

Economic Weekly

10 September 2018

Neutral rate drifting lower

This week we explore the recent path of the neutral real interest rate (or Goldilocks rate – not too hot, not too cold) in NZ on Page 2. We find that it has been drifting lower since the Global Financial Crisis, which has implications for a wide variety of New Zealanders. In our Chart of the Week this week, we take a closer look at the recent currency movements of emerging economies. In the week ahead, electronic card transactions are the key local release. Meanwhile offshore, interest rate announcements by the European Central Bank and Bank of England will be closely watched, as will Australian employment data on Thursday.

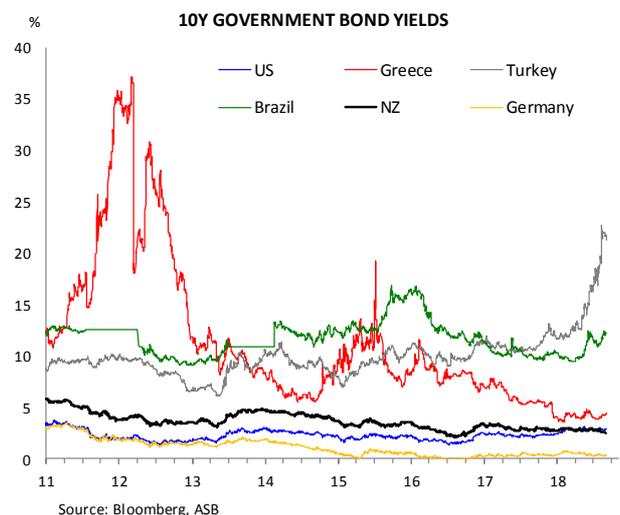
Key events and views

- [Key Insights](#) A summary of recent ASB [research](#) which points to a lower neutral Official Cash Rate (OCR).
- [Foreign exchange](#) The NZD drifted lower last week on elevated trade tensions.
- [Interest rates](#) NZ rates were little changed compared to last week.
- [Domestic events](#) Retail card spending data are due out this week.
- [International events](#) ECB and BoE interest rate announcements; US CPI data and China’s industrial production.
- [Calendars](#) NZ and international calendar of upcoming economic events.

Chart of the Week: Markets more selective, but NZ still looking a good bet

In Page 2, we highlight recent research suggesting that NZ neutral interest rates have been drifting lower. Indeed, NZ wholesale interest rates are hovering around 2-year lows. Of late escalating trade and emerging market tensions have seen some sovereign bond yields spike higher, whilst yields for some of the perceived “safe-havens” remain well supported and at historically-low levels.

To date, New Zealand assets have remained in the safe-haven camp. NZD Government bond yields are below 2.75% and US counterparts for most tenors. Broad-based USD strength has contributed to recent falls in the NZD, which is about 6% lower on a trade-weighted basis since mid-April. The lower NZD, in the context of the close-to-record Terms of Trade, limits the amount of adjustment that interest rates need to do to support the economy.



Key Insights this week: Reassessing the neutral OCR

Key points

- Our estimates suggest the neutral OCR is currently in a 2½% to 3½% range, with a midpoint of just below 3%. This is lower than current RBNZ estimates (around 3½%).
- The neutral rate looks to have displayed a downward trend, which could well continue.
- A lower neutral OCR will have important implications for savers, borrowers, investors and policymakers.

This article summarises key findings from our recent [research](#) on estimating the neutral Official Cash rate.

What are Neutral Interest rates?

Broadly speaking, the neutral cash rate can be thought of as the level of the Official Cash Rate (OCR) that is neither stimulatory nor contractionary for the economy. Some of the influences include productivity growth (positively related to the neutral rate), population growth (+). However, increasing risk aversion since the Global Financial Crisis (GFC) has seen interest rates move structurally lower. There are other more NZ-specific influences, including bank funding costs (-, see chart 2) and the extent to which (typically higher) NZ interest rates will converge to (generally lower) global counterparts. Neutral interest rates are unobservable and difficult to precisely estimate.

Recent estimates

In a cross-country study, the [San Francisco Fed](#) (2016) found that neutral interest rates had fallen over the past 25 years, reaching historically-low levels in the most recent past. The decline in the neutral rate has coincided with reduced estimates of potential growth given population ageing and the slowing in productivity growth that occurred following the 2007-08 GFC. Increasing global risk aversion, magnified by the GFC, may also have dragged down the neutral rate by lifting precautionary savings (see [Blackrock](#) (2017)). The NZ corollary has been the structural widening in bank funding costs that has been observed since the GFC. This has likely lowered the neutral OCR.

The continued trend decline in NZ interest rates has seen

analysts and policymakers adjust down their expectations of the neutral Official Cash Rate (OCR). Most recent RBNZ published [estimates](#), suggest that the neutral OCR was roughly 3.5% in mid-2017, with a 2.5% to 4.5% range. Other RBBZ [estimates](#) suggest that the neutral real short-term interest rates in NZ have been declining since at least the early 1990's.

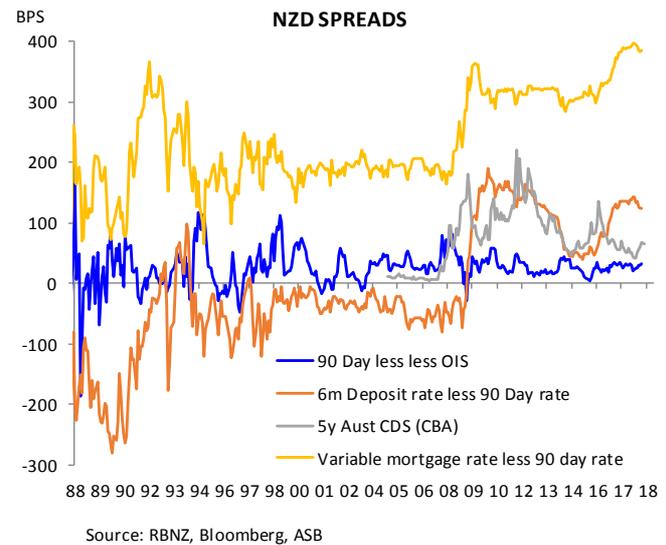
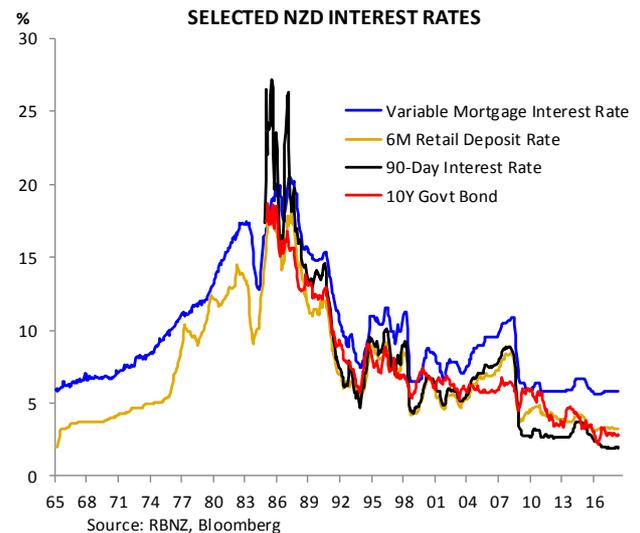


Table 1: Neutral Rate Estimates

	Point Estimate	10 years ago	Real rate	Real rate 1990	Real rate 2007	Real rate 2016
Canada	3.0%	4.0-5.0%	1.0%	3.2%*	2.5%*	1.3%*
US	2.9%	5.0%	0.9%	3.5%*	2.3%*	0.4%*
Australia	3.5%	5.0%	1.0%			
NZ	3.5%	4.9%	1.5%			

Source: ASB, RBNZ, RBA, BOC, FOMC. *[San Francisco Federal Reserve](#).

ASB's estimates of the neutral OCR in NZ

2010 estimates

Using NZ, Australia and US data, our 2010 [note](#) decomposed the nominal neutral interest rate into the neutral real interest rate, expected inflation and a spread between bank funding costs and the OCR. **Our estimates at that time suggested that the neutral nominal OCR rate was around 5%, roughly 1.25% lower than expectations before the GFC.** Updating those estimates now suggests that the **neutral nominal OCR is in a 1.5%-4% zone, well below our 2010 estimates.**

Table 2: ASB Neutral Rate Estimates (2010 approach)

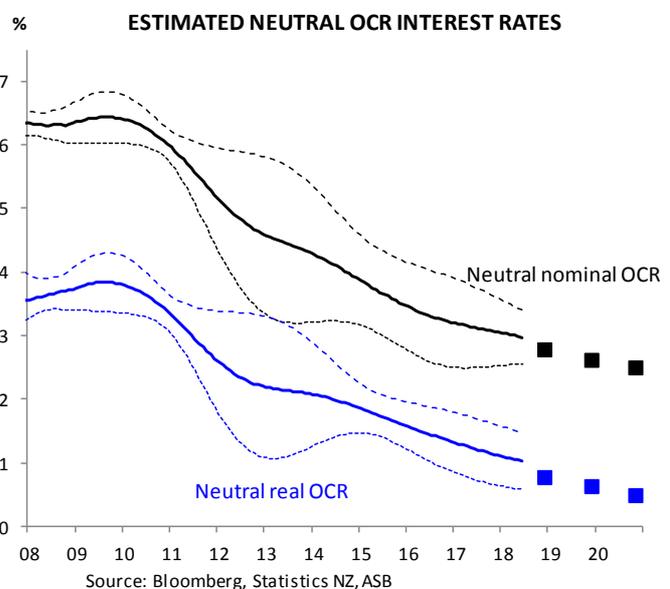
	2010 Estimates (1992-2009)	Current Estimates (1992-)	Current Estimates (2009-)
Real Interest rate	4.1%	3.2%	1.3%
Inflation	2.2%	2.0%-2.2%	1.5%-2.3%
Bank Funding costs	-1.2% to -1.50%*	-1.3% to -1.50*	-1.3% to -1.50*
Neutral nominal OCR	Circa 5.0%	Circa 3.5%-4.0%	Circa 1.5%-2.0%

*post GFC period. Source: ASB, Bloomberg, Statistics NZ, RBNZ.

New approach

We follow the approach outlined by the [RBNZ \(2015\)](#). To abstract from the business cycle effects, we use the NZ Government bond yield curve to back out the trend level of short-term interest rates. We make a small adjustment to our neutral OCR estimates to allow for structural higher bank funding costs. **Our estimates (see chart) suggest that both the nominal and real (inflation-adjusted) OCR has been steadily declining since the GFC, although the rate of decline looks to have flattened out of late.**

Our point estimates for mid-2018 suggest that the **neutral nominal OCR estimate is slightly below 3%, with a neutral real OCR at around 1%.** A 95% confidence interval around the neutral OCR is around 2½% to 3½%. A similar confidence interval for the real OCR would be roughly ½% to 1½%.



Looking ahead

Our estimates suggest that neutral real interest rates in NZ are non-stationary and have been trending lower over the last few years, albeit to a more modest extent than immediately post the GFC. **We view many of the recent developments pushing down NZ interest rates as having a persistent impact. Extrapolating forward current trends could see the nominal OCR approach 2.50% by late 2021, with the real OCR slightly above zero. Confidence intervals around these estimates are reasonably large, with the neutral OCR likely to be anywhere from 2% to 3% in late 2021.**

Table 3: ASB estimates of the Neutral OCR (new approach)

	Neutral real OCR midpoint and range*	Neutral nominal OCR midpoint and range*
Mid 2018	0.50% - 1.00% - 1.50%	2.50% - 3.00% - 3.50%
End 2019	0.25% - 0.75% - 1.0%	2.25% - 2.75% - 3.25%
End 2021	0.25% - 0.50% - 0.75%	2.00% - 2.50% - 3.00%

Source: ASB. *Rounded to the closest 25bp.

As we discuss in our [note](#), a lower neutral OCR will have significant implications for borrowers, savers, asset prices and policymakers that will need to be taken into account.

Foreign Exchange Market

FX Rates	Current*	Week ago	Month ago	Year ago	ST Bias	Support^	Resistance^	MT Bias
NZD/USD	0.6534	0.6618	0.6606	0.7232	FLAT/DOWN	0.6450	0.6650	UP
NZD/AUD	0.9200	0.9205	0.8980	0.8986	FLAT	0.9100	0.9300	FLAT
NZD/JPY	72.55	73.50	73.17	78.36	FLAT/DOWN	71.5	73.6	FLAT/UP
NZD/EUR	0.5656	0.5707	0.5735	0.6016	FLAT	0.5570	0.5740	FLAT
NZD/GBP	0.5056	0.5128	0.5149	0.5521	FLAT	0.4980	0.5130	DOWN
TWI	71.5	72.1	71.4	75.01	FLAT/DOWN	70.5	73.0	FLAT

^ Weekly support and resistance levels * Current as at 9.30am Monday; week ago as at Monday 5pm

NZD Recap

The NZD drifted lower over the week as trade tensions remained elevated for yet another week, with economic data largely taking a back seat as a result. Talk of an additional \$200bn of US tariffs on Chinese exports as well as a lack of progress on US-Canada trade talks weighed on sentiment throughout the week. The NZD dipped to 71.5 on a TWI basis and slipped as low as 0.653 against the USD. Although trade frictions dominated currency movements over the week, strong US economic data on Tuesday (ISM manufacturing index) and Friday (Non-farm Payrolls) added to USD strength. The NZD/AUD ended the week largely unchanged as trade tensions also weighed on the AUD (despite Australia's stronger than expected Q2 GDP result on Wednesday). **Emerging markets also continued to dominate headlines over the week, with emerging market currencies continuing their slide into the weekend.** The Argentine peso fell as much as 7% last week against the USD, but pared losses by the end of the week. The Turkish lira and the Brazilian real also pared losses towards the end of the week, but remain near 2018 lows against the USD. Further, with solid US data reiterating that the US Federal Reserve remains on track to raise interest rates again in September, we expect downward pressure to remain on emerging market currencies.

Near-term outlook

Ongoing trade tensions and short NZD positions are expected to see the NZD continue to trade on the back foot this week. Reports over the weekend that US President, Donald Trump, is contemplating an additional USD267bn tariffs on Chinese goods (on top of the USD200bn mentioned above) is likely to keep market participants on edge. There is also little in the way of major NZ data this week, with attention firmly on next week's Q2 GP release (Thursday). A higher than expected Q2 GDP result could be the catalyst that sends the NZD higher again. However, interest rate announcements from the European Central Bank and Bank of England on Thursday could spark some volatility in currencies. In Australia, business confidence (Tuesday) and employment data (Thursday) could also spark some short-term volatility in AUD crosses.

Medium-term outlook

We now have a stronger USD outlook given the solid US growth outlook, high US Terms of Trade, and the weaker Chinese and emerging market outlook. **We expect the NZD to oscillate in a 65 to 71 US cent range over the forecast period.** Nevertheless, the **NZD TWI should remain broadly supported by a solid growth outlook, our historically-high Terms of Trade and upwardly drifting NZ interest rates. The NZD is expected to remain in a 90-91 Australian cent zone through to the end of next year. We expect the NZD to ease slightly over the projection period relative to EUR.** The European Central Bank is expected to hike rates in September 2019, although slow growth in the Eurozone will limit the extent of ECB tightening. We also expect that Brexit risks will keep the **GBP low against the NZD.** Low inflation is expected to keep the BOJ on hold, **with the NZD/JPY modestly strengthening over the forecast period.**

ASB foreign exchange forecasts (end of quarter)	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19	Mar-20	Mar-21	Mar-21
			<< actual	forecast >>					
NZD/USD	0.71	0.72	0.67	0.66	0.65	0.66	0.68	0.70	0.66
NZD/AUD	0.91	0.94	0.92	0.90	0.90	0.90	0.91	0.90	0.90
NZD/JPY	80	77	74	73	73	74	73	75	74
NZD/EUR	0.59	0.59	0.58	0.58	0.58	0.58	0.55	0.55	0.54
NZD/GBP	0.53	0.51	0.52	0.52	0.52	0.53	0.53	0.54	0.51
NZD TWI	74.3	74.3	72.5	71.8	71.4	71.9	72.3	72.8	70.2

Interest Rate Market

Wholesale interest rates	Current	Week ago	Month ago	Year ago	ST Bias	MT Bias
Cash rate	1.75	1.75	1.75	1.75	FLAT	UP
90-day bank bill	1.90	1.92	1.91	1.95	FLAT/UP	UP
2-year swap	1.98	1.98	1.99	2.15	FLAT/UP	UP
5-year swap	2.30	2.32	2.34	2.58	FLAT	UP
10-year swap	2.82	2.82	2.87	3.08	FLAT/DOWN	UP
10-year govt bond yield	2.54	2.52	2.59	2.75	FLAT	UP
Curve Slope (2s10s swaps)	0.84	0.84	0.88	0.93	FLAT/DOWN	UP

* Current as at 9.30am today; week ago as at Monday 5pm

Market Recap

NZ interest rates start the week little changed compared to a week ago, after oscillating in reasonably narrow ranges. On an outright basis, NZD yields remain close to record lows for short-term tenors: the bellwether 2-year swap at 1.98% remained close to 2-year lows, with the local curve (2s10s) the flattest since around 2016. US and Australian yields were supported by stronger US wage growth, the message from the Fed's Williams that an inverted US yield curve need not be an impediment to the Fed hiking rates, solid Australian GDP (+0.9% qoq versus +0.7% qoq exp) and the message by RBA Governor Lowe that "you could expect the next move in interest rates to be up, and not down". RBNZ Governor Orr's speech was more of the big picture variety and not market relevant. Continued trade frictions and emerging market tensions have kept yields for emerging markets towards the upper part of recent trading ranges.

Near-term NZD interest rate outlook

Given the (downward) global risk profile we retain our flattening bias. We expect that short-term NZD yields will be supported by still-solid domestic momentum evident in the forthcoming data, and may take out some of the close to 12bps of OCR hikes priced in by next August. Key data this week – including the Fed Beige book, US CPI, the Eurozone ZEW survey, Australian employment and Chinese CPI, retail sales and industrial production – could provide some volatility in markets. Market odds are about 95% priced for a September Fed hike, with the decision on September 27, shortly before the September OCR announcement. No change to policy settings is expected from this week's Bank of England (BoE) and European Central Bank (ECB) meetings. We expect that Brexit uncertainty means that the BoE will wait until mid-2019 before it raises rates again. The ECB is widely expected to make no monetary policy changes and look around one year away from beginning the long process of normalising interest rates. US Treasury 10-year yields at 2.94% have moved to the upper part of recent trading ranges, as have European and Australasian yields. There is scope for some retracement if trade and emerging market frictions escalate. NZ longer-term yields are expected to remain in the safe-haven camp and well-supported. **NZD 10-year swap yields – at around 2.82% – are still more than about 40bps above the August 2016 trough, and could move lower if global yields rally.**

Medium-term outlook

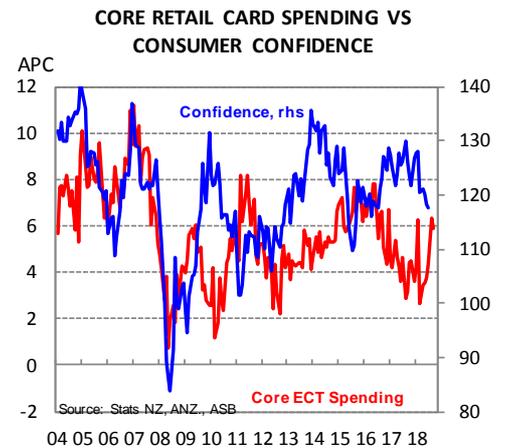
The cautious RBNZ assessment and our low CPI inflation outlook have seen us push out the start of the next expected RBNZ tightening cycle to February 2020. We remain constructive on the economic outlook and do not expect OCR cuts, but if inflationary pressure fails to materialise then eventual OCR increases may be delayed. **We have also revised down our assumed end-point for the extent of RBNZ tightening, with the OCR expected to peak at just 2.75% this cycle** (from August 2021 onwards). **Longer-term NZD rates should also drift higher with global counterparts.** We expect a further 100bps of Fed hikes through to mid-2019, which should see US 10-year Treasury yields move above 3% before year end. NZD swap yields are expected to slowly move above US counterparts, but modest RBNZ tightening and a contained NZ inflation backdrop should cap NZ yields at low levels.

ASB interest rate forecasts (end of quarter)	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19	Mar-20	Mar-21	Mar-22
		<< actual		>> forecast >>					
NZ OCR	1.75	1.75	1.75	1.75	1.75	1.75	2.00	2.50	2.75
NZ 90-day bank bill	1.88	2.0	2.0	1.9	1.9	2.0	2.3	2.7	3.0
NZ 2-year swap rate	2.21	2.2	2.1	2.1	2.1	2.2	2.5	3.0	3.2
NZ 10-year Bond	2.75	2.7	2.9	2.8	3.0	3.1	3.3	3.5	3.6

Major Domestic Events for the week ahead

Data	Date	Time (NZT)	Previous	Market	ASB
Retail Electronic Card Transactions – August, %mom	11/09	10:45 am	0.7	0.5	0.7

We expect another solid monthly outturn for retail ECT spending, with the July boost to lower-to-middle household incomes from the Government’s Families Package and higher fuel prices being the major catalysts. Data from Paymark – one of the major data providers – showed 1%+ mom seasonally-adjusted increases in retail and core spending over August. Higher fuel prices (retail petrol prices are currently hovering around record highs) are expected to further boost fuel spending, with annual spending growth going well into double digits. Apparel and durable retail spending is expected to rebound from July falls and we expect to see modest increases for other components. Over the remainder of 2018 – pending increases in fuel prices – the becalmed nationwide housing market and moderating net immigration are likely to contain core spending growth. If household optimism over the economic outlook continues to wane there, is the risk that retail sales growth slows.



Major International Events for the week ahead*

Data	Date	Time (NZT)	Market	ASB
RBA Asst. Gov. Bullock to speak on household debt	10/09	3:05 pm	-	-
China CPI, August, %yoy	10/09	1:30 pm	2.1	2.2
Japan Current Account Balance, July, ¥bn	10/09	11:50 am	1,900	1,700
Australia Consumer Sentiment, September,	12/09	12:30 pm	-	-
Australia Unemployment Rate, August, %	13/09	1:30 pm	5.3	5.2
ECB Interest Rate Announcement, %	13/09	11:45 pm	0.0	0.0
BoE Interest Rate Announcement, %	13/09	11:00 pm	0.75	0.75
US CPI, August, Headline, %yoy	14/09	12:30 am	2.8	2.8
China Retail Sales, August, %yoy	14/09	2:00 pm	8.8	8.9
China Industrial Production, August, %yoy	14/09	2:00 pm	6.2	6.1
US Retail Sales Advance, August, Headline, %mom	15/09	12:30 am	0.5	0.4

*Originally published by CBA Global Markets Research on Friday 7th September 2018 at 14.05pm.

The **Reserve Bank of Australia's Assistant Governor Bullock is set to speak** on "The Evolution of Household Sector Risks". This speech is likely to include a discussion of household debt levels and developments in housing markets.

We expect **China's consumer inflation** to edge up to 2.2%yoy because of rising food inflation. Fresh vegetable prices have risen because of persistent bad weather. Pork prices continue to recover because an outbreak of African Swine flu has reduced supply. We also anticipate PPI inflation to ease to 4.3%yoy because of a high base effect.

Australian consumer sentiment has lifted this year, running above its long-run average since November 2017. Higher confidence is translating into stronger spending, with the trend rate of growth in retail spending also picking up this year. Strong employment growth is lifting household incomes and is no doubt a driving factor behind higher consumer confidence and stronger spending.

The **pace of jobs growth in Australia** has slowed this year. But a fall in the participation rate had helped bring down the unemployment rate to 5.3%, the lowest since late 2012. The leading indicators of jobs growth are pointing to decent jobs growth in the months ahead. We are expecting a solid 20k increase in jobs in August after last month's small fall. We also expect the unemployment rate to tick down to 5.2%.

We expect **China's retail sales growth** to rebound slightly to 8.9%yoy in August because of resilient domestic demand and higher inflation. An uptick in the official manufacturing PMI also indicates industrial production growth might accelerate to 6.1%yoy in August.

The fall back into deficit for the trade balance in July means **Japan's current account surplus** is dependent on the growing net income surplus.

Another dip in **US petrol prices** mean **headline CPI** will ease slightly to 2.8%yoy in August. A tight labour market is putting modest upward pressure on business costs and selling prices. We expect core inflation to remain at 2.4%yoy.

The ECB is widely expected to make no monetary policy changes. In our view, the ECB is around one year away from beginning the long process of normalising interest rates.

We expect **the Bank of England (BoE) will keep rates on hold.** We believe continuing Brexit-related uncertainty will lead the BoE to wait until mid-2019 before it raises rates again.

Ongoing but modest falls in **US car sales** and petrol prices will cap growth in **headline retail sales.** However, the tax cuts and strong growth in employment are supporting underlying retail sales.

Global Data Calendars

Calendar - Australasia, Japan and China

Date	Time (NZT)	Eco	Event	Period	Unit	Previous	Forecast	
							Mkt	ASB
Mon 10 Sep	~	AU	RBA's Bullock speech in Albury					
	11:50	JN	GDP	Q2 F	q%ch	0.5	0.7	~
	13:30	CH	CPI	Aug	y%ch	2.1	2.1	2.2
Tue 11 Sep	10:45	NZ	Card spending retail	Aug	m%ch	0.7	0.5	0.7
	13:30	AU	NAB business confidence	Aug	~	7.0	~	~
Wed 12 Sep	12:30	AU	WBC consumer conf. index	Sep	Index	103.6	~	~
Thu 13 Sep	10:45	NZ	Food prices	Aug	m%ch	0.7	~	~
	11:50	JN	PPI	Aug	m%ch	0.5	~	~
	13:00	AU	Consumer inflation	Sep	%	4.0	~	~
	13:30	AU	Employment change	Aug	000	-3.9	18	20
Fri 14 Sep	10:30	NZ	BusinessNZ manuf. PMI	Aug	Index	51.2	~	~
	14:00	CH	Retail sales	Aug	y%ch	8.8	8.8	8.9
	14:00	CH	Industrial production	Aug	y%ch	6.0	6.2	6.1
	16:30	JN	Industrial production	Jul F	m%ch	-0.1	~	~

*P = Preliminary

Calendar - North America & Europe

Date	Time (UKT)	Eco	Event	Period	Unit	Previous	Forecast	
							Mkt	ASB
Mon 10 Sep	09:30	UK	Trade balance	Jul	£mn	-1,861	~	~
	09:30	UK	Industrial production	Jul	m%ch	0.4	~	~
	09:30	UK	GDP	Jul	m%ch	0.1	0.2	~
	17:00	US	Fed's Bostic discusses Economic Outlook					
Tue 11 Sep	09:30	UK	ILO unemployment rate 3 mths	Jul	%	4.0	4.0	~
	15:00	US	JOLTS job openings	Jul	~	6,662	~	~
Wed 12 Sep	10:00	EC	Industrial production	Jul	m%ch	-0.7	~	~
	10:00	EC	Employment	Q2	q%ch	0.4	~	~
	14:30	US	Fed's Bullard speaks to CFA Society Chicago					
	19:00	US	U.S. Federal Reserve releases Beige Book					
Thu 13 Sep	00:01	UK	RICS house price balance	Aug	%	4.0	~	~
	12:00	UK	Bank of England Bank rate	Sep	%	0.75	0.75	0.75
	12:45	EC	ECB main refinancing rate	Sep	%	0.0	0.0	0.0
	13:30	EC	ECB President Draghi holds Press Conference in Frankfurt					
	13:30	US	CPI	Aug	m%ch	0.2	0.3	~
	14:30	EC	ECB Publishes Macroeconomic Projections					
	18:15	US	Fed's Bostic gives speech on Economy and Monetary Policy					
Fri 14 Sep	10:00	EC	Trade balance	Jul	€bn	16.7	~	~
	13:30	US	Retail sales advance	Aug	m%ch	0.5	0.5	0.4
	14:15	US	Industrial production	Aug	m%ch	0.1	0.3	~
	15:00	US	Fed's Rosengren speaks at Brookings Conference					
	15:00	US	Uni. of Michigan sentiment	Sep P	Index	96.2	96.1	~

Key Forecasts

ASB NZ economic forecasts	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19	Mar-20	Mar-21	Mar-22
		<< actual	forecast >>						
GDP real - Q%	0.6	0.5	0.9	0.6	0.8				
GDP real - A%	2.9	2.7	2.7	2.7	2.9	3.1	3.0	2.9	2.8
GDP real - AA%	2.8	2.7	2.7	2.7	2.7	2.9	3.0	3.0	2.8
CPI - Q%	0.1	0.5	0.4	0.7	0.4				
CPI - A%	1.6	1.1	1.5	1.7	2.0	2.0	1.5	1.6	2.0
HLFS employment growth - Q%	0.4	0.6	0.5	0.4	0.5				
HLFS employment growth - A%	3.7	3.1	3.7	1.9	2.0	1.8	1.7	1.4	1.2
Unemployment rate - %sa	4.5	4.4	4.5	4.5	4.4	4.4	4.3	4.2	4.1
Annual current account balance as % of	-2.7	-2.8	-3.2	-3.8	-4.1	-3.9	-3.9	-4.1	-4.1

Q% = percentage change on previous quarter

A% = percentage change since same quarter the previous year

AA% = percentage change for year ending quarter since the previous year

ASB interest rate forecasts	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19	Mar-20	Mar-21	Mar-22
(end of quarter)		<< actual	forecast >>						
NZ OCR	1.75	1.75	1.75	1.75	1.75	1.75	2.00	2.50	2.75
NZ 90-day bank bill	1.88	2.0	2.0	1.9	1.9	2.0	2.3	2.7	3.0
NZ 2-year swap rate	2.21	2.2	2.1	2.1	2.1	2.2	2.5	3.0	3.2
NZ 10-year Bond	2.75	2.7	2.9	2.8	3.0	3.1	3.3	3.5	3.6

ASB foreign exchange forecasts	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19	Mar-20	Mar-21	Mar-21
(end of quarter)		<< actual	forecast >>						
NZD/USD	0.71	0.72	0.67	0.66	0.65	0.66	0.68	0.70	0.66
NZD/AUD	0.91	0.94	0.92	0.90	0.90	0.90	0.91	0.90	0.90
NZD/JPY	80	77	74	73	73	74	73	75	74
NZD/EUR	0.59	0.59	0.58	0.58	0.58	0.58	0.55	0.55	0.54
NZD/GBP	0.53	0.51	0.52	0.52	0.52	0.53	0.53	0.54	0.51
NZD TWI	74.3	74.3	72.5	71.8	71.4	71.9	72.3	72.8	70.2

ASB Economics & Research

Chief Economist
Senior Economist
Senior Economist
Senior Rural Economist
Senior Economist, Wealth
Economist
Publication & Data Manager

Nick Tuffley
Mark Smith
Jane Turner
Nathan Penny
Chris Tennent-Brown
Kim Mundy
Judith Pinto

nick.tuffley@asb.co.nz
mark.smith4@asb.co.nz
jane.turner@asb.co.nz
nathan.penny@asb.co.nz
chris.tennent-brown@asb.co.nz
kim.mundy@asb.co.nz
judith.pinto@asb.co.nz

Phone

(649) 301 5659
(649) 301 5657
(649) 301 5853
(649) 448 8778
(649) 301 5915
(649) 301 5661
(649) 301 5660

www.asb.co.nz/economics

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