



# AUSTRALIAN MARKETS WEEKLY

## Stock market valuations - how overvalued?

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- This week, we are reproducing a thematic piece on US stock market valuations written by Tapas Strickland, Markets Strategist from our London Office. Please email us if you would also like to receive such thematic pieces.
- By last Thursday, the S&P500 had fallen -7.1% since 3 October. (The market had an uneven bounce on Friday.) Is this a minor correction or will it become something larger? While we do not pretend to have that answer (timing is difficult), it is clear the stock market is expensive on most metrics especially given the cost of capital is being re-priced as interest rates rise.
- How overvalued? Using a valuation framework by the San Francisco Fed, stocks are 13-27% “overvalued” on a Cyclically Adjusted P/E ratio basis. There are many caveats, but it is safe to conclude that as yields rise stocks will be incrementally adjusting (and vice-versa).
- If a stock market correction were to occur, it would prompt the Fed to pause along its path. How long the Fed chooses to pause will be determined by the magnitude of the decline in stocks, and whether it spills over to other sectors of the economy.
- A mild correction is unlikely to faze the Fed and there is a notion that the ‘Powell Put’ for stocks has a lower strike than under Yellen or Greenspan, particularly given how easy financial conditions are and how strong growth is. It is also because of inherent strength in the US economy that we think it is too early to call an equity market correction. A sharper correction (closer to -20%) would be different. The Fed would need to evaluate what the economic implications are from the financial channels, and whether the equity market is actually signalling something more sinister on the horizon rather than being about valuations (especially so given the Fed is closer to neutral than before; neutral being seen at 2.50-3.00%).
- The AUD/USD opens this week just above 0.71, it’s “climb back” to that level as much a reflection is just how short speculative positioning in the AUD and NZD are currently, shorts in the NZD at record extremes, the AUD now not too far behind. The market is very long US dollars. US bond yields closed marginally higher on Friday.
- If the AUD/USD presently is more sensitive to good news, then Thursday’s Labour Force report for September could be the tonic. NAB looks for a higher-than-consensus 30K gain in employment (consensus 15K) and a decline in the unemployment rate to 5.2%. See our What to Watch for more details or [Ask the Economists](#). Wednesday’s speech from RBA Deputy Governor Debelle on the labour market will also be closely watched along with tomorrow’s RBA Board Minutes.
- Offshore, the US earnings season gets underway in earnest, valuations already lofty and with the attractiveness of current earnings yields being tested by the increase in US bond yields. China releases its Q3 GDP on Friday along with its September month economic activity reports. GDP is expected to ease from 6.7% to 6.6%. This week is also potentially shaping up as “make or break” week for PM with as yet no deal –especially on the Irish border question – in the lead up to an EU Summit on Thursday.

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

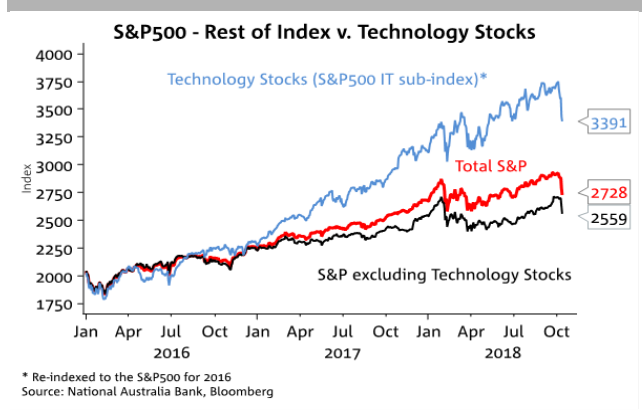
- [Ask the Economists](#)
- [Ask the FX Strategists](#)
- [Ask the Interest Rate Strategists](#)

### Key markets over the past week

	Last	% chg week		Last	bp / % chg week
AUD	0.7107	0.6	RBA cash	1.50	0
AUD/CNY	4.93	1.6	3y swap	2.15	3
AUD/JPY	79.7	-0.4	ASX 200	5,842	-4.2
AUD/EUR	0.615	0.0	Iron ore	69.8	2.4
AUD/NZD	1.093	-0.2	WTI oil	72.3	-2.7

Source: Bloomberg

### Chart of the week: S&P 500 – Tech and other stocks



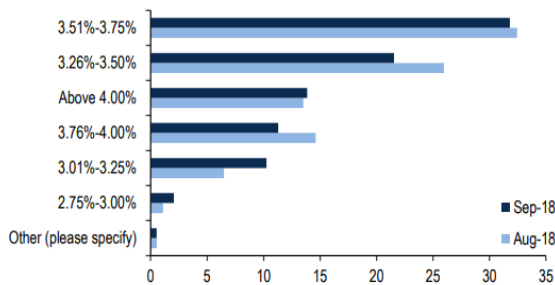
**Equity markets correcting to a higher rate environment**

Equity markets have fallen sharply over recent days. Much of the fall has been led by the IT sub-sector. The tech sector has fallen sharply – partly on reports of a Chip Hack article that is adding to the political pressure on traditional supply chains (e.g. designed in the US and produced in China), and also on questions around the business models of some tech-based companies (e.g. competition, personal data and governance issues).

Those moves disguise the broader thematic factor at play. US interest rates are rising with the Fed hiking three times since last year (and expected to hike a further five times to take the Fed Funds rate to 3.375% by 2020). Quantitative easing is also being unwound by around \$600bn a year, while the US government is ramping up debt issuance (on average \$1.2tn net issuance is now implied each year compared to \$0.7tn previously – that’s a \$600bn increase). In short, liquidity is being withdrawn and stocks need to adjust to a higher rate environment.

**Chart 2: Bond yield equity pain points**

**Exhibit 15: What level of US 10y Treasury yields would cause you to rotate from equities back into bonds?**



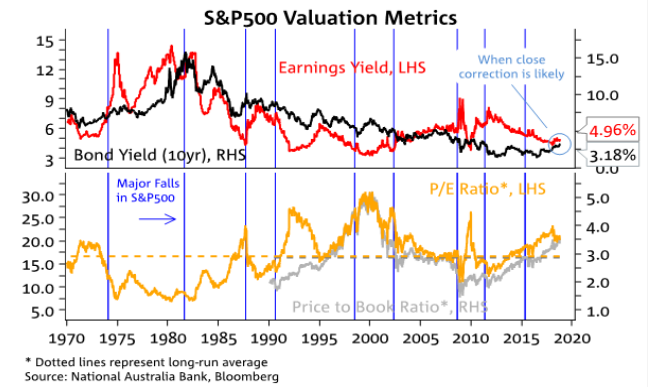
Source: BofA Merrill Lynch Global Fund Manager Survey

It is likely stocks will keep incrementally adjusting alongside moves in bond yields and vice-versa. In terms of a larger adjustment, the latest BofAML Fund Manager Survey has the “pain point” for equities being around 3.5% - at this level fund managers in the survey say they would undertake some rotation from equities back into bonds (Chart 2).

However, attributing the broader theme of a higher rate environment to any specific market moves is difficult. It is also unclear whether the market rout will be enduring – there having been two prior false dawns so far in 2018 and many more before. Headlines of President Trump intending to meet with Chinese President Xi at the November G20 Summit may yet alleviate some pressure on tech stocks and indicate a de facto ‘Trump Put’ for stocks – equities late last week rallying on that news.

While we can’t say much about timing, it is clear stock valuations are stretched on most metrics. We do not claim to have any more insight on valuations here. A number of metrics have been used traditionally to judge whether the stock market is expensive or cheap. Three of those are presented below: the Fed Model; P/E ratio; and P/B ratio. The “Fed Model” compares the earnings yield to the government bond yield and historically when those two are close to crossing, equity markets have tended to correct (Chart 3). P/E ratios and P/B ratios are also common measures and are usually compared to their long-run average levels.

**Chart 3: US equity market valuation metrics**



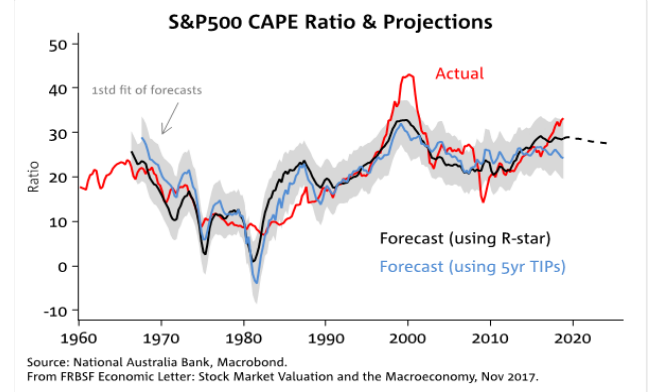
\* Dotted lines represent long-run average  
Source: National Australia Bank, Bloomberg

**Quantifying overvaluation – using the CAPE**

A major limitation of these measures is that they do not take into account the broader thematic factors at play such as higher rates and inflation that drive secular changes in markets. To provide some colour around this, we have updated a model utilised by the San Francisco Fed last year that examined whether the level of the Cyclically Adjusted P/E Ratio (CAPE) can be justified by rates, inflation and potential growth.

To quote from that paper: “The CAPE ratio is computed as the real, that is, inflation-adjusted, value of the S&P 500 divided by the real earnings of companies in the index averaged over the most recent 10 years. Campbell and Shiller found that higher values of the CAPE ratio predicted lower future real returns on stocks over subsequent 10-year periods. As noted in Siegel (2016), the CAPE ratio “has served as one of the best forecasting models for long-term future stock returns.”

**Chart 4: CAPE Ratio outlook**



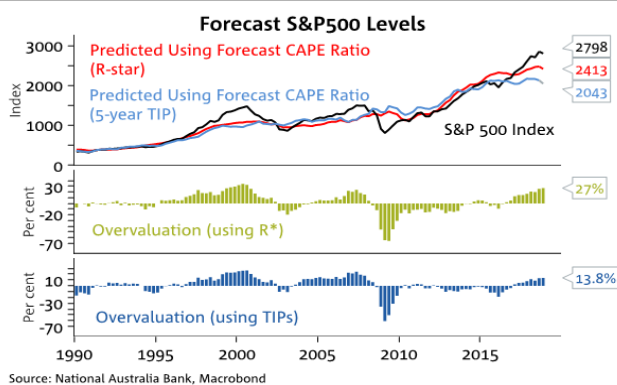
Source: National Australia Bank, Macrobond.  
From FRBSF Economic Letter: Stock Market Valuation and the Macroeconomy, Nov 2017.

To derive an updated equilibrium value for the CAPE ratio over time we replicate the analysis and run a simple regression model based on R\*star, Potential GDP, and Core PCE Inflation (see Lansing 2017 for details). R\* here represents real long-run interest rates and we use two variations: a theoretical version from Laubach and Williams and a market-based measure being the 5-year TIP yield. The models have an R2 of around 0.70 and largely follow the moves in the actual CAPE ratio (Chart 4). We can thus consider the resultant forecast output as a time-varying Equilibrium CAPE ratio that is determined by Potential Growth, Interest Rates and Core PCE Inflation.

The Actual CAPE ratio is currently around one standard deviation away from the Equilibrium estimates using R\* and 5yr TIPs. Historically when valuations become this stretched, a correction has followed. To close this gap without an increase in company earnings would require the S&P500 to fall by around 13.27% (Chart 5). It is also no surprise to see the market-based measure of R\*, the 5-year TIP implying a lower valuation than that implied by the Laubach and Williams R\*. The yield on a 5-year TIP is currently at 1.0% (or 3% nominal when you add in core inflation of 2%).

There are obvious caveats to these estimates. One is that P/E ratios may be permanently higher due to the impact of tax cuts boosting after tax earnings (some think the run-up in stocks after the tax breaks is explained by this), demographic changes mean more money flowing into stocks ahead of retirement, as well as the rise of low cost index trackers/ETFs that may structurally boost equities. Nevertheless, it is safe to conclude that the CAPE ratio analysis implies higher rates should lead to some form of market correction.

Chart 4: S&P 500 forecasts



**Caveat - growth still positive even with higher rates**

Despite S&P500 valuations being stretched, economic conditions in the US remain strong. A global growth indicator can be broadly supported by the economic environment. Nevertheless, as rates continue to rise, it is likely stocks will keep incrementally adjusting as the market re-prices the cost of capital (and vice-versa). The Fed will be watching closely.

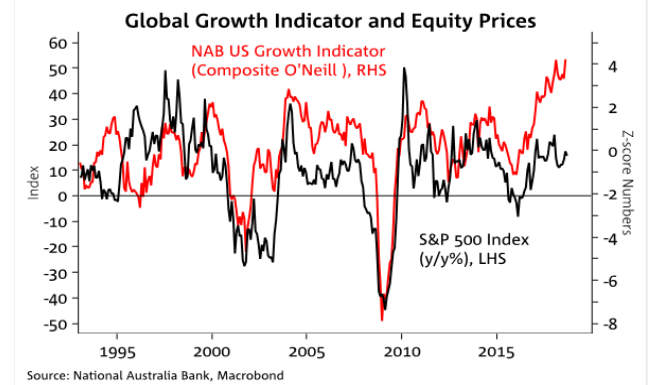
**How will the Fed react?**

How long the Fed chooses to pause after a fall in stocks is determined by the magnitude of the decline and whether there are any signs it spills over to other markets and sectors of the economy.

A mild correction is unlikely to faze the Fed and the falls so far are not of a sufficient magnitude to alter the Fed from their stated hike path – particularly given the

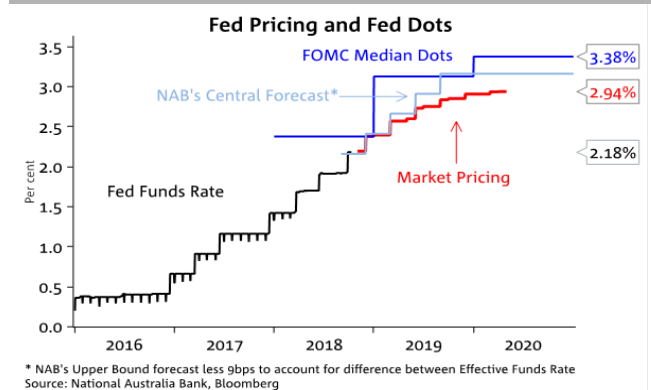
declines have been led by the IT Sector. There is also the notion that the ‘Powell Put’ for stocks has a lower strike than for Yellen or Greenspan. Financial conditions remain easy and growth is extraordinarily strong (it is also because of the inherent strength in the US economy that we think it is too early to call a stock market correction). Markets seem to agree and are still pricing further hikes, with an 80% chance of a December hike and 2.1 hikes are priced for 2019 (Chart 6).

Chart 5: Very strong US growth



A sharper correction (closer to -20%) would be different and no doubt see an extended pause by the Fed as it evaluates the economic implications and whether the equity market is actually signalling something more sinister on the horizon rather than it being about valuations. Given the Fed is closer to neutral than before (neutral estimated at around 2.50-3.00), the policy implications of a major correction are likely to be profound, and may prompt some to think whether policy has already gone into restrictive territory.

Chart 6: Fed reaction



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# CALENDAR OF ECONOMIC RELEASES

Country	Economic Indicator	Period	Forecast	Consensus	Actual	Previous	GMT	AEDT
<b>Monday, 19 November 2018</b>								
CH	Money Supply M2 YoY	Sep		8.3		8.2	15 October to 16 October	
CH	New Yuan Loans CNY	Sep		1358.7		1280	15 October to 16 October	
CH	Foreign Direct Investment YoY CNY	Sep				1.9	15 October to 16 October	
NZ	Performance Services Index	Sep				53.2	21.30	8.30
JN	Industrial Production MoM / YoY	Aug F		/		0.7/0.6	4.30	15.30
US	Empire Manufacturing	Oct		20		19	12.30	23.30
US	Retail Sales Advance MoM / Ex Auto and Gas MoM	Sep		0.6/0.4		0.1/0.2	12.30	23.30
<b>Tuesday, 16 October 2018</b>								
NZ	CPI QoQ / YoY	3Q	0.8/1.8	0.7/1.7		0.4/1.5	21.45	8.45
AU	RBA Oct. Meeting Minutes						0.30	11.30
CH	PPI YoY / CPI YoY	Sep		3.6/2.5		4.1/2.3	1.30	12.30
NZ	RBNZ Sectoral Factor Inflation Gauge						2.00	13.00
UK	ILO Unemployment Rate 3Mths	Aug		4		4	8.30	19.30
EC	Trade Balance SA	Aug		14.7		12.8	9.00	20.00
GE	ZEW Survey Current Situation / Expectations	Oct		74.4/-12		76/-10.6	9.00	20.00
EC	ZEW Survey Expectations	Oct				-7.2	9.00	20.00
US	Industrial Production MoM / Capacity utilisation	Sep		0.2/78.2		0.4/78.1	13.15	0.15
US	Total Net TIC Flows	Aug		60.3		52.2	20.00	7.00
<b>Wednesday, 17 October 2018</b>								
NZ	Dairy Auction Avg. Winning Price MT	16 Oct				2901	early am	
AU	RBA's Debelle gives speech in Sydney on the Labour Market						21.15	8.15
AU	Westpac Leading Index MoM	Sep				0.06	23.30	10.30
EC	EU27 New Car Registrations	Sep				31.2	6.00	17.00
UK	CPI MoM / YoY	Sep		0.3/2.6		0.7/2.7	8.30	19.30
UK	CPI Core YoY	Sep		2		2.1	8.30	19.30
UK	Retail Price Index MoM / YoY	Sep		0.1/3.5		0.9/3.5	8.30	19.30
UK	PPI Output NSA MoM / YoY	Sep		0.2/2.9		0.2/2.9	8.30	19.30
EC	CPI MoM / YoY	Sep		0.5/2.1		0.2/2	9.00	20.00
EC	CPI Core YoY	Sep F		0.9		0.9	9.00	20.00
US	MBA Mortgage Applications	12 Oct				-1.7	11.00	22.00
CA	Manufacturing Sales MoM	Aug		-0.75		0.9	12.30	23.30
US	Housing Starts / Building Permits	Sep		1210/1275		1282/1229	12.30	23.30
US	FOMC Meeting Minutes	26 Sep					18.00	5.00
<b>Thursday, 18 October 2018</b>								
JN	Trade Balance	Sep		-45.1		-444.6	23.50	10.50
AU	Employment Change / Unemployment Rate	Sep	30/5.2	15/5.3		44/5.3	0.30	11.30
AU	Participation Rate	Sep	65.7	65.7		65.7	0.30	11.30
AU	NAB Quarterly Business Survey	3Q					0.30	11.30
UK	Retail Sales Inc Auto Fuel MoM / YoY	Sep		-0.4/3.6		0.3/3.3	8.30	19.30
US	Philadelphia Fed Business Outlook	Oct		20		22.9	12.30	23.30
US	Initial Jobless Claims	13 Oct		210		214	12.30	23.30
US	Fed's Bullard Speaks to Economic Club of Memphis						13.05	0.05
US	Leading Index	Sep		0.5		0.4	14.00	1.00
<b>Friday, 19 October 2018</b>								
NZ	Net Migration SA	Sep				5010	21.45	8.45
JN	Natl CPI YoY	Sep		1.3		1.3	23.30	10.30
JN	Natl CPI Ex Fresh Food YoY	Sep		1		0.9	23.30	10.30
CH	GDP SA QoQ / YoY	3Q		1.6/6.6		1.8/6.7	2.00	13.00
CH	Retail Sales YoY	Sep		9		9	2.00	13.00
CH	Industrial Production YoY	Sep		6		6.1	2.00	13.00
CH	Fixed Assets Ex Rural YTD YoY	Sep		5.3		5.3	2.00	13.00
JN	BOJ Kuroda speaks in Tokyo						6.35	17.35
UK	Public Sector Net Borrowing ex Banking Groups	Sep		4.5		6.8	8.30	19.30
CA	Retail Sales MoM / Ex Auto MoM	Aug		0.4/0.2		0.3/0.9	12.30	23.30
CA	CPI NSA MoM / YoY	Sep		0.1/2.7		-0.1/2.8	12.30	23.30
CA	CPI Core- Common YoY%	Sep		2		2	12.30	23.30
CA	CPI Core- Median YoY% / Trim YoY%	Sep		/		2.1/2.2	12.30	23.30
US	Fed's Kaplan Speaks in New York						13.00	0.00
UK	BOE Governor Carney Speaks in New York						15.30	2.30
US	Fed's Bostic Speaks on Economic Outlook						16.00	3.00
JN	BOJ Amamiya makes a speech in Nagoya						17.00	4.00
<b>Upcoming Central Bank Interest Rate Announcements</b>								
Canada, BoC		24-Oct	1.75%	1.75%		1.5%		
Europe, ECB		25-Oct	-0.4%	-0.4%		-0.4%		
Japan, BoJ		31-Oct	-0.1%	-0.1%		-0.1%		
UK, BOE		1-Nov	0.75%	0.75%		0.75%		
Australia, RBA		6-Nov	1.5%	1.5%		1.5%		
US, Federal Reserve		8-Nov	2-2.25%	2-2.25%		2-2.25%		
New Zealand, RBNZ		8-Nov	1.75%	1.75%		1.75%		

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

# FORECASTS

		Annual % change				Quarterly % change														
		2017	2018	2019	2020	2017			2018			2019			2020					
Australia Forecasts																				
Household Consumption	2.7	2.9	2.5	2.5	0.4	0.9	0.6	1.1	0.5	0.7	0.6	0.5	0.6	0.7	0.7	0.6	0.6	0.6	0.7	0.6
Underlying Business Investment	3.3	3.0	5.0	5.8	3.3	0.0	3.8	0.3	0.7	-0.7	1.3	0.1	2.1	1.5	1.8	1.4	1.2	1.7	1.1	1.3
Residential Construction	-2.2	2.7	-5.3	-1.9	-3.3	-0.2	-1.7	0.3	3.6	1.7	-2.6	-0.3	-2.2	-1.9	-0.9	-1.2	-0.3	0.0	0.3	0.6
Underlying Public Spending	4.5	4.6	4.2	4.5	0.9	1.1	1.6	1.1	1.5	0.6	0.9	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Exports	3.5	5.0	4.8	2.5	-1.6	2.3	1.0	-1.5	3.0	1.1	1.7	1.0	1.4	1.3	0.7	0.7	0.5	0.6	0.4	0.7
Imports	7.8	5.0	3.6	4.9	3.0	0.2	2.3	1.7	1.7	0.4	0.5	0.7	0.9	1.1	1.3	1.2	1.1	1.3	1.2	1.4
Net Exports (a)	-1.0	-0.1	0.1	-0.6	-1.0	0.4	-0.3	-0.7	0.2	0.1	0.2	0.0	0.1	0.0	-0.2	-0.1	-0.2	-0.2	-0.2	-0.2
Inventories (a)	-0.1	0.1	-0.1	0.0	0.5	-0.9	0.4	0.0	0.2	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Domestic Demand - qtr%					0.7	0.8	1.0	0.9	1.0	0.6	0.5	0.6	0.7	0.7	0.8	0.7	0.7	0.8	0.7	0.9
Dom Demand - ann %	3.0	3.2	2.6	3.0	2.3	2.6	3.6	3.4	3.7	3.4	3.0	2.6	2.3	2.4	2.7	2.9	2.9	3.0	3.0	3.1
Real GDP - qtr %					0.4	0.7	0.7	0.7	1.1	0.9	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.7	0.6	0.7
Real GDP - ann %	2.2	3.3	2.7	2.5	1.9	1.9	2.7	2.4	3.2	3.4	3.3	3.2	2.7	2.6	2.7	2.7	2.5	2.5	2.3	2.5
CPI headline - qtr %					0.5	0.2	0.6	0.6	0.4	0.4	0.5	0.5	0.5	0.4	0.6	0.7	0.6	0.6	0.8	0.9
CPI headline - ann %	1.9	2.0	2.0	2.6	2.1	1.9	1.8	1.9	1.9	2.1	2.0	1.9	1.9	1.9	1.9	2.1	2.2	2.5	2.7	2.9
CPI underlying - qtr %					0.4	0.6	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7
CPI underlying - ann %	1.8	1.9	2.0	2.4	1.7	1.8	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.2	2.3	2.5	2.7
Wages (Pvte WPI - qtr %)					0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Wages (Pvte WPI - ann %)	1.8	2.1	2.5	2.7	1.8	1.8	1.9	1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.8
Unemployment Rate (%)	5.6	5.4	5.1	4.9	5.9	5.6	5.4	5.4	5.5	5.5	5.3	5.3	5.2	5.0	5.0	5.0	4.9	4.8	4.8	4.9
Terms of trade	12.2	-0.7	-0.7	0.0	5.2	-5.7	-0.1	-0.1	3.6	-1.3	-1.7	-3.4	-0.8	-1.2	-0.9	0.3	-0.4	0.3	-0.4	0.2
G&S trade balance, \$Abn	10.0	7.4	-12.7	-27.5	6.8	2.9	1.6	-1.4	3.3	2.8	2.3	-1.1	-1.4	-2.5	-4.2	-4.5	-5.6	-6.1	-7.5	-8.2
% of GDP	0.6	0.4	-0.6	-1.3	1.5	0.7	0.4	-0.3	0.7	0.6	0.5	-0.2	-0.3	-0.5	-0.9	-0.9	-1.1	-1.2	-1.5	-1.6
Current Account (% GDP)	-2.6	-3.0	-4.1	-4.8	-1.6	-2.5	-2.8	-3.6	-2.5	-2.9	-3.0	-3.7	-3.7	-4.0	-4.3	-4.3	-4.6	-4.6	-4.9	-5.0

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

Exchange Rate Forecasts						
	15-Oct	Dec-18	Mar-19	Jun-19	Sep-19	Dec-19
<b>Majors</b>						
AUD/USD	0.7107	0.71	0.71	0.72	0.73	0.75
NZD/USD	0.6500	0.65	0.65	0.65	0.66	0.68
USD/JPY	112.21	114	112	110	110	108
EUR/USD	1.1551	1.15	1.18	1.20	1.22	1.25
GBP/USD	1.3103	1.29	1.26	1.28	1.30	1.34
USD/CHF	0.9908	0.99	0.96	0.94	0.95	0.94
USD/CAD	1.3024	1.29	1.27	1.26	1.25	1.25
USD/CNY	6.9220	6.87	6.90	7.10	7.20	7.20

Australian Cross Rates						
	15-Oct	Dec-18	Mar-19	Jun-19	Sep-19	Dec-19
AUD/NZD	1.0934	1.09	1.09	1.11	1.11	1.10
AUD/JPY	79.7	81	80	79	80	81
AUD/EUR	0.6153	0.62	0.60	0.60	0.60	0.60
AUD/GBP	0.5424	0.55	0.56	0.56	0.56	0.56
AUD/CNY	4.9195	4.87	4.90	5.11	5.26	5.40
AUD/CAD	0.9256	0.91	0.90	0.91	0.91	0.94
AUD/CHF	0.7042	0.70	0.68	0.68	0.69	0.71

Interest Rate Forecasts						
	15-Oct	Dec-18	Mar-19	Jun-19	Sep-19	Dec-19
<b>Australia Rates</b>						
RBA Cash rate	1.50	1.50	1.50	1.75	1.75	2.00
3 month bill rate	1.94	1.95	1.95	2.15	2.15	2.40
3 Year Swap Rate	2.15	2.20	2.40	2.75	3.00	3.20
10 Year Swap Rate	2.89	3.05	3.20	3.55	3.70	3.80
<b>Offshore Policy Rates</b>						
US Fed funds	2.25	2.50	2.75	3.00	3.25	3.25
ECB deposit rate	-0.40	-0.40	-0.40	-0.40	-0.20	0.00
BoE repo rate	0.75	0.75	0.75	1.00	1.00	1.25
BoJ excess reserves rate	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10
RBNZ OCR	1.75	1.75	1.75	1.75	2.00	2.25
China 1yr lending rate	4.35	4.35	4.35	4.35	4.35	4.35
China Reserve Ratio	15.5	16.0	16.0	16.0	16.0	16.0
<b>10-year Benchmark Bond Yields</b>						
Australia	2.71	3.00	3.05	3.30	3.40	3.50
United States	3.16	3.25	3.25	3.50	3.50	3.50
New Zealand	2.64	3.10	3.20	3.45	3.60	3.70

Sources: NAB Global Markets Research; Bloomberg; ABS

Global GDP							
Dec year	2015	2016	2017	2018	2019	2020	20 Yr Ave
Australia	2.5	2.6	2.2	3.3	2.7	2.5	3.4
US	2.9	1.5	2.3	2.8	2.3	1.7	2.6
Eurozone	2.1	1.8	2.6	2.1	2.0	1.8	1.5
UK	2.3	1.9	1.8	1.5	1.7	1.6	2.4
Japan	1.4	0.9	1.7	0.9	1.0	0.7	0.8
China	6.9	6.7	6.9	6.5	6.3	6.0	9.2
India	8.2	7.1	6.7	6.8	7.2	6.9	6.6
New Zealand	3.5	4.0	2.8	2.9	2.9	2.7	3.0
World	3.5	3.2	3.8	3.8	3.7	3.5	3.5
MTP Top 5	4.1	3.7	4.2	3.9	3.7	3.1	5.0

Commodity prices (\$US)						
	15-Oct	Dec-18	Mar-19	Jun-19	Sep-19	Dec-19
Brent oil	81.8	72	70	68	67	68
Gold	1218	1305	1327	1331	1344	1368
Iron ore	69.8	60	58	60	62	63
Hard coking coal	214	150	155	145	140	130
Thermal coal	109	93	85	80	75	77
Copper	6319	6825	6875	6950	7050	6900
Aust LNG (*)	14.4	12.3	11.9	11.6	11.4	11.3

(\*) Implied Australian LNG export prices.

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