13 May 2019

AUSTRALIAN MARKETS WEEKLY

Is employment feeling the effect of a weaker economy?

National Australia Bank

In this issue

To contact NAB's market experts, please click on one of the following links:

Ask the Economists

Ask the FX Strategists

Ask the Interest Rate Strategists

The week ahead – The labour market dominates in Australia

- In Australia, the unemployment rate is the main focus given the RBA emphasised it is the critical input into its decision-making on policy. We expect the unemployment rate to stay at 5%, with a risk it ticks up to 5.1% (mkt: 5.1%). Other labour market indicators are expected to be weak; we forecast weaker employment growth of 5k (mkt: 15k) and annual wages growth remaining low at 2.3% (NAB: 0.5% q/q, mkt: 0.6% q/q). The NAB survey is also due Tuesday. Overseas, China-US trade tensions dominate and will likely overshadow the economic data in both countries.

Analysis – Is employment feeling the effect of a weaker economy?

- With the RBA downgrading its outlook, the Board has highlighted that "a further improvement in the labour market was likely to be needed for inflation to be consistent with the target".
- Given the importance of the labour market to the RBA, we have estimated a cyclical/structural split of employment. This shows that the housing downturn and weaker growth is having an effect on the labour market, with cyclical employment falling over the past year.
- The impact on total employment has been offset by a boom in structural employment, but we think this is overstated given implausible strength in public administration hiring. For this reason, we are downplaying the cyclical/structural split of employment, at least until we see whether employer data on industry employment provide more robust estimates.
- We think that the Reserve Bank would hold a similar view, where it is likely to continue to focus on the unemployment rate rather than the industry mix of employment in judging the health of the labour market.

Analysis – Does knowing about people joining and leaving the labour force survey help us forecast unemployment?

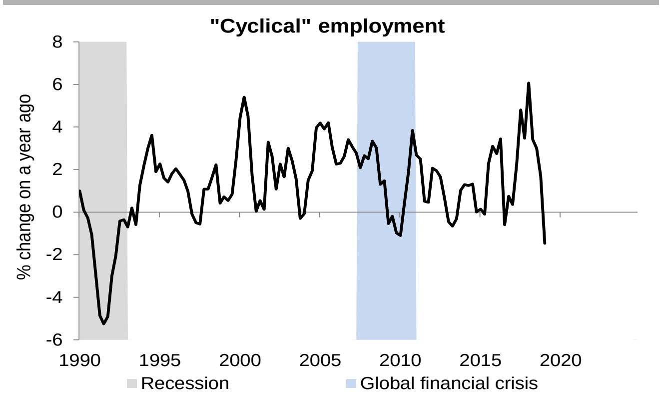
- Economists, including NAB, have used detailed information on the characteristics of people joining and leaving the labour force survey to help forecast the monthly unemployment rate.
- Unfortunately, analysing the track record of this approach finds it offers no help in forecasting the monthly labour force numbers. This is because people joining the survey often change their answers over time, perhaps to avoid further questions and shorten the time taken to respond to the survey.

Key markets over the past week

	Last	% chg week		Last	bp/% chg week
AUD	0.6978	-0.2	RBA cash	1.50	0
AUD/CNY	4.79	1.1	3y swap	1.36	1
AUD/JPY	76.6	-1.1	ASX 200	6,291	0.1
AUD/EUR	0.621	-0.4	Iron ore	93	2.0
AUD/NZD	1.060	0.3	WTI oil	61.7	-0.9

Source: Bloomberg

Chart of the week: Cyclical employment is falling



Kieran Davies, Kaixin Owyong

Is employment feeling the effect a weaker economy?

- With the RBA downgrading its outlook, the Board has highlighted that "a further improvement in the labour market was likely to be needed for inflation to be consistent with the target".
- Given the importance of the labour market to the RBA, we have estimated a cyclical/structural split of employment. This shows that the housing downturn and weaker growth is having an effect on the labour market, with cyclical employment falling over the past year.
- The impact on total employment has been offset by a boom in structural employment, but we think this is overstated given implausible strength in public administration hiring. For this reason, we are downplaying the cyclical/structural split of employment, at least until we see whether employer data on industry employment provide more robust estimates.
- We think that the Reserve Bank would hold a similar view, where it is likely to continue to focus on the unemployment rate rather than the industry mix of employment in judging the health of the labour market.

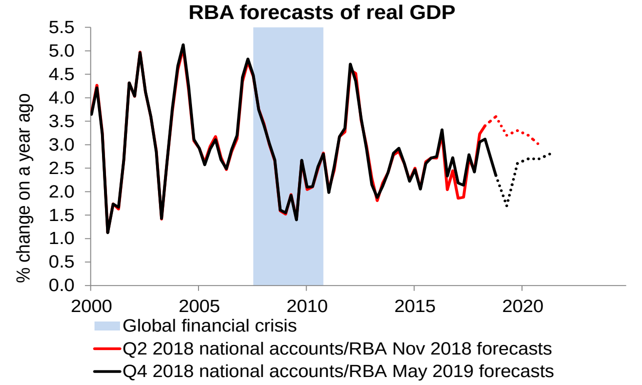
Weak growth and very low inflation have seen the RBA shift from a tightening bias to an easing bias

There has been a significant shift in Reserve Bank's view on the economy and monetary policy over the past six months, with the bank significantly downgrading its outlook and gradually shifting from a tightening bias to an easing bias.

- The trigger for dropping the tightening bias was the Q4 national accounts, which showed that the economy barely grew in the second half of last year.
- More recently, the shift to an easing bias was caused by the Q1 CPI, which showed annual underlying inflation had eased to 1.6%, almost matching the multi-decade low of 1.5% reached in 2016.

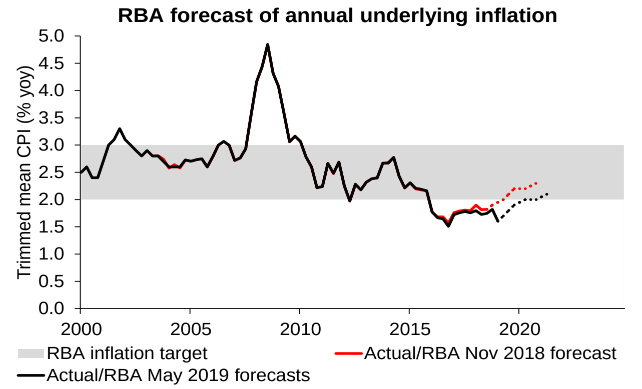
Factoring in the weaker data, the Reserve Bank now thinks that GDP growth won't reach its 2.5% estimate of potential growth until late 2018, while underlying inflation won't return to the bottom of the 2-3% target band until the first half of 2020.

Chart 1: Weak Q4 GDP triggered a large reassessment by the RBA on its outlook for growth



Note: The Reserve Bank forecasts are for Q2 and Q4 each year. We have interpolated between these forecasts to construct Q1 and Q3 forecasts.
Source: Australian Bureau of Statistics, Reserve Bank of Australia, National Australia Bank

Chart 2: Very low Q1 underlying saw the RBA again push back its forecast return to the 2-3% target band



Note: The Reserve Bank forecasts are for Q2 and Q4 each year. We have interpolated between these forecasts to construct Q1 and Q3 forecasts.
Source: Australian Bureau of Statistics, Reserve Bank of Australia, National Australia Bank

The labour market has been a key hurdle for an immediate rate cut

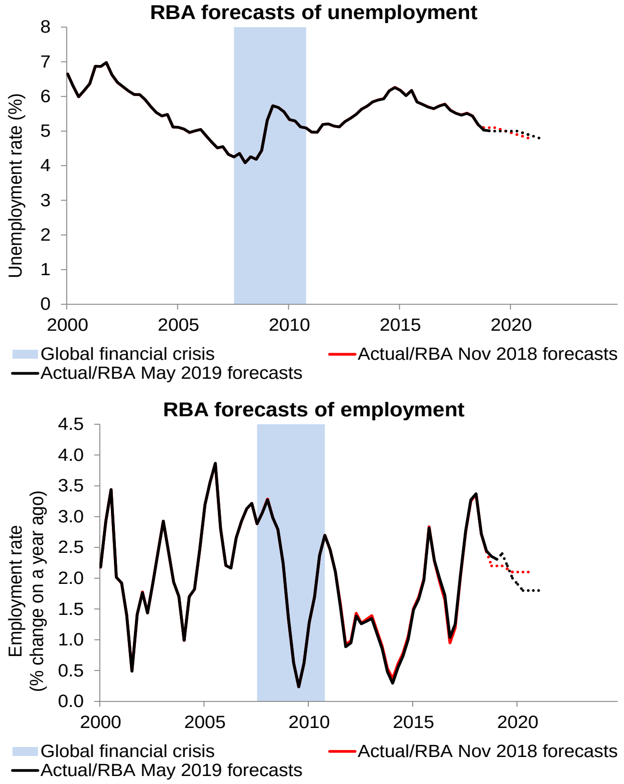
Ordinarily, the combination of significantly below-trend growth and the prospect of marking four years in a row of missing the target band might see the Reserve Bank switch from a tightening bias to actually cutting the cash rate.

However, an important factor that has kept the Reserve Bank on hold is the strength of the labour market. Employment growth remains solid, where annualised growth was 2.5% in Q1, little changed from the second half of last year. Unemployment has been stable at around 5% for just over six months now.

The Reserve Bank expects labour market conditions to remain solid. The bank anticipates a relatively mild slowdown in employment growth, with growth still expected to be solid at 2% by end-2019 and 1.8% through 2020 and into 2021.

More importantly, the Reserve Bank has made little change to its outlook for the unemployment rate, which is expected to hold at 5.0% until mid 2020, edging down to 4.9% by end 2020 and 4.8% by mid 2021.

Chart 3: The change to the RBA's forecasts of unemployment is minor and employment growth is still expected to be solid



Note: The Reserve Bank forecasts are for Q2 and Q4 each year. We have interpolated between these forecasts to construct Q1 and Q3 forecasts.
Source: Australian Bureau of Statistics, Reserve Bank of Australia, National Australia Bank

The RBA needs a further improvement in the labour market for inflation to pick up, no longer arguing there is no "strong case" to adjusting policy in the near term

The labour market remains critical to the Bank's thinking on monetary policy. In the May interest rate decision statement, the Board acknowledged that there is "still spare capacity in the economy and that a further improvement in the labour market was likely to be needed for inflation to be consistent with the target", adding that it "will be paying close attention to developments in the labour market at its upcoming meetings".[1]

This message was repeated, albeit in a more awkward fashion, in the May Statement on Monetary Policy, where the Board "concluded that the ongoing subdued rate of inflation suggests that a lower rate of unemployment is achievable while also having inflation consistent with the target", such that it "will be paying close attention to developments in the labour market at its upcoming meetings".[2]

All this makes the obvious point that the labour market – particularly the unemployment rate given that the Bank believes it is the best summary indicator of the state of the labour market – has the greatest bearing on policy at the moment and will determine the timing of a rate cut.

This interpretation is reinforced by the fact that the May Statement on Monetary policy dropped an earlier reference to it "not [seeing] a strong case to adjust the cash rate in the near term", which was included in the February statement and repeated as late as the minutes of the April Board meeting.[3]

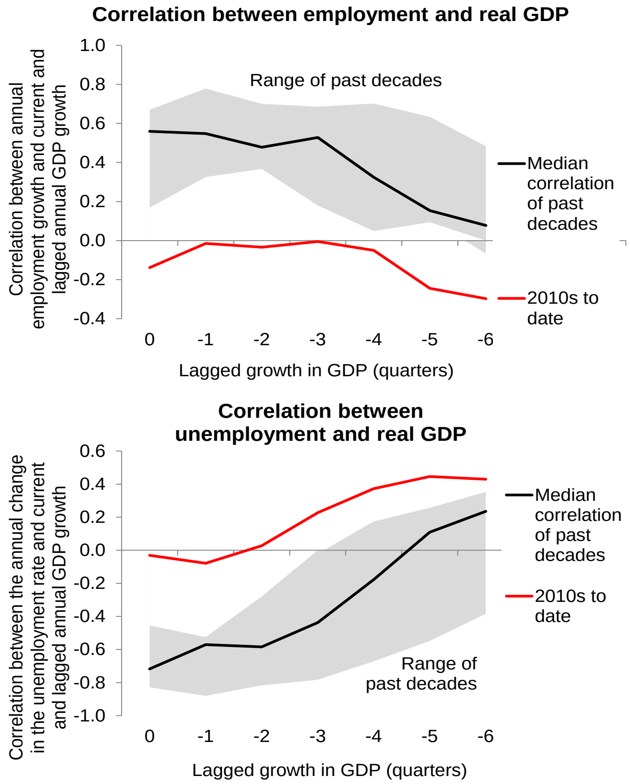
In this context, we have been forecasting a 25bp rate cut in July and another in November given that we have a weaker economic outlook than the Reserve Bank, but the first cut could come at any meeting in the next three months depending on how the labour market data print, including the forward indicators of labour demand.

We constructed measures of cyclical and structural employment to judge whether weak GDP growth was affecting the labour market

Given the importance of the labour market to policy, we have examined the industry split of employment to get a better understanding of why the labour market is yet to show the impact of weaker growth.

This built on earlier work exploring the divergence between growth and the labour market. That analysis found that the correlation between growth and the labour market had broken down over the decade to date, partly because potential growth had declined over time.[4]

Chart 4: Our earlier work found that the correlation between the labour market and current and lagged GDP growth has broken down



Note: The median correlation is the median of the correlations calculated for each decade from the 1960s to the 2000s.
Source: Australian Bureau of Statistics, Reserve Bank of Australia, National Australia Bank

[1] See Reserve Bank of Australia Media Release, *Statement by Philip Lowe, Governor: Monetary policy decision*, 7 May 2019.
[2] See the overview of Reserve Bank of Australia, *Statement on monetary policy*, May 2019.
[3] See Reserve Bank of Australia, *Statement on monetary policy*, February 2019 and *Minutes of the monetary policy meeting of the Reserve Bank Board*, 2 April 2019.
[4] See Australian Markets Weekly, *GDP is a poor shorthand guide to the labour market; watch job vacancies and the NAB survey instead*, 1 April 2019.

The approach we took was simple, classifying employment in an industry as:

- "Cyclical" if there was a statistically significant correlation between annual growth in employment and either current or lagged annual growth in real GDP; or
- "Structural" employment if there was no correlation with either current or lagged growth in real GDP.

We calculated the correlations over the period from 1990 to 2018, so as to cover the last recession, using the 19-industry split of employment from the labour force survey given its longer history.

This approach assumed the breakdown in the correlation between GDP and total employment over this decade reflects changing industry shares of employment, not changing industry-level correlations.

Mindful of this strong assumption, the cyclical/structural split of employment is shown in Table 1, where:

- **Cyclical industries** span: (1) healthcare and social services, which are the largest industry in household services; (2) most business services except for professional services; (3) all of goods; and (4) retail trade, which is the largest part of goods distribution.
- **Structural industries** are: (1) all other household services; (2) professional services and administration in business services; (3) all of other goods distribution; and (4) public administration.

Table 1: Estimated cyclical employment spans goods, most business services, health and retail trade

(as at Q2 2018 to Q1 2019)		Cyclical Mn	Structural Mn	Total Mn	Cyclical % total	Structural % total	Total % total
Household services	Hospitality		0.9	0.9		7.1	7.1
	Education		1.0	1.0		8.1	8.1
	Health etc	1.7		1.7	13.3		13.3
	Recreation and art		0.2	0.2		2.0	2.0
	Other services		0.5	0.5		3.9	3.9
	Total	1.7	2.7	4.3	13.3	21.0	34.3
Business services	Professional services		1.1	1.1		8.6	8.6
	Admin		0.4	0.4		3.3	3.3
	Real estate services	0.2		0.2	1.7		1.7
	IT	0.2		0.2	1.8		1.8
	Finance	0.4		0.4	3.5		3.5
	Total	0.9	1.5	2.4	7.0	11.8	18.9
Goods	Farm	0.3		0.3	2.6		2.6
	Mining	0.2		0.2	2.0		2.0
	Manufacturing	0.9		0.9	7.3		7.3
	Utilities	0.1		0.1	1.2		1.2
	Construction	1.2		1.2	9.2		9.2
	Total	2.8	0.0	2.8	22.2	0.0	22.2
Goods distribution	Retail trade	1.3		1.3	10.1		10.1
	Wholesale trade		0.4	0.4		3.0	3.0
	Transport & storage		0.6	0.6		5.1	5.1
	Total	1.3	1.0	2.3	10.1	8.1	18.2
Public admin.			0.8	0.8		6.6	6.6
Total		**6.7**	**6.0**	**12.7**	**52.7**	**47.5**	**100.0**

Source: Australian Bureau of Statistics, National Australia Bank

Cyclical employment is falling, while structural employment is booming

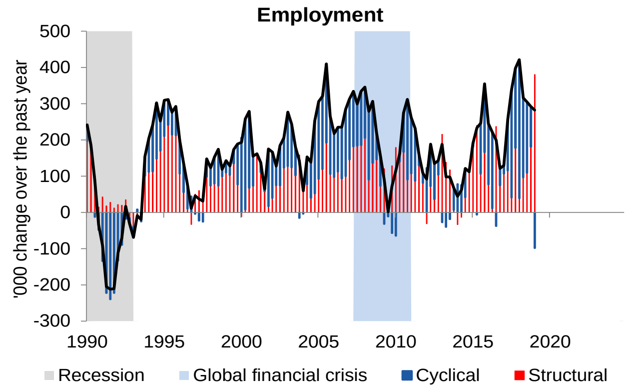
Comparing total cyclical and structural employment:

- Cyclical employment is falling on an annual basis, down 1.5% (or almost 100k) over the past year. This is largest decline since the early 1990s recession, eclipsing the 1.1% decline in the global financial crisis. The fall mainly reflects lower employment in manufacturing, construction, and retail trade.
- Structural employment is booming on an annual basis, up 6.6% (or 380k) over the past year. This is the second-fastest growth rate for the 35 years for which we have data, surpassed only by 7% growth in 1995.

  This strength reflects outsized gains in public administration and professional services.

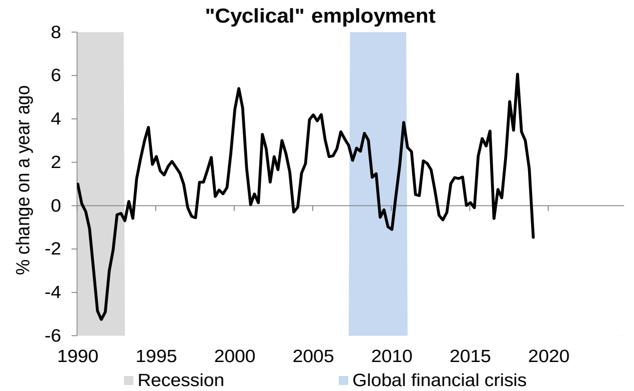
The fact that this simple measure of cyclical employment is declining suggests that the downturn in housing and weak GDP is being reflected in the labour market. However, our confidence in this finding is low given the implausible strength in structural employment.

Chart 5: The estimated split of cyclical and structural employment



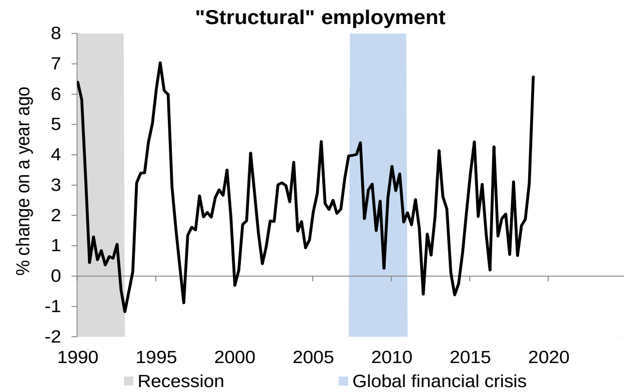
Source: Australian Bureau of Statistics, Melbourne Institute, National Australia Bank

Chart 6: Estimated cyclical employment is falling



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

Chart 7: Estimated structural employment is booming

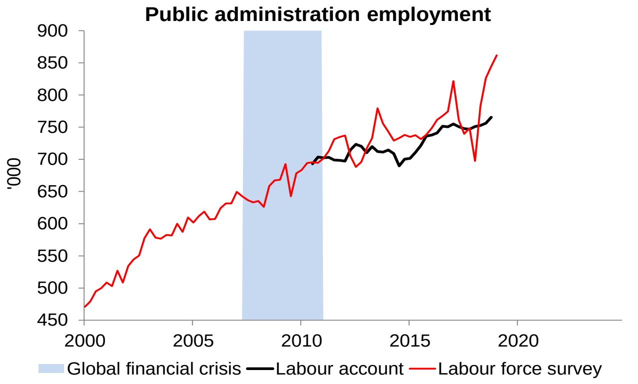


Source: Australian Bureau of Statistics, Melbourne Institute, National Australia Bank

This doubt centres on the measurement of public administration employment, which is up a record 24% over the past year (or over 160k) after falling by 15% in the year to Q1 2018. This volatility is hard to believe, particularly when alternative, employer-based measures of employment in the sector do not show such extreme swings.

This problem points to structural employment not being as strong as we measured, while cyclical employment is not as weak. We plan to see if the employer-based industry data on employment from the labour accounts might provide a more accurate split of jobs, although the downside to these relatively new estimates is that they are published with a lag and can be revised.

Chart 8: The extreme volatility in the labour force survey measure of employment is hard to believe



Note: The labour account relies on employer data on employment, while the labour force survey polls employees.
Source: Australian Bureau of Statistics, Melbourne Institute, National Australia Bank

Cyclical employment is falling, while structural employment is booming

Our analysis suggests that the weaker economy is being reflected in the labour market, but that this effect is not large enough at this point to drive total employment. Unfortunately, though, we cannot measure this impact with any precision given the uncertainty surrounding the industry split of employment derived from the labour force survey.

For this reason, we would downplay the cyclical/structural split of employment, at least until we see whether employer data on industry employment provide more robust estimates.

We think that the Reserve Bank would hold a similar view, where it is likely to continue to focus on the unemployment rate rather than the industry mix of employment in judging the health of the labour market.

kieran.davies@nab.com.au

Does knowing about people joining and leaving the labour force survey help us forecast unemployment?

- The labour market data has come under increased scrutiny with the RBA emphasising its importance for monetary policy.
- Economists, including NAB, have used detailed information on the characteristics of people joining and leaving the labour force survey to help forecast the monthly unemployment rate.
- Unfortunately, analysing the track record of this approach finds it offers no help in forecasting the monthly labour force numbers. This is because people joining the survey often change their answers over time, perhaps to avoid further questions and shorten the time taken to respond to the survey.

Forecasting monthly employment and unemployment is difficult

The labour force survey is a key release for both the Reserve Bank and financial markets, but forecasting monthly employment and unemployment is difficult given the volatility of the numbers.

One, more technical approach that is sometimes used to forecast unemployment exploits information on the survey sample. We have occasionally used this approach to judge the risk to our own forecasts, but on closer inspection we have found that this approach offers no additional assistance.

A primer on the ABS's labour force survey

As background to the survey, every month the ABS polls around 26,000 households, covering around 50,000 people. Each household is surveyed on their labour market experience for eight successive months.

In order to refresh the survey, every month a new "rotation group" of households is added, while the oldest rotation group of households who have been in the survey for eight months leaves, resulting in roughly an eighth of the sample rotating in and an eight of the sample rotating out.

In the monthly write-up of the labour force survey, the ABS publishes "insights from the original data". This provides information about the employment and unemployment characteristics of both people entering the survey as part of the new rotation group and people leaving the survey *next month* in the outgoing rotation group.

These insights are the data used by economists to help forecast the monthly labour force data. For example, if the unemployment rate of the people leaving the survey is higher (lower) than the headline unemployment rate, then it might point to the risk that unemployment will fall (rise) next month.

Certainly in the past, we've taken this approach, treating large differences in the unemployment rate of the outgoing group relative to the overall unemployment rate as a risk to our monthly forecast.

Outgoing rotation groups tend to have a lower unemployment rate, lower participation and lower employment rate.

Assessing this approach, we found that it fell short. The information on the labour market characteristics of the people leaving the survey proved a red herring, in that it wasn't correlated with next month's published unemployment rate.

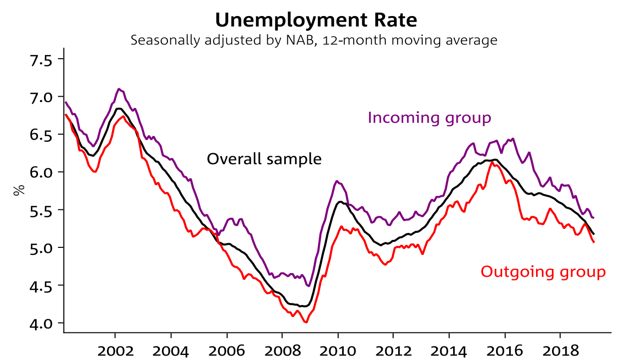
To test the usefulness of the approach, we looked at its track record. To do this we constructed historical series for the key characteristics of the incoming and outgoing rotation groups, seasonally adjusting the numbers to get a better sense of the trend over time.

These series showed clear biases, where people joining the survey tended to report higher unemployment, higher participation rates and higher employment-to-population ratios than people who were leaving the survey.

These differences were large and suggest to us that people are changing their responses, perhaps to avoid further questions and shorten the time taken to respond to the survey.

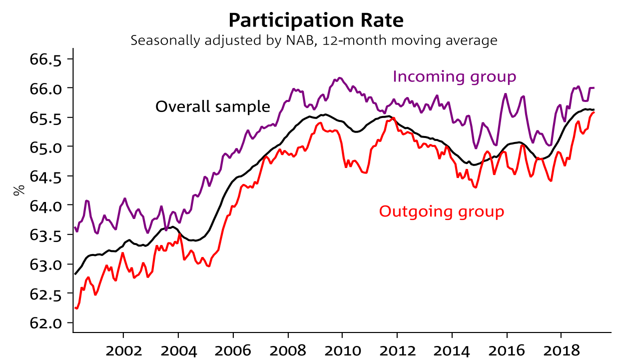
Focusing on the unemployment rate, the people leaving the survey each month near always reported that they had a lower unemployment rate than the average across the whole sample. Outgoing groups also tended to have lower participation and employment-to-population ratios.

Chart 9: The outgoing rotation group tends to have a lower unemployment rate



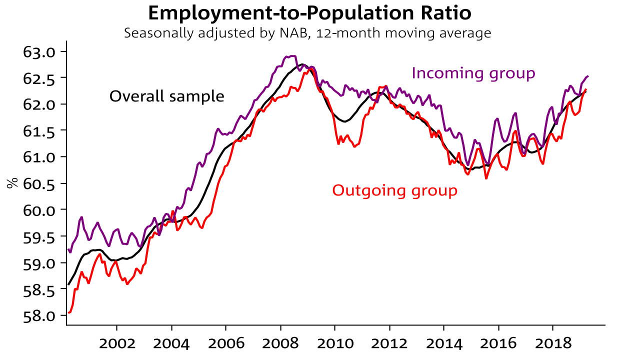
Source: National Australia Bank, ABS

Chart 2: The outgoing group tends to have a lower participation rate



Source: National Australia Bank, ABS

Chart 3: The outgoing group tends to have a lower employment-to-population ratio

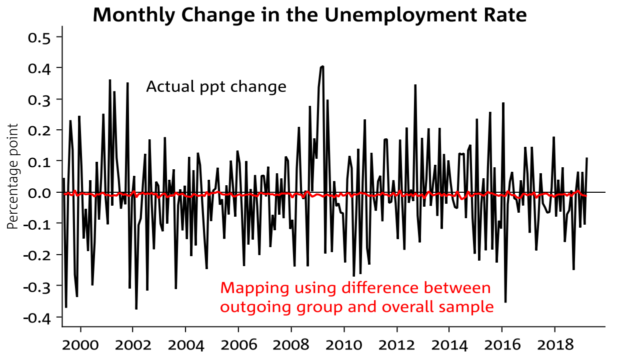


Source: National Australia Bank, ABS

The characteristics of the outgoing group are not correlated with the unemployment rate

Testing whether the gap between the unemployment rate of the outgoing group and the overall unemployment rate helped forecast next month's unemployment rate, we found no evidence of a relationship. Refining the analysis by concentrating on those instances where the gap between the outgoing group and overall sample average did not help.

Chart 4: The difference between the outgoing group and the overall sample doesn't help forecast the unemployment rate



Source: National Australia Bank, ABS

Looking at the data from a different angle, we looked at whether the characteristics of the people departing the survey were related to the characteristics of the people joining the survey. Unfortunately, we found no correlation, such that knowledge of the characteristics of the outgoing group does not help predict whether a weak or strong rotation group will join the sample.

While it was disappointing that we could not exploit the detail of the survey to help forecast the monthly labour force numbers, the flows in and out of the survey still contain useful information on the state of the labour market, such as whether someone who joins the labour force is more likely to find work or be unemployed, or if a part-time worker might turn full-time. We will look at this aspect of the data in a further note.

kaixin.owyong@nab.com.au

CALENDAR OF ECONOMIC RELEASES

Country	Economic Indicator	Period	Forecast	Consensus	Actual	Previous	GMT	AEST
Monday, 13 May 2019								
AU	RBA's Debelle Speaks on Panel on Libor in Sydney						7.00	17.00
US	Fed's Rosengren, Clarida Makes Remarks at Fed Listens Event						13.05	23.05
Tuesday, 14 May 2019								
NZ	Net Migration SA	Mar				6570	22.45	8.45
NZ	Rents (Stock) Index	Apr	0.3			0.3	22.45	8.45
JN	BoP Current Account Balance	Mar P		3020		2676.8	23.50	9.50
NZ	Finance Minister Pre-Budget Speech						0.30	10.30
AU	NAB Business Conditions / Confidence	Apr		/		7/0	1.30	11.30
GE	CPI MoM / YoY	Apr F		1		1	6.00	16.00
US	Fed's Williams Speaks at SNB/IMF Event in Zurich						7.15	17.15
UK	Jobless Claims Change	Apr				28.3	8.30	18.30
EC	Industrial Production SA MoM / YoY	Mar		-0.3/-0.8		-0.2/-0.3	9.00	19.00
GE	ZEW Survey Current Situation / Expectations	May		6.3/5		5.5/3.1	9.00	19.00
EC	ZEW Survey Expectations	May				4.5	9.00	19.00
US	NFIB Small Business Optimism	Apr		102		101.8	10.00	20.00
US	Fed's George Speaks to Economic Club of Minnesota						16.45	2.45
Wednesday, 15 May 2019								
AU	Westpac Consumer Conf Index	May				100.7	0.30	10.30
AU	Wage Price Index QoQ / YoY	1Q	0.5/2.3	0.6/2.3		0.5/2.3	1.30	11.30
CH	Property Investment YTD YoY	Apr				11.8	2.00	12.00
CH	Fixed Assets Ex Rural YTD YoY	Apr		6.4		6.3	2.00	12.00
CH	Industrial Production YoY	Apr		6.5		8.5	2.00	12.00
CH	Retail Sales YoY	Apr		8.6		8.7	2.00	12.00
GE	GDP SA QoQ / YoY	1Q P		0.4/0.7		0/0.6	6.00	16.00
EC	Employment YoY	1Q P				1.3	9.00	19.00
EC	GDP SA QoQ / YoY	1Q P		0.4/1.2		0.4/1.2	9.00	19.00
US	Retail Sales Advance MoM	Apr		0.2		1.6	12.30	22.30
US	Empire Manufacturing	May		8		10.1	12.30	22.30
CA	CPI NSA MoM / YoY	Apr		0.4/2		0.7/1.9	12.30	22.30
CA	CPI Core- Median YoY%	Apr		2		2	12.30	22.30
CA	CPI Core- Common YoY% / Trim YoY %	Apr		1.8/2.1		1.8/2.1	12.30	22.30
US	Industrial Production MoM	Apr		0		-0.1	13.15	23.15
US	Fed's Barkin Speaks to Economists in New York						16.00	2.00
US	Total Net TIC Flows	Mar				-21.6	20.00	6.00
Thursday, 16 May 2019								
JN	PPI YoY	Apr		1.1		1.3	23.50	9.50
AU	Consumer Inflation Expectation	May				3.9	1.00	11.00
AU	Employment Change / Unemployment Rate	Apr	5/5	15/5		25.7/5	1.30	11.30
AU	Participation Rate	Apr	65.6	65.7		65.7	1.30	11.30
AU	RBA's Bullock Gives Speech on Payments Platform in Sydney						2.45	12.45
EC	Trade Balance SA	Mar		19.36		19.5	9.00	19.00
CA	Manufacturing Sales MoM	Mar		1.5		-0.2	12.30	22.30
US	Building Permits	Apr		1290		1269	12.30	22.30
US	Philadelphia Fed Business Outlook	May		9		8.5	12.30	22.30
US	Fed's Kashkari Discusses Monetary Policy and the Economy						16.05	2.05
UK	BOE's Jonathan Haskel speaks in York						17.30	3.30
Friday, 17 May 2019								
NZ	RBNZ Deadline for Submissions on Bank Capital Plan						17 May	
NZ	BusinessNZ Manufacturing PMI	Apr				51.9	22.30	8.30
EC	CPI YoY	Apr F		1.7		1.4	9.00	19.00
UK	BOE's Alex Brazier speaks in London						12.00	22.00
US	Leading Index	Apr		0.2		0.4	14.00	0.00
US	U. of Mich. Sentiment / Expectations	May P		97.5/		97.2/87.4	14.00	0.00
US	Fed's Williams Meets With Community Leaders						15.15	1.15
Upcoming Central Bank Interest Rate Announcements								
Canada, BoC		29-May	1.75%	1.75%		1.75%		
Australia, RBA		4-Jun	1.5%	1.5%		1.5%		
Europe, ECB		6-Jun	-0.4%	-0.4%		-0.4%		
US, Federal Reserve		19-Jun	2.25-2.5%	2.25-2.5%		2.25-2.5%		
UK, BOE		20-Jun	0.75%	0.75%		0.75%		
Japan, BoJ		20-Jun	-0.1%	-0.1%		-0.1%		
New Zealand, RBNZ		26-Jun	1.50%	1.5%		1.5%		

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

FORECASTS

Economic Forecasts

	Annual % change			Quarterly % change															
				2017				2018				2019				2020			
Australia Forecasts	**2018**	**2019**	**2020**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
Household Consumption	2.6	2.2	2.2	0.4	0.7	0.7	1.0	0.4	0.9	0.3	0.4	0.6	0.7	0.5	0.5	0.5	0.6	0.6	0.6
Underlying Business Investment	1.4	1.7	5.2	3.4	0.2	3.9	0.2	0.9	-1.1	-1.8	0.4	0.2	1.6	1.4	1.7	0.9	1.6	0.6	1.3
Residential Construction	4.4	-7.8	-8.1	-4.1	-0.1	-1.4	0.9	3.4	2.2	0.5	-3.4	-2.1	-3.0	-2.9	-2.1	-2.1	-1.8	-1.9	-0.9
Underlying Public Spending	5.1	5.6	4.5	1.3	1.3	1.1	0.7	1.6	0.6	2.5	1.4	1.4	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Exports	5.0	2.5	2.3	-2.2	2.9	0.8	-1.4	4.1	1.3	-0.1	-0.7	1.1	1.3	1.0	0.5	0.4	0.5	0.3	0.6
Imports	4.2	1.7	3.5	2.8	0.1	3.2	1.0	1.8	0.6	-1.0	0.1	0.6	1.0	0.8	0.9	0.8	1.0	0.8	1.0
Net Exports (a)	0.2	0.2	-0.2	-1.0	0.6	-0.5	-0.5	0.5	0.1	0.2	-0.2	0.1	0.1	0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Inventories (a)	0.0	-0.1	0.0	0.4	-0.7	0.3	0.1	0.1	0.1	-0.3	0.2	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0
Domestic Demand - qtr%				0.7	0.8	0.9	0.8	0.9	0.7	0.5	0.3	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.7
Dom Demand - ann %	3.0	1.9	2.4	2.2	2.5	3.5	3.3	3.4	3.3	2.9	2.5	1.7	1.6	2.0	2.3	2.3	2.3	2.4	2.5
Real GDP - % q/q				**0.4**	**0.8**	**0.6**	**0.6**	**1.1**	**0.8**	**0.3**	**0.2**	**0.6**	**0.8**	**0.6**	**0.5**	**0.5**	**0.6**	**0.5**	**0.6**
Real GDP - % y/y	2.8	2.1	2.2	**2.2**	**2.1**	**2.8**	**2.4**	**3.1**	**3.1**	**2.7**	**2.3**	**1.9**	**1.8**	**2.2**	**2.5**	**2.4**	**2.1**	**2.1**	**2.1**
CPI headline - qtr %				0.5	0.2	0.6	0.6	0.4	0.4	0.4	0.5	0.1	0.5	0.7	0.8	0.5	0.6	0.6	0.7
CPI headline - ann %	1.9	1.7	2.6	2.1	1.9	1.8	1.9	1.9	2.1	1.9	1.8	1.4	1.6	1.8	2.1	2.6	2.6	2.6	2.5
CPI underlying - qtr %				0.5	0.6	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.5
CPI underlying - ann %	1.8	1.8	2.3	1.8	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.6	1.6	1.8	2.0	2.2	2.3	2.4	2.2
Wages (Pvte WPI - qtr %				0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Wages (Pvte WPI - ann %)	2.1	2.5	2.7	1.8	1.8	1.9	1.9	1.9	2.1	2.1	2.3	2.4	2.4	2.5	2.6	2.6	2.7	2.7	2.8
Unemployment Rate (%)	5.3	5.0	5.2	5.9	5.6	5.5	5.4	5.5	5.6	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.2	5.2
Terms of trade	1.5	-1.1	-0.3	5.4	-5.9	-0.1	-0.1	3.1	-1.1	0.9	3.1	0.3	-1.2	-2.2	-1.3	-0.4	-0.9	0.4	-0.2
G&S trade balance, $Abn	22.1	29.0	8.9	6.6	3.3	1.0	-1.3	4.1	3.8	5.8	8.4	9.5	8.6	6.4	4.4	3.6	2.0	2.0	1.3
% of GDP	1.2	1.5	0.4	1.5	0.7	0.2	-0.3	0.9	0.8	1.2	1.7	1.9	1.8	1.3	0.9	0.7	0.4	0.4	0.2
Current Account (% GDP)	-2.1	-1.7	-2.7	-1.6	-2.4	-2.8	-3.4	-2.3	-2.5	-2.3	-1.5	-1.3	-1.4	-1.9	-2.3	-2.4	-2.7	-2.7	-2.9

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

Exchange Rate Forecasts

	13-May	Jun-19	Sep-19	Dec-19	Mar-20
Majors					
AUD/USD	**0.6970**	0.70	0.73	0.75	0.76
NZD/USD	**0.6574**	0.67	0.69	0.70	0.70
USD/JPY	**109.75**	113	110	108	107
EUR/USD	**1.1229**	1.13	1.14	1.16	1.18
GBP/USD	**1.3010**	1.33	1.35	1.38	1.40
USD/CHF	**1.0103**	0.98	0.99	0.97	0.98
USD/CAD	**1.3442**	1.33	1.33	1.27	1.25
USD/CNY	**6.8650**	6.85	6.68	6.60	6.50
Australian Cross Rates					
AUD/NZD	**1.0602**	1.04	1.06	1.07	1.09
AUD/JPY	**76.5**	79	80	81	81
AUD/EUR	**0.6207**	0.62	0.64	0.65	0.64
AUD/GBP	**0.5357**	0.53	0.54	0.54	0.54
AUD/CNY	**4.7849**	4.80	4.88	4.95	4.94
AUD/CAD	**0.9369**	0.93	0.97	0.95	0.95
AUD/CHF	**0.7042**	0.69	0.72	0.73	0.74

Interest Rate Forecasts

	13-May	Jun-19	Sep-19	Dec-19	Mar-20
Australia Rates					
RBA Cash rate	**1.50**	1.50	1.25	1.00	1.00
3 month bill rate	**1.64**	1.60	1.35	1.20	na
3 Year Swap Rate	**1.36**	1.45	1.35	1.35	1.40
10 Year Swap Rate	**1.98**	2.08	2.08	2.08	2.20
Offshore Policy Rates					
US Fed funds	**2.50**	2.50	2.50	2.50	2.50
ECB deposit rate	**-0.40**	-0.40	-0.40	-0.40	-0.20
BoE repo rate	**0.75**	0.75	0.75	1.00	1.00
BoJ excess reserves rate	**-0.10**	-0.10	-0.10	-0.10	-0.10
RBNZ OCR	**1.50**	1.50	1.50	1.25	1.25
China 1yr lending rate	**4.35**	4.35	4.35	4.35	4.35
China Reserve Ratio	**13.5**	12.5	12.0	12.0	12.0
10-year Benchmark Bond Yields					
Australia	**1.72**	1.90	1.90	1.90	2.00
United States	**2.44**	2.60	2.70	2.80	2.80
New Zealand	**1.80**	3.10	3.20	3.30	3.40

Sources: NAB Global Markets Research; Bloomberg; ABS

Global GDP

Dec year	2015	2016	2017	2018	2019	2020	20 Yr Avge
Australia	2.5	2.8	2.4	2.8	2.1	2.2	3.4
US	2.9	1.6	2.2	2.9	2.1	1.8	2.6
Eurozone	2.0	1.9	2.5	1.8	1.2	1.6	1.5
UK	2.3	1.8	1.8	1.4	1.3	1.6	2.4
Japan	1.3	0.6	1.9	0.8	0.5	0.7	0.8
China	6.9	6.7	6.9	6.6	6.3	6.0	9.2
India	8.2	7.1	6.7	7.3	7.1	7.2	6.6
New Zealand	3.5	3.9	3.1	2.8	2.4	2.6	3.0
World	3.5	3.3	3.8	3.7	3.5	3.5	3.5
MTP Top 5	4.1	3.7	4.3	4.0	3.5	3.4	5.0

Commodity prices ($US)

	13-May	Jun-19	Sep-19	Dec-19	Dec-20
Brent oil	71.1	68	68	70	75
Gold	1282	1300	1300	1310	1380
Iron ore	95	88	79	76	69
Met coal	n.a.	193	178	170	152
Thermal coal	n.a.	82	85	90	93
Copper	6108	6250	6400	6300	6225
Aust LNG (*)	n.a.	11.9	11.9	11.9	12.1

(*) Implied Australian LNG export prices.

CONTACT DETAILS

Market Economics

David de Garis
Director, Economics
+61 3 8641 3045
david.degaris@nab.com.au

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

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

Markets Research

Ivan Colhoun
Chief Economist, Markets and 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