29 June 2020

AUSTRALIAN MARKETS WEEKLY

The RBA's policy rule points to the benefit of further policy stimulus

National Australia Bank

In this issue

Analysis – The RBA's policy rule points to the benefit of further policy stimulus

- The Reserve Bank has effectively exhausted conventional monetary policy by cutting the cash rate to its self-imposed floor of 0.25% and adopting unconventional measures on a greater scale than during the global financial crisis. Using the policy rule from the bank's own macro-econometric model, we find policy was too tight in recent years given inflation undershot the 2-3% target band and unemployment exceeded the NAIRU.
- Using the bank's latest economic forecasts – which incorporate the government's fiscal stimulus – the same policy rule points to negative interest rates. Some of this has been achieved by already-implemented unconventional policies, which we estimate are doing the work of a moderately negative cash rate of -1%.
- The outlook remains highly uncertain, but the rule still points to the benefit of further stimulus, which the government is better placed to deliver than the Reserve Bank. In the near term this can be achieved by avoiding the abrupt withdrawal of government support to the labour market when the JobKeeper subsidy and the temporary JobSeeker payment are legislated to end in September. The government will announce its decision on the matter in its 23 July economic and fiscal update, but the treasurer has already suggested that the wage subsidy will continue, albeit in a more targeted form.

The week ahead – AU RBA & payrolls, NZ ANZ business survey; CH PMIs; US payrolls & Fed

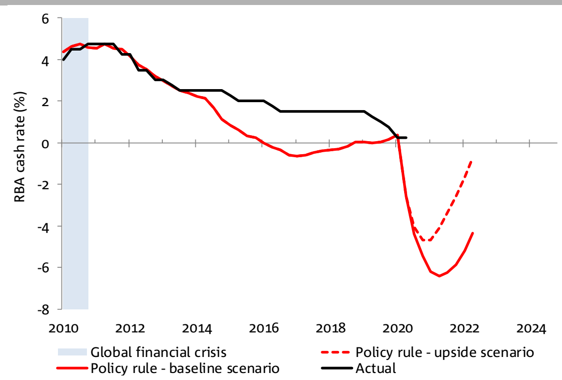
- **Australia:** RBA Deputy Governor Debelle speaks on *the Reserve Bank's policy actions and balance sheet* on Tuesday. He is likely to recount the success to date in meeting the RBA's target for the 3-year bond and restoring market liquidity. He could also discuss technical aspects of the bank's QE programme. ABS payrolls on Tuesday should show how the labour market improved into mid June as health restrictions were eased. Building approvals on Wednesday should show approvals fell sharply in May. Trade data on Thursday should show the trade surplus shrank by $2b to $6.6b. **NZ:** The sense of recovery in NZ will be severely dented if Tuesday's full and final ANZ business survey for June doesn't improve on the preliminary reading. Also watch for housing, credit, and international trade data through the week, along with the new employment indicators running the course of May.
- **CH:** The official PMIs are on Tuesday and the Caixin versions are on Wednesday and Friday. The market expects little change in both the manufacturing and non-manufacturing PMIs. **US:** Renewed infections may dominate the economic data. Thursday sees non-farm payrolls and the manufacturing ISM. Payrolls should show another improvement, up 3 million, but with unemployment remaining high at 12.3%. Wednesday's FOMC minutes should echo economic forecasts released two weeks ago. Fed Chair Powell testifies to the House Financial Panel on Wednesday.

Key markets over the past week

	Last	% chg week		Last	bp/% chg week
AUD	0.6886	-0.3	RBA cash	0.13	0
AUD/CNY	4.87	-0.1	3y swap	0.24	0
AUD/JPY	73.7	-0.2	ASX 200	5,815	-2.2
AUD/EUR	0.612	-0.3	Iron ore	94	-2.1
AUD/NZD	1.070	0.3	Brent oil	40.2	-6.6

Source: Bloomberg

Chart of the week: RBA policy rule



Kieran Davies

The RBA's policy rule points to the benefit of further policy stimulus

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- Using the bank's latest economic forecasts - which incorporate the government's fiscal stimulus - the same policy rule points to negative interest rates. Some of this has been achieved by already-implemented unconventional policies, which we estimate are doing the work of a moderately negative cash rate of -1%.
- The outlook remains highly uncertain, but the rule still points to the benefit of further stimulus, which the government is better placed to deliver than the Reserve Bank. In the near term this can be achieved by avoiding the abrupt withdrawal of government support to the labour market when the JobKeeper subsidy and the temporary JobSeeker payment are legislated to end in September. The government will announce its decision on the matter in its 23 July economic and fiscal update, but the treasurer has already suggested that the wage subsidy will continue, albeit in a more targeted form.

The Reserve Bank has effectively exhausted conventional monetary policy and undertaken unconventional action

With Australia experiencing its largest economic shock outside of depression or war, the Reserve Bank acted quickly to aggressively ease monetary policy in March, reinforcing the government's largest peacetime fiscal stimulus.

The Reserve Bank's action saw the bank reach its self-imposed limit for conventional monetary policy of a 0.25% cash rate and adopt unconventional monetary policy on a greater scale than during the global financial crisis.

The unconventional steps comprised:

- **Forward guidance.** That is: (1) the cash rate would not be increased from 0.25% "until progress is made towards full employment and [the Board] is confident that inflation will be sustainably within the 2-3% target band"; and (2) the target for three-year bond yields would be retained "until progress is made towards the … goals of full employment and the inflation target, [where] it would be appropriate to remove the yield target before the cash rate itself is raised".[1]
- **Limited yield curve control with a 0.25% target for the 3-year government bond yield.** The bank is buying bonds as needed to meet this yield target and ensure the smooth functioning of the bond market.
- **Cheap funding for banks.** This is via a new term funding facility that: (1) reduces lending rates by offering collateralised three-year funding at a fixed rate of 0.25% to banks and other authorised lenders of up to 3% of their outstanding business credit until September 2020; and (2) offers additional low-cost funding to lenders that expand their lending to business until March 2021, with incentives for lending to small- and medium-sized business.
- **A technical adjustment to bank balances held at the Reserve Bank.** The band around the cash rate was tightened from +/-25bp to +25bp/-15bp, which means banks' exchange settlement balances now earn 0.1% when the cash rate is 0.25% (a bank still pays the cash rate plus 25bp when borrowing overnight funds). This should reduce some of the pressure on bank costs as exchange settlement balances are now significantly higher because of the Reserve Bank's : (1) increased liquidity operations; (2) bond purchases; and (3) term funding facility (higher balances have also seen the actual cash rate trade below the target of 0.25%).

We used the Reserve Bank's policy rule to estimate the cash rate implied by its own economic forecasts

To judge whether current policy is sufficiently stimulatory, we calculated the cash rate implied by the policy rule embedded in the Reserve Bank's macro-econometric model and the bank's latest baseline and upside scenario economic forecasts. We included the upside scenario given that Governor Lowe recently said that the economy was "tracking between the [bank's] baseline and the upside [scenarios]", where the upside "is still a pretty depressing scenario".[2]

The policy rule used by the bank is a modified Taylor rule that shows policy responds slowly to: (1) inflation relative to its target; (2) spare capacity, as measured by the unemployment gap; and (3) the speed at which spare capacity is used up in the economy. That is:

- Cash rate_t = 0.7*cash rate_{t-1} + 0.3*[neutral real cash rate + annual inflation rate_t + (annual inflation rate_t – 2.5%) – 2*(unemployment rate_t – NAIRU)] – (unemployment rate_t – unemployment rate_{t-2})

where the cash rate depends on:

- The previous quarter's cash rate, to capture the smoothing of interest rates;
- The neutral real cash rate, which varies over time;
- The inflation rate, measured by the trimmed mean CPI;
- The inflation rate less the midpoint of the 2-3% inflation target;
- The unemployment gap, which is the unemployment rate less the separately-estimated NAIRU; and

[1] See Reserve Bank of Australia, *Minutes of the Monetary Policy Meeting of the Reserve Bank Board*, 2 June 2020.

[2] See Commonwealth of Australia Senate Select Committee on COVID-19, *Australian government's response to the COVID-19 pandemic*, Proof Committee Hansard, 28 May 2020.

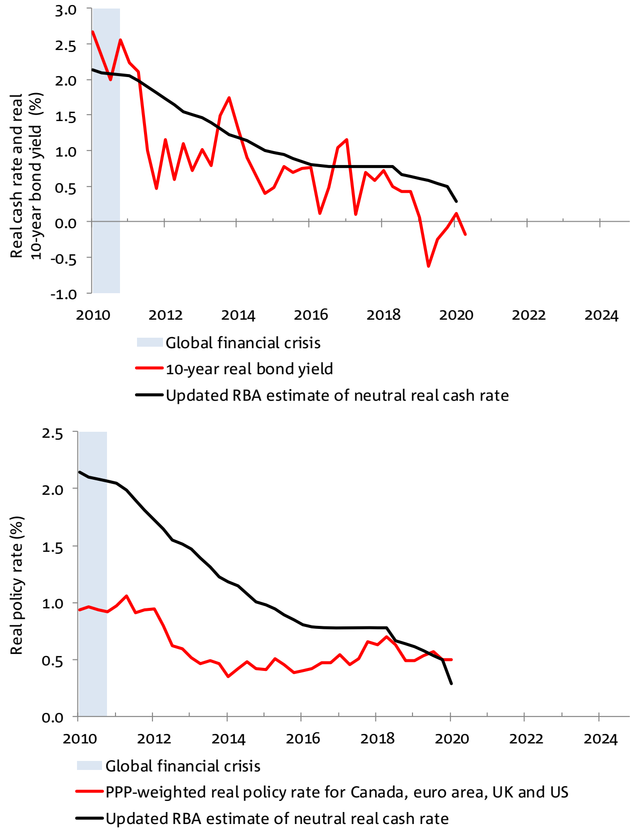
- The speed at which spare capacity is used up in the economy, approximated by the change in the unemployment rate over the past six months.[3]

The Reserve Bank imposed the weights in the policy rule rather than estimate them, guided by its experience of the past twenty-five years. The weight on the previous quarter's cash rate is large, reflecting the premium placed on the gradual adjustment of policy.

The bank decided to proxy spare capacity in the economy by using an unemployment gap rather than the typical output gap because: (1) the unemployment gap is conceptually closer to the bank's mandated objective of full employment than the output gap; (2) most of the variation in the output gap reflects the unemployment gap; and (3) the unemployment gap is "arguably better measured" than the output gap.

The neutral real cash rate has not been publicly updated by the Reserve Bank since 2017, when it was estimated to have fallen to about 0.8%. Since then, it seems likely to have fallen to around 0.3% given the subsequent increase in the spread between the variable mortgage rate and the cash rate, which Deputy Governor Debelle remarked "should have a roughly one-for-one effect on the neutral interest rate".[4] The decline in the real 10-year bond yield, which has fallen from 0.8% at the end of 2018 to -0.1%, also suggests that the neutral rate has fallen given the loose relationship between the two series. Australia's neutral rate has also broadly converged with the New York Fed's estimated low neutral rate for the advanced economies.

Chart 1: Other indicators are consistent with a lower neutral cash rate



Note: The updated neutral cash rate adjusts for the increase in the spread of the variable mortgage rate over the cash rate from 2017 to now.
Source: Australian Bureau of Statistics, Bloomberg, Federal Reserve Bank of New York, International Monetary Fund, Reserve Bank of Australia, National Australia Bank

The NAIRU – which the Reserve Bank uses as a proxy for full employment – is currently about 4.5% and Governor Lowe thinks it is quite possible that it rises "back towards 5%" given "we know from previous sharp economic downturns that there is scarring in the labour market".[5] In this analysis, we assumed that the neutral real cash rate has drifted down to 0.3% and that the NAIRU edges up to near 5%.

The Reserve Bank's economic forecasts point to substantially negative rates

Comparing the policy rule with the actual cash rate, the rule suggests that monetary policy has been too tight over the past 4-5 years, pointing to a significantly lower cash rate of broadly zero. The rule points to policy being too tight because inflation has remained below the 2-3% target band and unemployment has been persistently above the estimated NAIRU.

Comparing the Reserve Bank's baseline and upside economic scenario forecasts, they both have unemployment peaking at around 10% in the near term. Unemployment falls to about 6.5% by mid 2022 in the baseline case and roughly 5% in the upside scenario. Inflation is expected to remain below the 2-3% target in

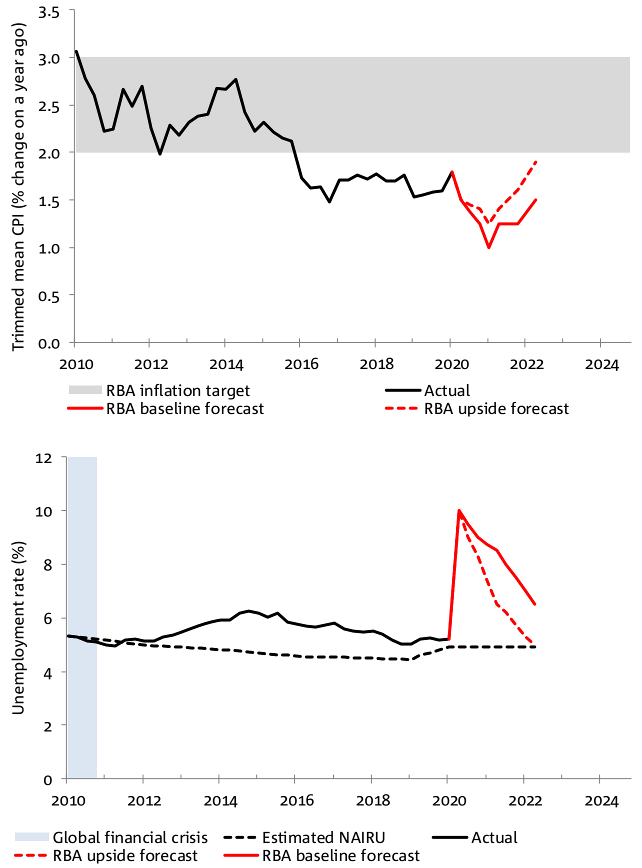
[3] See Alexander Ballantyne, Tom Cusbert, Richard Evans, Rochelle Guttmann, Jonathan Hambur, Adam Hamilton, Elizabeth Kendall, Rachael McCririck, Gabriela Nodari and Daniel Rees, *MARTIN has its place: A macroeconometric model of the Australian* economy, Reserve Bank of Australia Discussion Paper RDP 2019-07, August 2019.

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

[5] See Commonwealth of Australia Senate Select Committee on COVID-19, *Australian government's response to the COVID-19 pandemic*, Proof Committee Hansard, 28 May 2020.

both outlooks, although it approaches 2% in 2022 in the upside scenario.

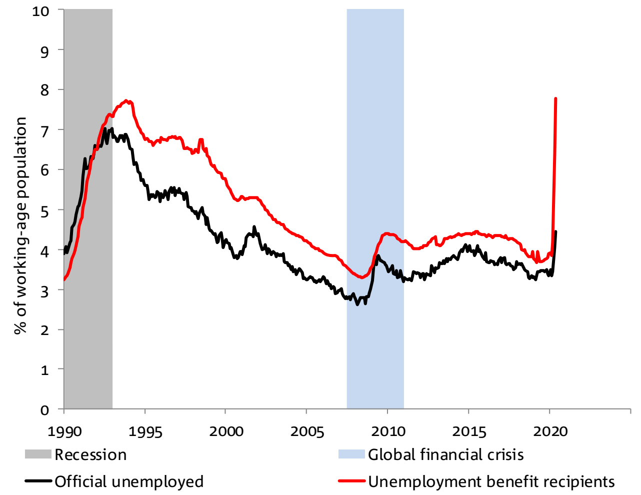
Chart 2: The Reserve Bank forecasts below-target inflation and a slow improvement in unemployment



Note: The NAIRU is assumed to increase towards 5%.
Source: Australian Bureau of Statistics, Reserve Bank of Australia, National Australia Bank

In judging the bank's forecasts, the official unemployment rate is unlikely to reach 10% in the near term given the recent record job losses have seen a massive exodus from the workforce. However, most of the people who have stopped looking for work have ended up on unemployment benefits. Benefit recipients are currently at a record 8% of the working-age population, which suggests the Reserve Bank's forecast of the spare capacity represented by a 10% unemployment rate is reasonable. Total hours worked are an additional cross-check that remind that the JobKeeper wage subsidy and current JobSeeker unemployment benefit arrangements mean that the official unemployment rate understates the true rate at present.

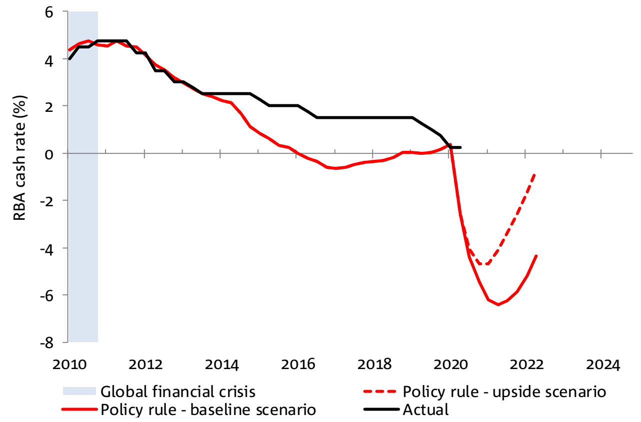
Chart 3: Although the official unemployment rate might not reach 10%, welfare statistics point to substantial spare capacity



Source: Australian Bureau of Statistics, Department of Social Security, Melbourne Institute, National Australia Bank

Using these forecasts as inputs, the policy rule points to a negative cash rate through to the end of the Reserve Bank's forecast horizon in mid 2022. The trough for the cash rate is -6% in the Reserve Bank's baseline scenario and -5% for the upside case, both occurring in 2021. The cash rate becomes less negative into the first half of 2022.

Chart 4: The Reserve Bank's economic forecasts point to a substantially negative cash rate



Source: Australian Bureau of Statistics, Bloomberg, Reserve Bank of Australia, National Australia Bank

The expansion of the Reserve Bank's balance sheet has had the same estimated effect on growth as if the cash rate was moderately negative

With the policy rule pointing to a significantly negative cash rate on the basis of the Reserve Bank's economic forecasts, this does not factor in the additional stimulus to date from the bank's unconventional measures.

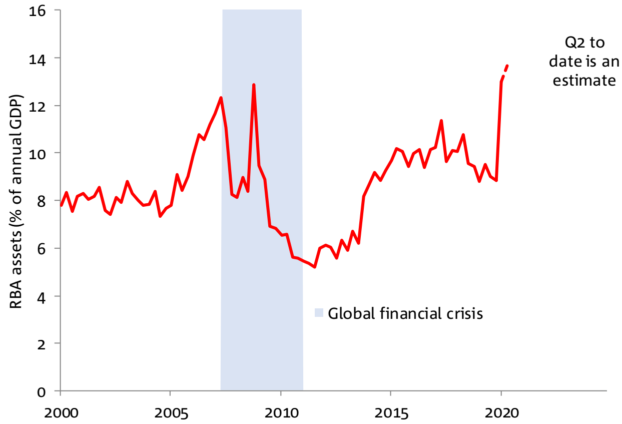
International research suggests that unconventional policy as measured by a 1% increase in the size of a central bank's balance sheet as a share of GDP can boost growth by about 0.2pp. On the strong assumption that the same holds for Australia, the near-5pp increase in the Reserve Bank's balance sheet from the end of last year could boost growth by about 1pp. The Reserve Bank's MARTIN model suggests that a 125bp rate cut is needed to boost growth by about 1pp. With the cash rate currently at 0.25%, this suggests that recent unconventional measures have had the same effect as if the Reserve Bank had cut the cash rate to -1%.

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 Ferrrero (2012), Chung, Hess, Laforte, 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

Chart 5: The expansion of the balance sheet has roughly the same effect as cutting the cash rate to -1%



Source: Australian Bureau of Statistics, Reserve Bank of Australia, National Australia Bank

The outlook is highly uncertain, but this analysis suggests further policy stimulus may be needed

The economy has recovered earlier than expected as success in containing the virus allowed governments to ease health restrictions sooner than the Commonwealth's original September estimate. That said, the outlook remains highly uncertain with new infections rising in Victoria, the international border remains closed for the time being and the pandemic deteriorating across much of the USA.

This analysis suggests that the Reserve Bank's economic forecasts – which incorporate the government's record fiscal stimulus – still point to the need for further policy assistance. This could take the form of further fiscal stimulus and definitely argues for avoiding an abrupt withdrawal of the major labour market support policies in late September, as advocated by Governor Lowe. The government will announce its decision on these policies in its 23 July economic and fiscal update, but the treasurer has previously indicated that he is open to extending the JobKeeper wage subsidy in a narrower form. It is less clear whether the government will increase the base payment for the JobSeeker unemployment benefit, at least in a meaningful way. It would seem sensible for the government to fashion transition arrangements to ensure support is not abruptly removed.

As for monetary stimulus, Governor Lowe has repeatedly rejected the option of a negative cash rate raised by some market participants, mainly because of its potential negative effect on the banking sector. Instead, Lowe has continued to point to fiscal policy as the first port of call, which is not surprising given the Commonwealth's balance sheet remains in good shape.

If there is an abrupt withdrawal of fiscal support in late September, it would be a set-back to the unfolding economic recovery, when it already seems likely it will take a long time for the economy to return to pre-pandemic levels, absent a medical treatment.

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CALENDAR OF ECONOMIC RELEASES

Country	Economic Indicator	Period	Forecast	Consensus	Actual	Previous	GMT	AEST
Monday 29 June 2020								
EC	Consumer Confidence	Jun F		--		-14.7	8.00	19.00
UK	BOE's Bailey speaks at climate financial risk forum			--		--	8.30	19.30
GE	CPI YoY	Jun P		0.5		0.6	11.00	22.00
Tuesday 30 June 2020								
JN	Jobless Rate	May		2.8		2.6	22.30	9.30
JN	Industrial Production YoY	May P		-23.1		-15	22.50	9.50
CH	Manufacturing PMI	Jun		50.4		50.6	0.00	11.00
CH	Non-manufacturing PMI	Jun		53.5		53.6	0.00	11.00
NZ	ANZ Business Confidence	Jun F		--		-33	0.00	11.00
AU	Payrolls	13-Jun		--		--	0.30	11.30
AU	Private Sector Credit MoM	May	0	0		0	0.30	11.30
AU	RBA's Debelle speaks on the Reserve Bank's policy actions and balance sheet			--		--	1.30	12.30
UK	GDP YoY	1Q F		-1.6		-1.6	5.00	16.00
EC	CPI Core YoY	Jun P		0.8		0.9	8.00	19.00
EC	CPI Estimate YoY	Jun		-0.1		0.1	8.00	19.00
CA	GDP MoM / YoY	Apr		-10.5 / -16		-7.2/ -5.8	11.30	22.30
US	Conf. Board Consumer Confidence	Jun		90		86.6	13.00	0.00
UK	BOE's Cunliffe speaks on central banking and COVID-19			--		--	13.00	0.00
US	Fed's Williams speaks on central banking and COVID-19			--		--	14.00	1.00
US	Fed's Powell and Mnuchin testify before house financial panel			--		--	15.30	2.30
Wednesday 01 July 2020								
NZ	QV House Prices YoY	Jun		--		7.7	16.00	3.00
AU	AiG Perf of Mfg Index	Jun		--		41.6	21.30	8.30
NZ	Building Permits MoM	May		--		-6.5	21.45	8.45
JN	Tankan Large Mfg Index	2Q		-31		-8	22.50	9.50
AU	CoreLogic House Px MoM	Jun		--		-0.5	23.00	10.00
AU	Building Approvals MoM	May	-17	-6		-1.8	0.30	11.30
CH	Caixin China PMI Mfg	Jun		50.6		50.7	0.45	11.45
AU	Commodity Index SDR YoY	Jun		--		-7.4	5.30	16.30
GE	Unemployment Claims Rate SA	Jun		6.4		6.3	6.55	17.55
EC	Markit Eurozone Manufacturing PMI	Jun F		46.9		46.9	7.00	18.00
US	ADP Employment Change	Jun		3000		-2760	11.15	22.15
US	ISM Manufacturing	Jun		49		43.1	13.00	0.00
US	Construction Spending MoM	May		1		-2.9	13.00	0.00
US	FOMC Meeting Minutes	Jun 10		--		--	17.00	4.00
Thursday 02 July 2020								
NZ	Emploment indicators	31 May		--		--	23.00	10.00
AU	Trade Balance	May	6000	9000		8800	0.30	11.30
EC	Unemployment Rate	May		7.6		7.3	8.00	19.00
US	Trade Balance	May		-52		-49.4	11.30	22.30
US	Unemployment Rate	Jun		12.5		13.3	11.30	22.30
US	Change in Nonfarm Payrolls	Jun		3000		2509	11.30	22.30
US	Average Hourly Earnings YoY	Jun		5.5		6.7	11.30	22.30
US	Durable Goods Orders	May P		10.5		15.8	13.00	0.00
US	Factory Orders	May		8		-13	13.00	0.00
Friday 03 July 2020								
AU	AiG Perf of Construction Index	Jun		--		24.9	21.30	8.30
AU	Retail Sales MoM	May	16	16		-17.7	0.30	11.30
CH	Caixin China PMI Services	Jun		53.7		55	0.45	11.45
GE	Markit Germany Services PMI	Jun F		45.9		45.8	6.55	17.55
Upcoming Central Bank Interest Rate Announcements								
Australia, RBA		Jul 7	0.25	0.25		0.25		
Japan, BoJ		Jul 15	-0.10	-0.10		-0.10		
Europe, ECB		Jul 16	-0.50	-0.50		-0.50		
US, Federal Reserve		Jul 29	0/0.25	0/0.25		0/0.25		
UK, BOE		Aug 6	0.10	0.10		0.10		
New Zealand, RBNZ		Aug 12	0.25	0.25		0.25		

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

FORECASTS

Economic Forecasts

	Annual % change				Quarterly % change															
					2019				2020				2021				2022			
Australia Forecasts	**2019**	**2020**	**2021**	**2022**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
Household Consumption	1.4	-7.8	2.8	3.2	0.4	0.3	0.1	0.5	-1.1	-11.4	1.5	3.2	1.5	1.0	0.6	0.8	0.6	1.0	0.7	0.8
Underlying Business Investment	-1.7	-22.3	-11.6	7.9	0.8	-0.2	-1.7	-1.5	-1.0	-21.2	-7.2	-6.1	-1.8	4.3	2.7	1.7	1.4	2.0	1.3	2.0
Residential Construction	-6.9	-14.4	-4.4	12.8	-1.7	-3.5	-0.7	-4.1	-1.7	-7.6	-5.4	-3.4	-0.5	1.6	2.9	3.6	3.6	3.2	2.5	1.8
Underlying Public Spending	4.9	4.7	3.8	3.1	1.1	1.7	1.8	0.4	1.5	1.1	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8
Net Exports (a)	0.9	2.9	-1.1	-0.9	0.2	0.6	0.1	-0.1	0.5	3.6	-0.5	-0.7	-0.3	-0.3	-0.2	-0.3	-0.2	-0.3	-0.2	-0.2
Inventories (a)	-0.2	-0.8	1.3	0.0	0.0	-0.4	0.1	0.2	-0.2	-2.4	1.6	1.3	0.1	0.1	-0.1	0.0	0.0	0.1	-0.1	0.0
Domestic Demand (q/q %)	--	--	--	--	0.3	0.4	0.4	0.2	-0.5	-8.7	0.2	1.4	1.0	1.2	0.9	1.0	0.9	1.1	0.9	0.9
Dom Demand (y/y %)	1.3	-6.2	1.4	4.0	1.2	1.3	1.2	1.3	0.5	-8.6	-8.8	-7.7	-6.3	3.8	4.6	4.2	4.1	4.0	3.9	3.9
Real GDP (q/q %)	--	--	--	--	0.5	0.6	0.6	0.5	-0.3	-8.6	2.1	3.1	0.7	0.9	0.6	0.7	0.6	0.9	0.6	0.7
Real GDP (y/y %)	1.8	-4.3	2.9	2.8	1.7	1.6	1.8	2.2	1.4	-7.9	-6.5	-4.1	-3.1	7.0	5.4	2.9	2.8	2.7	2.8	2.8
CPI headline (q/q %)	--	--	--	--	0.0	0.6	0.5	0.7	0.3	-2.0	1.6	0.7	0.4	0.2	0.3	0.3	0.1	0.2	0.5	0.8
CPI headline (y/y %)	1.6	0.7	1.6	1.2	1.3	1.6	1.7	1.8	2.2	-0.4	0.6	0.5	0.6	2.9	1.6	1.3	1.0	0.9	1.1	1.6
CPI underlying (q/q %)	--	--	--	--	0.2	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.2	0.2	0.1	0.1	0.2	0.4	0.6
CPI underlying (y/y %)	1.4	1.8	1.4	0.8	1.4	1.4	1.5	1.4	1.7	1.7	1.8	1.8	1.8	1.6	1.2	0.9	0.5	0.5	0.7	1.2
Private wages (q/q %)	--	--	--	--	0.5	0.5	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5
Private wages (y/y %)	2.3	1.8	1.2	2.0	2.4	2.3	2.2	2.2	2.1	1.9	1.6	1.3	1.1	1.0	1.3	1.5	1.8	2.0	2.0	2.0
Unemployment Rate (%)	5.1	7.3	7.5	6.4	5.1	5.1	5.2	5.2	5.2	6.8	8.6	8.4	8.3	7.7	7.2	6.9	6.7	6.5	6.3	6.2
Terms of trade	5.1	-2.9	-1.0	0.9	3.3	1.4	0.2	-5.2	2.9	-2.9	0.3	-0.5	-1.3	0.6	1.3	0.6	-0.1	-0.1	-0.1	-0.1
Current Account (% GDP)	0.6	3.7	2.8	1.9	-0.6	1.0	1.4	0.3	1.7	5.2	4.5	3.6	3.0	2.8	2.7	2.6	2.3	2.0	1.8	1.5

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

Exchange Rate Forecasts

	29-Jun	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21
Majors						
AUD/USD	0.689	0.70	0.72	0.74	0.74	0.75
NZD/USD	0.64	0.64	0.66	0.67	0.68	0.69
USD/JPY	107.1	109	109	109	109	108
EUR/USD	1.13	1.13	1.15	1.17	1.18	1.19
GBP/USD	1.24	1.27	1.30	1.32	1.33	1.35
USD/CNY	7.08	7.10	7.05	6.95	6.85	6.80
USD/CAD	1.37	1.41	1.39	1.37	1.35	1.30
USD/CHF	0.95	0.97	0.96	0.96	0.95	0.95
Australian Cross Rates						
AUD/NZD	1.07	1.09	1.09	1.10	1.09	1.09
AUD/JPY	73.7	76	78	81	81	81
AUD/EUR	0.61	0.62	0.63	0.63	0.63	0.63
AUD/GBP	0.56	0.55	0.55	0.56	0.56	0.56
AUD/CNY	4.87	4.97	5.08	5.14	5.07	5.10
AUD/CAD	0.94	0.99	1.00	1.01	1.00	0.98
AUD/CHF	0.65	0.68	0.69	0.71	0.70	0.71

Interest Rate Forecasts

	29-Jun	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21
Australian Rates						
RBA cash rate	0.25	0.25	0.25	0.25	0.25	0.25
3 month bill rate	0.10	0.20	0.25	0.30	0.30	0.35
3 Year Swap Rate	0.24	0.25	0.30	0.30	0.30	0.30
10 Year Swap Rate	0.86	0.90	1.05	1.18	1.28	1.38
Offshore Policy Rates						
US Fed funds	0.25	0.25	0.25	0.25	0.25	0.25
ECB deposit rate	-0.50	-0.60	-0.60	-0.60	-0.60	-0.60
BoE repo rate	0.10	0.25	0.25	0.25	0.25	0.25
BoJ excess reserves rate	-0.10	-0.20	-0.20	-0.20	-0.20	-0.20
RBNZ OCR	0.25	0.25	0.25	0.25	0.25	0.25
10-year Bond Yields						
Australia	0.88	0.95	1.05	1.15	1.25	1.35
United States	0.65	0.70	0.80	0.90	1.00	1.10
New Zealand	0.91	0.88	1.03	1.28	1.38	1.63

Sources: NAB Global Markets Research; Bloomberg; ABS

Global GDP

	2019	2020	2021
Australia	1.8	-4.3	2.9
United States	2.3	-6.8	5.3
Eurozone	1.2	-7.5	5.7
United Kingdom	1.4	-8.4	6.4
Japan	0.7	-6.3	3.2
China	6.1	1.0	9.8
India	5.3	-1.5	8.0
New Zealand	2.3	-8.3	4.2
World	3.0	-3.7	6.2

Commodity prices ($US)

	29-Jun	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21
Brent oil	40.2	45	49	53	55	55
Gold	1772	1725	1725	1750	1775	1800
Iron ore	na	93	87	85	90	80
Hard coking coal*	111	115	120	125	140	135
Thermal coal	57	55	59	59	61	62
Copper	5953	5750	6000	6250	6500	6750
Aus LNG**	10	7	7	7	8	8

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

*** Implied Australian LNG export prices*

CONTACT DETAILS

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