# Economic Weekly

23 April 2018

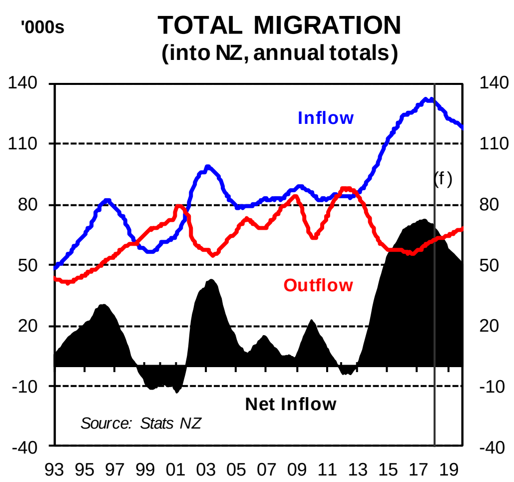
## Exploring NZ labour productivity

The NZ economic outlook is solid, supported by a number of tailwinds including population growth, income growth and low interest rates. However, risks to the outlook remain. One such risk is the potential for labour capacity constraints to slow GDP growth. This week on page 2 we use recently-published productivity data to explore this in more detail. Key local events for the week include Tuesday's travel and migration data (see Chart of the Week) and Fridays' trade balance data. Offshore, trade tensions and remain elevated and are likely to continue to drive market sentiment. Global data this week includes the ECB and BOJ rate announcements on Friday, Australian CPI on Tuesday and US Q1 GDP overnight Friday.

### Key events and views



### Chart of the Week: Net Immigration

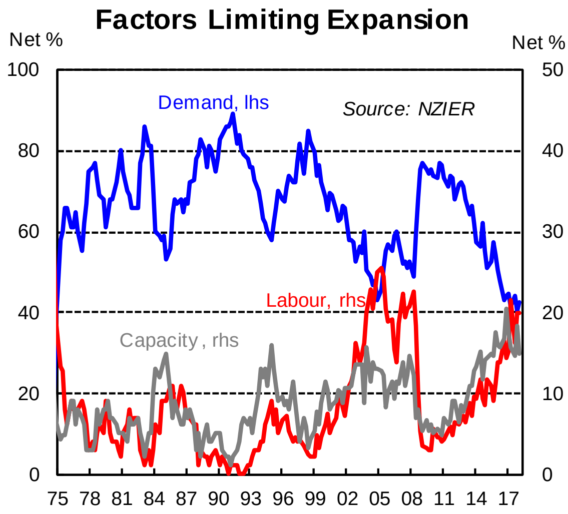



Historically high net immigration is a major source of support to the New Zealand economy, having contributed more than 70% of resident population growth over the last few years. Strong population growth has boosted labour market capacity, but has also placed pressure on housing provision and wider infrastructure. Recent data has signalled a slowdown in migration inflows, with monthly net permanent and long-term (PLT) immigration slowing to a three-year low in February, which saw annual net PLT immigration fall below 70,000 persons for the first time in 17 months. Driving the moderation has been the strengthening in PLT departures from historically low levels. We expect this trend to continue given the strengthening global economy and robust Australian labour market backdrop. While the peak in net immigration is behind us, our expectation is that PLT arrivals will continue to hold up given the solid NZ domestic backdrop and the strong allure of NZ as a safe and secure destination. We expect net immigration of around 60,000 persons over 2018 and 50,000 persons over 2019.

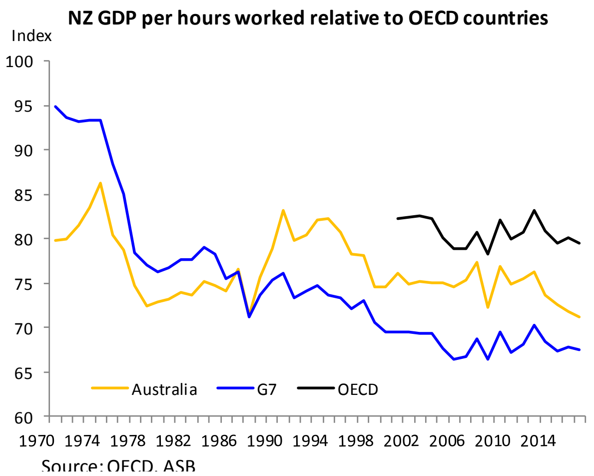
## Key Insights this week: lifting the lid on low productivity

*In the next few weeks we will provide some of the key take outs on research we have been doing on the labour productivity performance of the NZ economy. Here, we take a look at some of the key issues.*

One of the risks facing the economy is that capacity constraints could act to slow the pace of domestic expansion. On a number of conventional measures, the labour market is currently very tight with the unemployment rate at a nine-year low and with labour force participation, the employment rate and surveyed measures of labour shortages at elevated levels. Resources are finite so increasing the amount you can produce with the same inputs (commonly referred to as total factor productivity) is the key to boosting per-capita incomes and overall living standards.

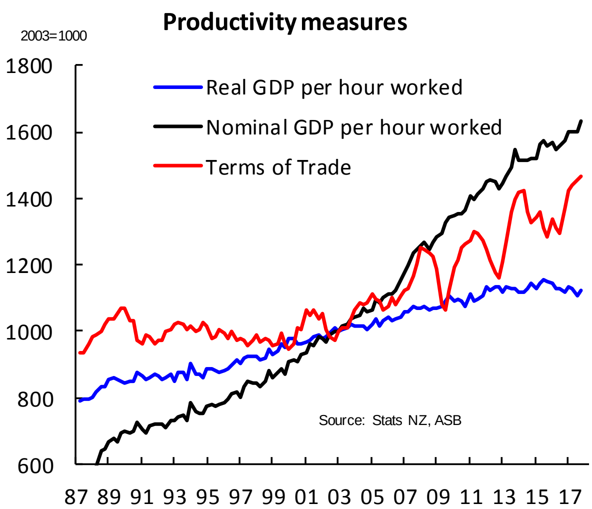



**GDP growth has averaged roughly 3% since the early 1990s.** More than half of this growth is due to increased inputs of labour, with the growth in hours worked averaging roughly 2% per annum. Linked to the latter has been strong growth in the working age population (average of approximately 1½% per annum) and increasing labour utilisation**. Of late the stronger growth in hours worked has depressed aggregate labour productivity, which is still close to 3% below mid 2015 levels.** Annual GDP growth is expected to roughly average 3% over the next couple of years, with the slowing in labour inputs offset by a cyclical strengthening in labour productivity growth.




### How has New Zealand fared globally?

**Our productivity track record has been poor**. Labour productivity (defined as output per hour worked) growth has averaged slightly more than 1% per annum since the early 1990s, well below OECD norms of around 2% per annum. The seeds were sown in the 1950's and 1960's with New Zealand losing considerably ground relative to OECD peers, in the 1970s and early 1980s in terms of labour productivity and in GDP per capita. Despite the solid performance of the NZ economy of late, output per hours worked has remained becalmed at about 80% of the OECD average. Our real GDP per hours worked is about 40% below that of the US and is close to 30% below that of Australia. Despite having an open trade and investment regime and our solid economic performance of late, there are few signs that the NZ economy is catching up with higher productivity countries. Our small size and distance from key markets could be impediments



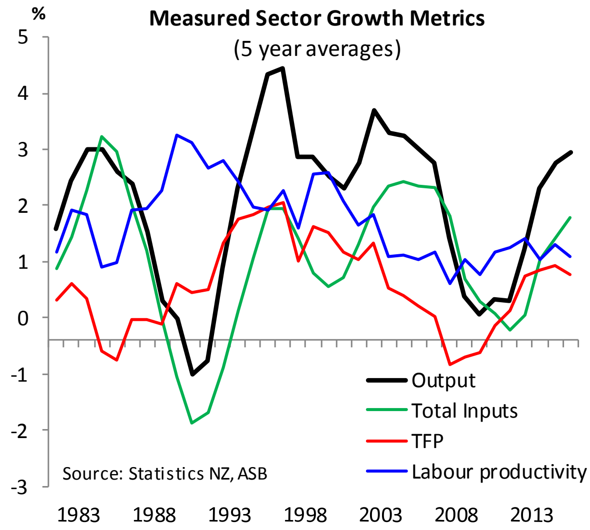

At present, this lacklustre labour productivity performance has been masked by strong population growth and the rising Terms of Trade, which has boosted economy-wide purchasing power and nominal GDP. **With the goods Terms of Trade already the highest since 1950 and with the peak in net permanent and long-term immigration looking to be behind us, there are limits to how much more can be gained from these influences in the current cycle**. Achieving more growth in the next few years will need to come from strengthening labour productivity.

## A more detailed look at NZ

More detailed productivity statistics for New Zealand are available for the "measured sector", which constitutes roughly 80% of GDP. It mainly contains enterprises within 18 industries that are market producers and typically includes excludes industries in which outputs are not adequately measured independently of inputs, with some series available back to the late 1970's[1]. **The productivity performance for this group is somewhat better than for overall GDP, with labour productivity averaging 1.9% since the early 1990s. What is also apparent is that labour productivity growth has slowed and this has been an almost mirror image to increasing labour inputs**, which have mostly contributed to the increase in inputs used in the production of goods and services.

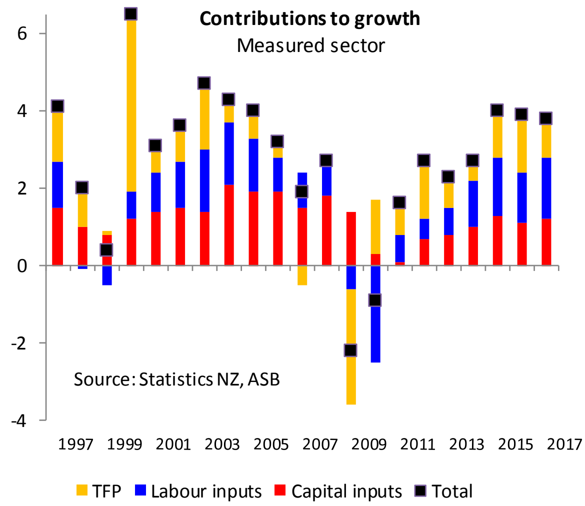
**A generalised slowdown has also been evident in labour productivity since the 1990's.** After averaging close to 3% per annum in the 1980s and 1990s, labour productivity growth has slowed to around 1½% per annum since 2000. Output growth has remained resilient, helped by growing inputs (mostly employment) and more efficient combination of labour and capital (total factor productivity (TFP)).

The accompanying chart uses a growth accounting approach to depict the contribution to growth in terms of capital and labour inputs as well as how efficiently they are combined (TFP). Labour inputs and TFP declined around the time of the GFC but have subsequently recovered. Capital **investment in New Zealand has been slow to climb since the global financial crisis (GFC), and this looks to be a key contributor behind sluggish labour productivity growth**, with the latter averaging 1.7% per annum since 2010 as opposed to 2.1% per annum prior to the GFC. Growth in the capital stock has averaged less than 2% per annum since 2010, as opposed to the 3%+ per annum average since the early 1990s. **The slowdown in labour productivity growth since the GFC has been a common occurrence for many OECD countries.** It may also have implications for the comparatively low level of real interest rates observed in recent years.




**By contrast, total factor productivity growth for the measured sector since 2010 (1.2% per annum) has been stronger than its average since the early 1990s (1.0%). In other words, we have been getting better at extracting more per worker despite sluggish growth in the capital stock.**

*In future weeks we will examine what has been happening for industry sectors to examine whether the slowdown in labour productivity growth has been generalised.*




[1] For our analysis we mostly use figures published for the "former measured sector" given its more lengthy available time series.

## Foreign Exchange Market

| FX Rates | Current* | Week ago | Month ago | Year ago | ST Bias | Support^ | Resistance^ | MT Bias |
|---|---|---|---|---|---|---|---|---|
| NZD/USD | 0.7217 | 0.7355 | 0.7225 | 0.7002 | FLAT | 0.7100 | 0.7350 | UP |
| NZD/AUD | 0.9406 | 0.9462 | 0.9366 | 0.9299 | FLAT | 0.9250 | 0.9500 | DOWN |
| NZD/JPY | 77.81 | 78.88 | 75.70 | 76.48 | FLAT | 76.0 | 80.0 | UP |
| NZD/EUR | 0.5876 | 0.5964 | 0.5856 | 0.6533 | FLAT | 0.5750 | 0.6000 | FLAT |
| NZD/GBP | 0.5153 | 0.5159 | 0.5117 | 0.5472 | FLAT | 0.5050 | 0.5250 | UP |
| TWI | 74.6 | 75.4 | 74.3 | 76.0 | FLAT | 73.5 | 75.50 | FLAT/UP |

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

### NZD Recap

**The NZD starts the week about 1½% lower on a TWI basis,** with larger falls against the AUD and USD. Domestic data had a fleeting impact on the NZD, which briefly firmed on marginally higher than expected CPI inflation, with the increase in dairy prices also NZD-supportive. The strengthening USD, however, was the dominant currency theme. The USD index edged higher towards the end of the week, helped by firmer inflationary signals from business surveys and positive assessments of the US economy by Fed members. US 2-year Treasury yields reached their highest level since 2008 and with 10-year Treasury yields approached 3%. Firmer oil and commodity prices broadly supported commodity currencies, with the NZ dollar further retreating from the 9-month peak of 95.3 Australian cents it reached close to two weeks ago. Lower than expected UK CPI inflation (which fell to a 12-month low of 2.5%) and cautious comments from BOE Governor Carney weighed on sterling and UK interest rate expectations.

### Near-term outlook

**With no major data or events scheduled this week, the NZD is likely to trade in broad ranges. This, however, assumes that trade and geopolitical tensions remain in the background.** We also assume that the USD will remain range-bound this week, with two-sided risks. A weaker than expected Q1 US GDP print (ASB 1.9% saar versus 2.0% saar market consensus) could likely weigh on the USD, but with markets focusing on (higher) Treasury yields, further USD strengthening is possible. Local data is expected to have a minor impact, but an Australian CPI print at odds with the 0.5% qoq market consensus for the headline (2% yoy) and underlying measures (1-8%-1.9%yoy) could produce some volatility in AUD crosses. The euro and sterling are expected to consolidate this week. The ECB are widely expected to leave rates on hold and maintain the €30bn in monthly asset purchases, but are not expected to provide a timetable for the eventual ending of QE. We agree with the consensus that the BoJ will not change monetary policy settings, but there is the likelihood for volatility on yen crosses, particularly if the BOJ push out the timing for when they expect CPI inflation to reach its 2% target.

### Medium-term outlook

**Our medium-term bias remains for a weaker USD**, reflecting the stronger environment for global growth and narrowing USD interest rate differentials as other central banks contemplate policy tightening ahead of the Fed. **The NZD TWI is expected to remain broadly supported** by NZ's solid economic outlook, strong NZ commodity export prices, historically-high Terms of Trade and strong demand as global central banks/other real money managers continue to increase NZD exposures.

| ASB foreign exchange forecasts | Dec-17 | Mar-18 | Jun-18 | Sep-18 | Dec-18 | Mar-19 | Mar-20 | Mar-21 |
|---|---|---|---|---|---|---|---|---|
| (end of quarter) | | << actual | forecast >> | | | | | |
| NZD/USD | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.79 | 0.75 |
| NZD/AUD | 0.91 | 0.94 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.89 |
| NZD/JPY | 80 | 77 | 78 | 78 | 79 | 79 | 79 | 81 |
| NZD/EUR | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.60 | 0.60 | 0.59 |
| NZD/GBP | 0.53 | 0.51 | 0.53 | 0.53 | 0.53 | 0.53 | 0.54 | 0.54 |
| NZD TWI | 74.3 | 74.3 | 74.7 | 75.0 | 75.1 | 75.7 | 76.6 | 74.0 |

## 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 | 2.06 | 2.03 | 1.96 | 1.95 | FLAT/UP | UP |
| 2-year swap | 2.31 | 2.33 | 2.23 | 2.32 | FLAT | UP |
| 5-year swap | 2.76 | 2.75 | 2.67 | 2.86 | FLAT | UP |
| 10-year swap | 3.24 | 3.20 | 3.11 | 3.33 | FLAT | UP |
| 10-year govt bond yield | 2.88 | 2.83 | 2.81 | 2.97 | FLAT | UP |
| Curve Slope (2s10s swaps) | 0.93 | 0.87 | 0.88 | 1.01 | FLAT | DOWN |

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

### Market Recap

**The NZ yield curve steepened over the past week as longer-term rates lifted, led by offshore moves**. NZ one and two-year swap rates remained relatively steady over the past week. NZ CPI annual inflation, released on Thursday, printed in line with market expectations and had no impact on NZ rate markets. However, the market did focus on comments by the new RBNZ Governor Adrian Orr - "RBNZ `DOGGEDLY DETERMINED' TO AIM FOR 2% INFLATION" - which was seen as dovish given inflation has languished well below the inflation target mid-point for some time.

**The key move in rates markets was the sharp lift in US 10-year Government bond yields** toward the end of last week, which dragged NZ 10-year bond yields higher, albeit to a lesser extent. **Higher US inflation expectations appear to be the key driver of higher US yields.** Indeed, the prices paid subcomponents in the Philadelphia Fed and ISM surveys increased to multi year highs. Some market commentators also point to the strong rise in oil and selected base metal prices as pushing longer-term inflation expectations higher. US sanctions on Russian aluminium producer Rusal, and major international supplier of aluminium, have sparked supply fears and resulted in a 30% lift in prices since the start of April. These concerns appear to have spilled over in to other base metal markets, with traders speculating further US sanctions could affect Nickel prices.

### Near-term NZD interest rate outlook

**This week we see balanced risks to local interest rates**. NZ yields could continue to push higher early in the week, following the lift in US rates over the weekend. However, we see some downside risk to US GDP later in the week, which may see US and NZ rates edge back lower. We estimate US Q1 GDP growth slowed to an annual pace of 1.9% in Q1 (consensus: 2%) from 2.9% the previous quarter – US Q1 GDP growth is often weak despite seasonal adjustment.

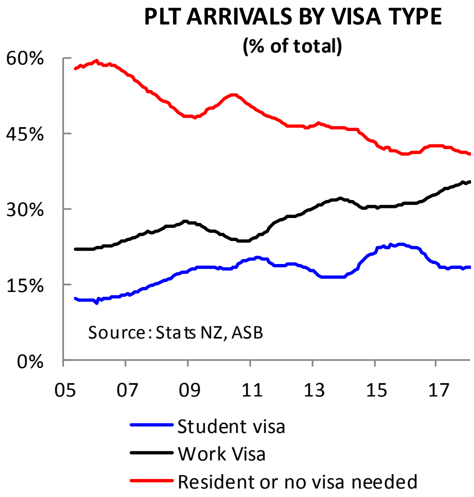
### Medium-term outlook

Our core macro view is that the RBNZ will start lifting the OCR in Q3 of 2019. We expect a moderate pace of tightening by historical standards, and a low OCR endpoint of around 3.5% this cycle. We now expect a total of five Fed hikes until the end of 2019 (two more in 2018, two in 2019). This should see local wholesale interest rate yields continue to outperform US comparators. **Our expectation of a flatter NZD curve crucially depends on the assumption that local yields remain reasonably well anchored to global counterparts and that the lift in global yields is modest.**

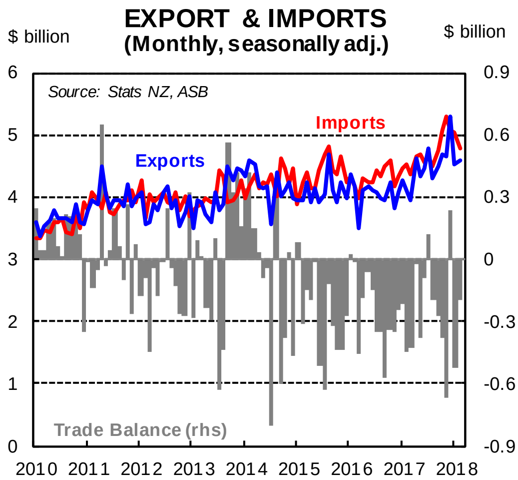
| ASB interest rate forecasts | Dec-17 | Mar-18 | Jun-18 | Sep-18 | Dec-18 | Mar-19 | Mar-20 | Mar-21 |
|---|---|---|---|---|---|---|---|---|
| (end of quarter) | | << actual | forecast >> | | | | | |
| NZ OCR | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 2.25 | 2.75 |
| NZ 90-day bank bill | 1.88 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.5 | 3.0 |
| NZ 2-year swap rate | 2.21 | 2.2 | 2.2 | 2.3 | 2.4 | 2.5 | 3.0 | 3.5 |
| NZ 10-year Bond | 2.75 | 2.7 | 3.2 | 3.3 | 3.3 | 3.4 | 3.5 | 3.5 |

## Major Domestic Events for the week ahead

| Data | Date | Time (NZT) | Previous | Market | ASB |
|---|---|---|---|---|---|
| Net Migration, March, 000s | 24/4 | 10.45 am | 4,970 | - | 5,000+ |
| ANZ Consumer Confidence, April, index | 27/4 | 10:00am | 128 | - | - |
| Merchandise Trade balance, March, $m | 27/4 | 10:45am | 217 | 200 | 100 |




**February saw a net permanent and long-term (PLT) monthly inflow of just under 5,000 persons, the lowest monthly net inflow in three years**, with annual net PLT immigration falling below 70,000 persons for the first time in 17 months. The February fall was due to a sharp fall in PLT arrivals, which we expect to be partly reversed in March. The robust domestic demand backdrop is expected to see net PLT inflows remain elevated over the next few years, with annual net PLT inflows expected to remain above 50,000 persons until the end of 2019. We are also likely to see the mix of arrivals further tilt towards persons on work visas, reflective of the widespread labour market constraints within the economy. Visitor arrivals are due a small seasonally-adjusted fall following the Chinese visitor driven rebound in February, but another annual record still beckons.




**Consumer sentiment has been strengthening from its end of 2017 lull**, but is still just below its September 2017 high. The good summer weather, robust labour market, alleviation of election uncertainty and stabilising housing markets were likely contributing factors behind the recent recovery. We expect that the strong labour market backdrop and still-high NZD should underpin sentiment, with the possibility that consumers' assessment of current conditions continued to close the gap with (higher) assessments over future conditions.

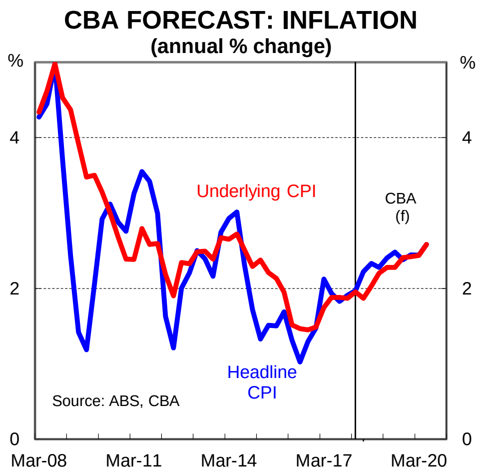
**We expect a small trade surplus in March**. Looking over the month, we expect imports to bounce back after a weak February. In particular, we anticipate that passenger vehicle imports will rebound after the stink bug-induced import delays last month. On the export side, we expect meat export values to firm on the back of higher lamb prices. Looking at the annual balance, we expect the annual trade deficit to widen a touch to $3.12 billion.

## Major International Events for the week ahead

| Data | Date | Time (NZT) | Market | ASB |
|---|---|---|---|---|
| RBA Assistant Governor Kent speech | 24/04 | 10:00 am | - | - |
| Australia Headline Inflation, Q1, %qoq | 24/04 | 1:30 pm | 0.5 | 0.5 |
| ECB Interest Rate Announcement, % | 26/04 | 11:00 pm | - | - |
| Bank of Japan Interest Rate Announcement, % | 27/04 | - | - | - |
| UK GDP, Q1, %qoq | 27/04 | 8:30 pm | 0.3 | 0.3 |
| US GDP, Q1, saar | 28/04 | 12:30 am | 2.0 | 1.9 |

**RBA Assistant Governor Kent** is due to speak on "the limits of interest-only lending" this week.

**We expect both headline and underlying Australian inflation to print at 0.5% in Q1**. Non-tradable inflation is expected to be a stronger 0.7% in the quarter with education and health making solid contributions. Tradable inflation is expected to be flat. On balance, the risks to our call are to the downside given low wages growth and persistent discounting in the retail sector.




We anticipate the **European Central Bank (ECB) will leave its rates unchanged** at -0.4% (deposit) and 0.0% (refinancing). Muted Eurozone inflation dynamics suggest rate hikes will not manifest until Q2 2019 at the earliest.

The **Bank of Japan (BoJ) is widely expected to make no monetary policy changes** at Friday's meeting. But with Japan's CPI inflation (excluding fresh food and energy) at only 0.5%yoy in March, the central bank may push out the timing of when they expect inflation to reach its 2% target from currently "*around fiscal year 2019*".

We anticipate **UK Q1 GDP growth** will print at levels around 0.3% qoq, 1.4% yoy. Poor weather during March will drag the GDP reading lower, consistent with the deterioration in composite UK PMI data.

Our preliminary estimate – which is based on monthly activity data like capital goods shipment, retail sales, industrial production, business inventories, housing starts and trade balance – suggests **US GDP** slowed to an annualised pace of 1.9% in Q1 from 2.9% the previous quarter. The US Fed projects GDP growth of 2.7% in 2018.

## Global Data Calendars

### Calendar - Australasia, Japan and China

| Date | Time (NZT) | Eco | Event | Period | Unit | Previous | Forecast Market | Forecast ASB |
|---|---|---|---|---|---|---|---|---|
| Mon 23 Apr | 15:00 | NZ | Credit card spending | Mar | m%ch | 0.7 | ~ | ~ |
| Tue 24 Apr | 10:00 | AU | RBA's Kent gives speech in Sydney | | | | | |
| | 10:45 | NZ | Net migration | Mar | ~ | 4,970 | ~ | 5,000 |
| | 11:50 | JN | PPI services | Mar | y%ch | 0.6 | ~ | ~ |
| | 13:30 | AU | CPI | Q1 | q%ch | 0.6 | 0.5 | 0.5 |
| Thu 26 Apr | 13:30 | AU | Import price index | Q1 | q%ch | 2.0 | ~ | ~ |
| | 13:30 | AU | Export price index | Q1 | q%ch | 2.8 | ~ | ~ |
| Fri 27 Apr | ~ | JN | BOJ policy balance rate | Apr | % | -0.1 | -0.1 | -0.1 |
| | 10:00 | NZ | ANZ consumer confidence | Apr | Index | 128.0 | ~ | ~ |
| | 10:45 | NZ | Trade balance | Mar | NZD | 217 | 200 | 100 |
| | 11:30 | JN | Jobless rate | Mar | % | 2.5 | ~ | ~ |
| | 11:30 | JN | Tokyo CPI | Apr | y%ch | 1.0 | ~ | ~ |
| | 11:50 | JN | Industrial production | Mar P | m%ch | 0.0 | ~ | ~ |
| | 13:30 | AU | PPI | Q1 | q%ch | 0.6 | ~ | ~ |
| | 13:30 | CH | Industrial profits | Mar | y%ch | 10.8 | ~ | ~ |
| | 17:00 | JN | Housing starts | Mar | y%ch | -2.6 | ~ | ~ |

### Calendar - North America & Europe

| Date | Time (UKT) | Eco | Event | Period | Unit | Previous | Forecast Market | Forecast ASB |
|---|---|---|---|---|---|---|---|---|
| Mon 23 Apr | 09:00 | EC | Markit Eurozone composite PMI | Apr P | Index | 55.2 | ~ | ~ |
| | 13:30 | US | Chicago Fed National Activity Index | Mar | Index | 0.9 | 0.3 | ~ |
| | 14:45 | US | Markit US manufacturing PMI | Apr P | Index | 55.6 | 55.6 | ~ |
| | 14:45 | US | Markit US services PMI | Apr P | Index | 54.0 | 54.0 | ~ |
| | 15:00 | US | Existing home sales | Mar | $mn | 5.5 | 5.5 | ~ |
| Tue 24 Apr | 14:00 | US | S&P CoreLogic CS 20-City | Feb | Index | 205.1 | ~ | ~ |
| | 15:00 | US | Richmond Fed manufacturing index | Apr | Index | 15.0 | 17.0 | ~ |
| | 15:00 | US | Conf. Board consumer confidence | Apr | Index | 127.7 | 126.3 | ~ |
| Thu 26 Apr | 12:45 | EC | ECB main refinancing rate | Apr | % | 0.0 | 0.0 | 0.0 |
| | 13:30 | US | Durable goods orders | Mar P | % | 3.0 | 0.9 | ~ |
| | 16:00 | US | Kansas City Fed manuf.activity | Apr | ~ | 17.0 | ~ | ~ |
| Fri 27 Apr | 09:30 | UK | GDP | Q1 A | q%ch | 0.4 | ~ | 0.3 |
| | 10:00 | EC | Economic confidence | Apr | Index | 112.6 | ~ | ~ |
| | 13:30 | US | GDP annualized | Q1 A | q%ch | 2.9 | 2.2 | 1.9 |
| | 13:30 | US | Core PCE | Q1 A | q%ch | 1.9 | ~ | ~ |
| | 15:00 | US | Uni. of Michigan sentiment | Apr F | ~ | 97.8 | 98 | ~ |

## Key Forecasts

| ASB NZ economic forecasts | Dec-17 | Mar-18 | Jun-18 | Sep-18 | Dec-18 | Mar-19 | Mar-20 | Mar-21 |
|---|---|---|---|---|---|---|---|---|
| | << actual | forecast >> | | | | | | |
| GDP real - Q% | 0.6 | 0.4 | 0.7 | 0.8 | 0.9 | | | |
| GDP real - A% | 2.9 | 2.6 | 2.4 | 2.6 | 2.8 | 3.3 | 3.4 | 3.0 |
| GDP real - AA% | 2.9 | 2.8 | 2.6 | 2.6 | 2.6 | 2.8 | 3.4 | 3.2 |
| CPI - Q% | 0.1 | 0.5 | 0.4 | 0.6 | -0.1 | | | |
| CPI - A% | 1.6 | 1.1 | 1.5 | 1.6 | 1.4 | 1.5 | 1.7 | 2.1 |
| HLFS employment growth - Q% | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | | | |
| HLFS employment growth - A% | 3.7 | 3.2 | 3.7 | 2.0 | 2.1 | 2.1 | 1.8 | 1.5 |
| Unemployment rate - %sa | 4.5 | 4.4 | 4.4 | 4.4 | 4.4 | 4.3 | 4.2 | 4.2 |
| Annual current account balance as % of GDP | -2.7 | -2.4 | -2.4 | -2.4 | -2.4 | -2.3 | -2.3 | -2.4 |

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 |
|---|---|---|---|---|---|---|---|---|
| (end of quarter) | | << actual | forecast >> | | | | | |
| NZ OCR | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 2.25 | 2.75 |
| NZ 90-day bank bill | 1.88 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.5 | 3.0 |
| NZ 2-year swap rate | 2.21 | 2.2 | 2.2 | 2.3 | 2.4 | 2.5 | 3.0 | 3.5 |
| NZ 10-year Bond | 2.75 | 2.7 | 3.2 | 3.3 | 3.3 | 3.4 | 3.5 | 3.5 |

| ASB foreign exchange forecasts | Dec-17 | Mar-18 | Jun-18 | Sep-18 | Dec-18 | Mar-19 | Mar-20 | Mar-21 |
|---|---|---|---|---|---|---|---|---|
| (end of quarter) | | << actual | forecast >> | | | | | |
| NZD/USD | 0.71 | 0.72 | 0.73 | 0.74 | 0.75 | 0.76 | 0.79 | 0.75 |
| NZD/AUD | 0.91 | 0.94 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.89 |
| NZD/JPY | 80 | 77 | 78 | 78 | 79 | 79 | 79 | 81 |
| NZD/EUR | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.60 | 0.60 | 0.59 |
| NZD/GBP | 0.53 | 0.51 | 0.53 | 0.53 | 0.53 | 0.53 | 0.54 | 0.54 |
| NZD TWI | 74.3 | 74.3 | 74.7 | 75.0 | 75.1 | 75.7 | 76.6 | 74.0 |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