powell speaks on Monday, his first speech since meeting with President Trump, where Trump protested against "too high" rates. Personal spending is due Wednesday, where annual core PCE inflation should remain subdued at 1.4%.

Key markets over the past week

	Last	% chg week		Last	bp/% chg week
AUD	0.6794	-0.2	RBA cash	0.75	0
AUD/CNY	4.78	0.0	3y swap	0.78	-1
AUD/JPY	73.9	-0.2	ASX 200	6,732	-0.5
AUD/EUR	0.616	0.2	Iron ore	87	4.8
AUD/NZD	1.058	-0.6	Brent oil	63.5	1.7

Source: Bloomberg

Chart of the week: Negative policy rates by country



Revisiting the odds of QE

- The effective lower bound for the policy rate is negative, but the Reserve Bank only seems comfortable with a 0.25-0.5% floor for the cash rate. However, the decline in the neutral cash rate from 3.5% in 2017 to around 3% points to a roughly 25% risk that policy breaches this 0.25-0.5% range based on the past distribution of the cash rate, which would put unconventional policy on the table.
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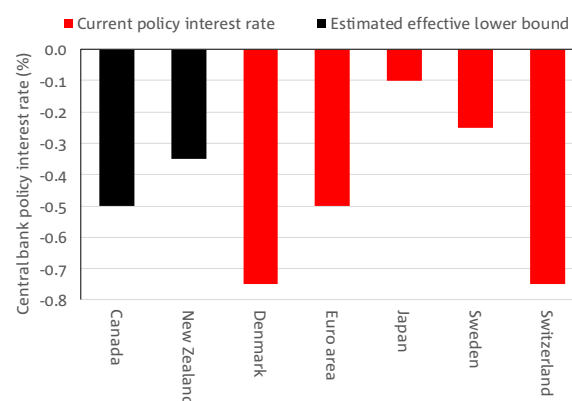
The zero lower bound has morphed into the effective lower bound

For many years in central banking, the limit for conventional monetary policy was thought of as the “zero lower bound”, where short-term interest rates could not fall below zero because investors could earn a zero return by holding cash instead.

In recent years, the concept of the zero lower bound has been overtaken by the “effective lower bound”, which acknowledges that investors might accept negative short-term interest rates due to the cost and inconvenience of holding cash.

The effective lower bound may seem an academic concept, but policy rates have been negative for some time in Denmark, the euro area, Japan, Sweden, and Switzerland. The Bank of Canada has also estimated that the effective lower bound is -0.5% in Canada, while the New Zealand Treasury suggested that the effective lower bound for New Zealand could be as low as -0.35%.¹

Chart 1: Actual and estimated negative interest rates by country



Source: Bank of Canada, Bloomberg, New Zealand Treasury, National Australia Bank

The Reserve Bank wants to avoid adopting negative interest rates in Australia

In Australia, the Reserve Bank has shied away from estimating the effective lower bound, although Governor Lowe said has said that a negative cash rate was technically possible, but “extraordinarily unlikely”.² Lowe has been less critical, but still unenthusiastic, about taking the cash rate to the zero lower bound, although he has said it might be possible if other central banks were cutting to zero.³

With a negative cash rate unlikely, the Reserve Bank seems more comfortable suggesting that 0.25-0.5% marks the floor for the cash rate, repeatedly highlighting that this range covered the low in policy rates for the Bank of England and Federal Reserve.

A lower neutral rate increases the probability that the Reserve Bank undertakes unconventional policy

The difficulty for the Reserve Bank is that at a lower level of a neutral cash rate, there is a greater risk that the cash rate may need to go below the 0.25-0.5% range nominated by the bank, which puts unconventional policy on the table.

This is a point we have made before and has become more important given that the neutral cash rate looks to have fallen from the Reserve Bank's 2017 estimate of 3.5% to near 3%. This decline reflects the incomplete pass-through of the cash rate to lending rates and the slow decline in the potential growth, both of which should be fully reflected in a lower neutral rate.⁴

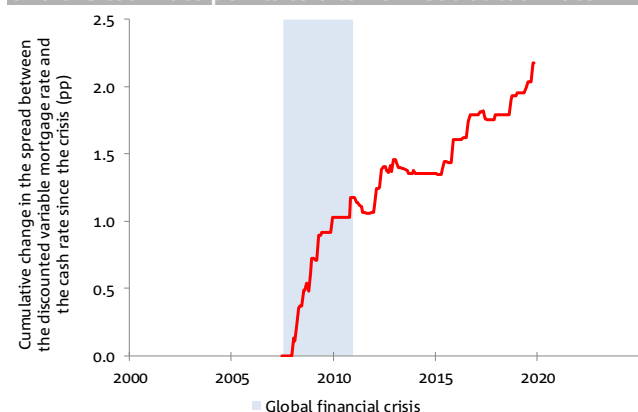
¹ See Jonathan Witmer and Jing Yang, *Estimating Canada's effective lower bound*, Bank of Canada Review, Spring 2016 and Macroeconomic and Fiscal Policy Team, *Policy response to an economic downturn*, New Zealand Treasury draft paper, June 2019.

² See Reserve Bank of Australia Governor Lowe, *The labour market and spare capacity*, Adelaide, 20 June 2019 and *Some echoes of Melville*, Canberra, 29 October 2019.

³ See House of Representatives Standing Committee on Economics, *Reserve Bank of Australia annual report 2018*, Commonwealth of Australia Official Committee Hansard, 9 August 2019.

⁴ See the discussion in Reserve Bank of Australia Deputy Governor Debelle, *Global influences on domestic monetary policy*, Adelaide, 21 July 2017.

Chart 2: The increased spread between lending rates and the cash rate points to a lower neutral cash rate

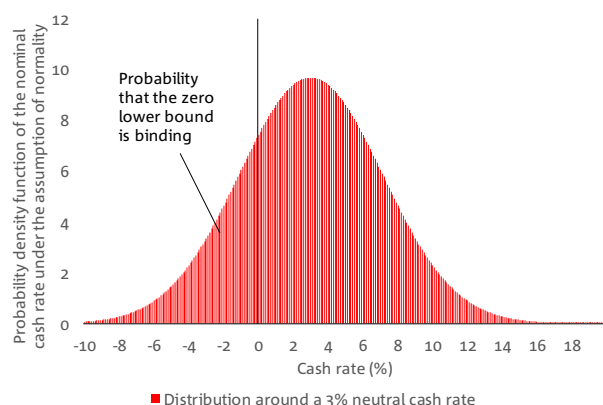


Source: Reserve Bank of Australia, National Australia Bank

In the pre-global financial crisis history of the Reserve Bank, the cash rate averaged 7.5% with a standard deviation of 4.1%. On the strong assumption that the distribution is normal around a lower neutral rate of 3%, then with the same standard deviation we calculate that there is a 25% chance that the cash rate falls below the 0.25-0.5% range cited by the Reserve Bank and a slightly greater than 20% chance it falls below zero.

These calculations suggest there is a reasonable chance that at some point conventional monetary policy will be exhausted and other policy options will need to be implemented. Ideally that would involve additional fiscal stimulus, but the government appears wedded to the goal of returning the budget to surplus, with the prime minister recently warning against “a panicked reaction to contemporary challenges.”⁵

Chart 3: A lower neutral cash rate increases the risk that conventional monetary policy will be exhausted



Source: Reserve Bank of Australia, National Australia Bank

Conventional rate cuts are unlikely to achieve full employment, such that the RBA could consider QE

For its part, the Reserve Bank has outlined a set of economic circumstances where it would likely undertake unconventional policy, comprising:

1. very weak economic growth;
2. rising unemployment;
3. stalled wages growth; and
4. below-target inflation.⁶

Governor Lowe is speaking on international lessons on unconventional monetary policy this week, but the Reserve Bank has previously indicated that in an Australian context such policy would likely focus on reducing the risk-free interest rate by cutting the cash rate to a very low level and purchasing government securities.⁷

If the Reserve Bank did need to undertake QE, a key difficulty would be calibrating its impact on the economy. We recently explored this issue in a cross-market research note analysing the potential effect of buying government bonds on the economy and financial markets.⁸

With the Reserve Bank aiming to return inflation to the 2-3% target band and achieve full employment the approach we took was to use the Reserve Bank's MARTIN macroeconomic model to calculate how much growth was needed to lower the unemployment rate to the bank's 4.5% estimate of the NAIRU. This work suggested that even if the Reserve Bank cut the cash rate to 0.25%, it would only get half of the way toward its goal of full employment, such that QE would have to take up the slack.

Estimating the impact of QE is difficult, but international experience suggests it can be effective in boosting growth. Averaging across a range of studies, we found that QE purchases of 1% of nominal GDP boost real GDP by about 0.2%, with the impact ranging from 0.1% to 0.6%.

On the very strong assumption that this international experience holds for Australia, this implied that the Reserve Bank would have to buy about \$115bn of government bonds – or 6% of GDP – to reduce the unemployment rate all the way to 4.5% (the range around this estimate is large at 2-12% of GDP).

To put this another way, if conventional monetary policy wasn't bumping up against the Reserve Bank's limits, we estimate that QE worth 6% of GDP would have the same effect on output as cutting a further 85bp, assuming the lower cash rate was completely passed through to lending rates and that rates were held low for at least two years.⁹

⁵ See Phillip Coorey, *Morrison rejects 'economic panic merchants'*, Australian Financial Review, 19 November 2019.

⁶ See the above-mentioned Hansard of 9 August 2019.

⁷ See Reserve Bank of Australia, *Question on Notice – Reserve Bank of Australia – Tim Wilson MP, Chair, House of Representative's Standing Committee on Economics*, 4 September 2019.

⁸ See NAB Markets Research Team, *Analysing the potential impact of QE targeting government bonds*, 20 November 2019.

⁹ That is, on complete pass-through to lending rates, this analysis suggests that a 100bp rate cut lasting two years equates to bond purchases worth about 7% of GDP.

Table 1: The estimated effect on real GDP of a 1% increase in a central bank balance sheet as a share of GDP

		%
Estimates:		
Chung et al (2011)	US	0.2
Chen et al (2012)	US	0.1
Federal Reserve (2013)	US	0.1
Burriel & Galesi (2016)	Euro area	0.2
Haldane (2016)	Euro area	0.2
	Japan	0.2
	UK	0.2
	US	0.6
Weale & Wieladek (2016)	UK	0.3
	US	0.6
Hess et al (2017)	UK	0.2
	US	0.2
Gagnon & Sack (2018)	US	0.1
Summary statistics:		
- average		0.2
- minimum		0.1
- maximum		0.6

Note: Some estimates were scaled to equate to a 1% of GDP increase in the balance sheet. Estimates are rounded to one decimal place. Gagnon & Sack equated the change in the balance sheet to the policy rate, which we converted to a GDP effect using the average estimated effect of conventional policy from the FRB model and Ramey (2014).

Source: Chen Curdia and Ferrero (2012), Chung, Hess, Laforge, Reifschneider and Williams. (2011), Gagnon and Sack (2018) in conjunction with Brayton, Laubach and Reifschneider (2014) and Ramey (2014), Federal Reserve (2013), Haldane (2016); Hess, Hofmann and Weber (2017), Weale and Wieladek (2016), National Australia Bank

Buying government bonds may not prove effective in Australia

While this analysis suggests that QE could help the Reserve Bank achieve its economic goals, our strategy colleagues pointed out in the same cross-market research note that the bank is unlikely to be able to quickly amass \$115bn of government bonds. This reflects the characteristics of Australia's bond market, which is relatively small with significant ownership by foreign central banks and domestic banks and limited new issuance.

This suggests that in such a scenario the Reserve Bank would need to turn to other unconventional measures – such as buying private-sector and offshore securities – and/or the government needs to deliver additional fiscal stimulus. This would be consistent with the Reserve Bank noting that a key lesson from the international experience of unconventional policy was that “a package of measures that reinforce each other tended to be more effective than measures implemented in isolation”.¹⁰

Kieran Davies
Kaixin Owyong

¹⁰ See the question on notice dated 4 September 2019.

CALENDAR OF ECONOMIC RELEASES

Country	Economic Indicator	Period	Forecast	Consensus	Actual	Previous	GMT	AEDT
Monday 25 November 2019								
GE	IFO Business Climate	Nov		--		94.6	9.00	20.00
GE	IFO Current Assessment	Nov		--		97.8	9.00	20.00
EC	ECB's Lane speaks in London						18.45	5.00
Tuesday 26 November 2019								
NZ	Retail Sales Ex Inflation QoQ	3Q	1	--		0.2	21.45	8.45
AU	RBA's Debelle speaks in Canberra			--			23.50	10.50
US	Fed's Powell speaks in Rhode Island			--			0.00	11.00
AU	RBA's Lowe speaks on unconventional policy			--			9.05	20.05
US	Wholesale Inventories MoM	Oct P		--		-0.4	13.30	0.30
US	Conf. Board Consumer Confidence	Nov		--		125.9	15.00	2.00
US	New Home Sales	Oct		--		701	15.00	2.00
Wednesday 27 November 2019								
GE	Retail Sales MoM	Oct		--		0.1	27 Nov to 4 Dec	
NZ	RBNZ publishes financial stability report			--			20.00	7.00
NZ	Trade Balance NZD	Oct	-783	--		-1242	21.45	8.45
NZ	RBNZ's Orr speaks on financial stability report			--			22.00	9.00
AU	Construction Work Done	3Q	-1.5	--		-3.8	0.30	11.30
US	Durable Goods Orders	Oct P		--		-1.2	13.30	0.30
US	GDP Annualized QoQ	3Q S		--		1.9	13.30	0.30
US	GDP Price Index	3Q S		--		1.7	13.30	0.30
US	Core PCE QoQ	3Q S		--		2.2	13.30	0.30
US	PCE Core Deflator MoM	Oct		--		0	15.00	2.00
US	PCE Core Deflator YoY	Oct		--		1.7	15.00	2.00
Thursday 28 November 2019								
US	Public holiday - Thanksgiving							
NZ	ANZ Business Confidence	Nov		--		-42.4	0.00	11.00
AU	Private Capital Expenditure	3Q	-0.5	--		-0.5	0.30	11.30
EC	M3 Money Supply YoY	Oct		--		5.5	9.00	20.00
GE	CPI MoM	Nov P		--		0.1	13.00	0.00
GE	CPI YoY	Nov P		--		1.1	13.00	0.00
CA	Current Account Balance	3Q		--		-6.38	13.30	0.30
Friday 29 November 2019								
NZ	ANZ Consumer Confidence Index	Nov		--		118.4	21.00	8.00
NZ	Building Permits MoM	Oct		--		7.2	21.45	8.45
JN	Tokyo CPI YoY	Nov		--		0.4	23.30	10.30
JN	Industrial Production YoY	Oct		--		1.7	23.50	10.50
AU	Private Sector Credit MoM	Oct	0.2	--		0.2	0.30	11.30
AU	Private Sector Credit YoY	Oct	2.7	--		2.7	0.30	11.30
GE	Unemployment Change (000's)	Nov		--		6	8.55	19.55
GE	Unemployment Claims Rate SA	Nov		--		5	8.55	19.55
EC	Unemployment Rate	Oct		--		7.5	10.00	21.00
EC	CPI Estimate YoY	Nov		--		0.7	10.00	21.00
CA	GDP MoM	Sep		--		0.1	13.30	0.30
CA	GDP YoY	Sep		--		1.3	13.30	0.30
CA	Quarterly GDP Annualized	3Q		--		3.7	13.30	0.30
Upcoming Central Bank Interest Rate Announcements								
Australia, RBA		Dec 3	0.75	0.75		0.75		
US, Federal Reserve		Dec 11	1.5/1.75	1.5/1.75		1.5/1.75		
Europe, ECB		Dec 12	-0.50	-0.50		-0.50		
Japan, BoJ		Dec 19	-0.10	-0.10		-0.10		
UK, BOE		Dec 19	0.75	0.75		0.75		
New Zealand, RBNZ		Feb 12	1.00	1.00		1.00		

GMT: Greenwich Mean Time; AEDT: Australian Eastern Daylight Time

FORECASTS

Economic Forecasts																				
	Annual % change				Quarterly % change															
					2018				2019				2020				2021			
	2018	2019	2020	2021	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Australia Forecasts																				
Household Consumption	2.6	1.5	1.9	2.1	0.5	0.8	0.3	0.4	0.3	0.4	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
Underlying Business Investment	1.2	-2.4	0.0	3.4	0.7	-0.8	-2.1	0.1	-0.2	-0.6	-0.7	-0.9	0.1	0.7	0.9	0.2	1.0	1.0	1.0	1.1
Residential Construction	4.8	-8.9	-9.6	0.6	3.3	2.8	0.1	-2.8	-2.2	-4.4	-3.1	-3.1	-2.9	-1.7	-1.5	-0.2	0.6	0.8	1.0	0.8
Underlying Public Spending	4.3	4.2	3.8	3.5	1.4	-0.1	2.1	0.8	1.1	1.4	0.4	0.8	1.1	1.1	0.9	0.9	0.8	0.8	0.8	0.8
Net Exports (a)	0.8	1.4	-0.1	-0.2	0.6	0.0	0.4	-0.2	0.4	0.6	0.2	0.1	0.1	0.0	-0.1	0.0	-0.1	-0.1	-0.1	0.0
Inventories (a)	0.1	-0.4	0.1	0.1	0.0	0.2	-0.3	0.2	-0.1	-0.5	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Domestic Demand (q/q %)	--	--	--	--	0.9	0.5	0.4	0.2	0.1	0.3	0.1	0.3	0.4	0.6	0.6	0.6	0.7	0.7	0.7	0.7
Dom Demand (y/y %)	2.8	0.9	1.7	2.7	3.5	3.3	2.5	2.0	1.2	1.0	0.7	0.8	1.1	1.4	1.9	2.2	2.5	2.6	2.8	2.9
Real GDP (q/q %)	--	--	--	--	1.0	0.7	0.3	0.1	0.5	0.5	0.3	0.5	0.5	0.6	0.6	0.6	0.7	0.6	0.6	0.7
Real GDP (y/y %)	2.7	1.6	2.1	2.5	3.1	3.1	2.6	2.2	1.7	1.4	1.5	1.9	1.9	2.0	2.3	2.4	2.5	2.5	2.6	2.6
CPI headline (q/q %)	--	--	--	--	0.4	0.4	0.4	0.5	0.0	0.6	0.5	0.6	0.4	0.4	0.5	0.6	0.5	0.5	0.6	0.7
CPI headline (y/y %)	1.9	1.6	2.0	2.2	1.9	2.1	1.9	1.8	1.3	1.6	1.7	1.7	2.1	1.9	1.9	1.9	2.0	2.2	2.3	2.4
CPI underlying (q/q %)	--	--	--	--	0.5	0.5	0.4	0.4	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
CPI underlying (y/y %)	1.8	1.4	1.6	1.9	1.9	1.8	1.8	1.8	1.5	1.4	1.4	1.4	1.6	1.6	1.6	1.6	1.8	1.9	2.0	2.1
Private wages (q/q %)	--	--	--	--	0.5	0.6	0.5	0.6	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Private wages (y/y %)	2.1	2.3	2.5	2.8	1.9	2.1	2.1	2.3	2.4	2.3	2.3	2.3	2.4	2.5	2.6	2.6	2.7	2.7	2.8	2.8
Unemployment Rate (%)	5.3	5.2	5.3	5.4	5.5	5.6	5.1	5.0	5.1	5.2	5.3	5.3	5.3	5.4	5.4	5.4	5.4	5.4	5.5	5.5
Terms of trade	2.0	6.1	-6.3	-1.8	3.3	-1.3	1.1	3.0	3.1	1.5	0.9	-4.6	-1.9	-1.9	0.0	-1.9	-0.3	0.2	0.2	0.6
Current Account (% GDP)	-2.1	0.8	-0.2	-0.8	-2.2	-2.7	-2.2	-1.4	-0.2	1.2	1.7	0.7	0.3	-0.1	-0.3	-0.7	-0.8	-0.8	-0.9	-0.6

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

Exchange Rate Forecasts						
	25-Nov	Dec-19	Mar-20	Jun-20	Sep-20	Dec-20
Majors						
AUD/USD	0.680	0.69	0.68	0.69	0.70	0.71
NZD/USD	0.64	0.65	0.65	0.65	0.66	0.67
USD/JPY	108.8	110	109	109	108	110
EUR/USD	1.10	1.12	1.14	1.16	1.16	1.17
GBP/USD	1.29	1.33	1.35	1.35	1.35	1.33
USD/CNY	7.03	7.00	7.05	7.00	6.90	6.85
USD/CAD	1.33	1.30	1.31	1.30	1.30	1.31
USD/CHF	1.00	0.99	0.98	0.96	0.96	0.96

Australian Cross Rates						
AUD/NZD	1.06	1.06	1.05	1.06	1.06	1.06
AUD/JPY	73.9	76	74	75	76	78
AUD/EUR	0.62	0.62	0.60	0.59	0.60	0.61
AUD/GBP	0.53	0.52	0.50	0.51	0.52	0.53
AUD/CNY	4.78	4.83	4.79	4.83	4.83	4.86
AUD/CAD	0.90	0.90	0.89	0.90	0.91	0.93
AUD/CHF	0.68	0.68	0.67	0.66	0.67	0.68

Interest Rate Forecasts						
	25-Nov	Dec-19	Mar-20	Jun-20	Sep-20	Dec-20
Australian Rates						
RBA cash rate	0.75	0.75	0.50	0.50	0.50	0.50
3 month bill rate	0.88	0.85	0.60	0.60	0.60	0.60
3 Year Swap Rate	0.78	0.90	0.90	0.95	0.95	1.00
10 Year Swap Rate	1.26	1.25	1.25	1.30	1.35	1.45
Offshore Policy Rates						
US Fed funds	1.75	1.75	1.75	1.75	1.75	1.75
ECB deposit rate	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50
BoE repo rate	0.75	0.75	0.75	0.75	0.75	1.00
BoJ excess reserves rate	-0.10	-0.20	-0.20	-0.30	-0.30	-0.30
RBNZ OCR	1.00	0.75	0.50	0.50	0.50	0.50
China 1yr lending rate	4.35	4.10	4.10	4.10	4.10	4.10
China Reserve Ratio	13.0	12.50	12.00	12.00	12.00	12.00
10-year Bond Yields						
Australia	1.09	1.10	1.10	1.10	1.10	1.20
United States	1.78	1.70	1.70	1.70	1.70	1.80
New Zealand	1.33	0.95	0.95	1.05	1.10	1.30

Sources: NAB Global Markets Research; Bloomberg; ABS

Global GDP				
	2018	2019	2020	2021
Australia	2.7	1.6	2.1	2.5
United States	2.9	2.3	1.7	1.8
Eurozone	1.9	1.2	1.0	1.4
United Kingdom	1.4	1.3	1.0	1.5
Japan	0.8	1.0	0.2	0.9
China	6.6	6.1	5.9	5.8
India	6.8	5.7	6.8	7.1
New Zealand	2.8	2.2	2.2	2.0
World	3.6	3.1	3.2	3.5

Commodity prices (\$US)						
	25-Nov	Dec-19	Mar-20	Jun-20	Sep-20	Dec-20
Brent oil	63.7	70	70	75	75	75
Gold	1460	1450	1483	1518	1547	1572
Iron ore	na	76	72	68	71	69
Hard coking coal*	133	170	165	160	155	152
Thermal coal	64	90	93	90	88	90
Copper	5838	6300	6225	6150	6125	6100
Aus LNG**	10	12	12	12	12	12

* FOB quarterly contract prices (thermal coal is JFY contract)

** Implied Australian LNG export prices

CONTACT DETAILS

Market Economics

Kieran Davies
+61 2 9237 1406
kieran.davies@nab.com.au

Tapas Strickland
Senior Economist
+61 2 9237 1980
tapas.strickland@nab.com.au

Kaixin Owyong
Economist, Markets
+61 2 9237 1980
kaixin.owyong@nab.com.au

Markets Research

Ivan Colhoun
Global Head of Research
+61 2 9237 1836
ivan.colhoun@nab.com.au

Group Economics

Alan Oster
Chief Economist
+61 3 8634 2927
alan.oster@nab.com.au

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