Monthly Economic Indicators

THE TREASURY
Kaitohutohu Kaupapa Rawa

October 2016

Executive Summary

- **A solid lift in business activity and business confidence continues to point to stronger GDP growth in the second half of 2016 than forecast in the *Budget Update*.**
- **Demand in the economy is driven by elevated net migration inflows, housing demand and tourism spending. The export price recovery is expected to continue.**
- **Annual inflation remained weak in the September quarter, owing to low petrol prices and a reduction in vehicle levies. However, inflation is expected to rise from here.**
- **International data were mixed but generally positive and expectations of US monetary tightening increased.**

Economic data released in October continued to point to faster GDP growth in the second half of 2016 than forecast in the *Budget Economic and Fiscal Update*. The Quarterly Survey of Business Opinion showed a strong expansion in business activity in the September quarter and a lift in business confidence, driven by the construction and tourism industries. Demand in the economy continues to be propelled by record net migration inflows, housing demand and tourist arrivals, while household retail spending was also solid. All told, data point to real GDP growth in the September quarter of around 0.8%.

Other indicators of activity remained positive, as key drivers of demand persisted. High consumer confidence is expected to support private consumption growth in the December quarter, and house price growth rebounded in September, following a fall in August, as the market adjusted to the Reserve Bank's tightening of loan-to-value lending restrictions for investors nationwide. High house prices are expected to continue to support residential investment growth. A more positive outlook for real and nominal GDP than in the *Budget Update* forecasts supports a stronger outlook for the Government's tax revenue over the year ahead.

Despite a retracement in dairy prices in October, export prices are expected to resume their pick-up, although a high New Zealand dollar (NZD) will continue to weigh on farm-gate milk prices. However, the annual trade deficit increased slightly in the September quarter from the June quarter, partly as lower meat exports reduced export values and the import of two large aircraft boosted import values.

Reflecting strong business activity, capacity pressures are becoming more evident, but they have not flowed through to higher prices so far apart from in construction. Annual inflation remained low in the September quarter at 0.2%, weighed on by lower petrol prices, a high New Zealand dollar (NZD) and a reduction in the ACC motor vehicle levy on 1 July. However, annual inflation is expected to rise from here as housing costs continue to grow strongly, the earlier falls in petrol prices drop out of the annual calculation, and domestic demand picks up. The market expects at least one further Official Cash Rate (OCR) reduction by the Reserve Bank to help bring inflation back up to its target range.

International economic data were mixed but generally positive in October and financial markets were more stable than in the previous month. Expectations of interest rate rises increased in the US on signs of strengthening activity, growth in output remained stable in China and higher hard commodity prices will boost income growth in Australia. Euro area activity remains moderate, but inflation is low; in contrast, prices are rising in the UK as a result of the fall in the pound. The global outlook has been revised down from earlier in the year and downside risks dominate the outlook.

This month's special topic looks at the key judgements and assumptions that will influence the Treasury's economic and tax forecasts in the *Half-Year Economic and Fiscal Update*.

New Zealand Government

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Analysis

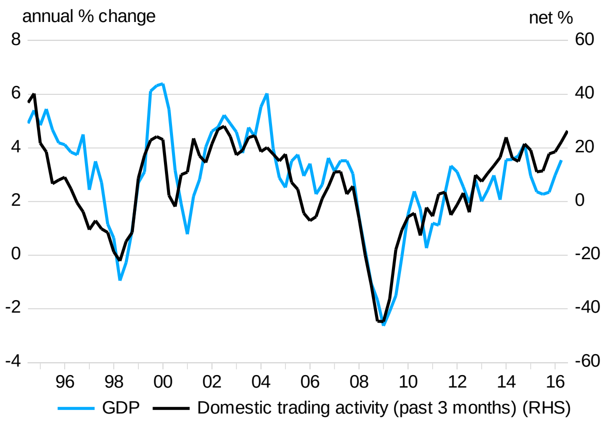
Economic data released over October continue to indicate robust activity and point to faster GDP growth over the second half of 2016 than forecast in the *Budget Economic and Fiscal Update* (BEFU). The Quarterly Survey of Business Opinion (QSBO) showed business activity lifting to a 14-year high in the September quarter, reflecting strong demand, particularly in construction and tourism, supported by record net migration inflows and low interest rates. Other indicators of activity were also upbeat, as the key drivers of growth – household spending and housing demand – persisted, pointing to solid growth in the December quarter.

Despite continuing strong growth and higher capacity pressures, annual inflation remained low in the September quarter at 0.2%, weighed on by lower petrol prices, a high New Zealand dollar (NZD), and a fall in the ACC motor vehicle levy. However, annual inflation is expected to rise from here as housing costs continue to grow strongly, earlier falls in petrol prices drop out of the annual calculation, and domestic demand remains strong. The market expects at least one further Official Cash Rate (OCR) reduction by the Reserve Bank to help bring inflation back up to its target range.

Business surveys point to robust activity…

The major data releases in October were the September quarter QSBO and the Consumers Price Index (CPI). According to the QSBO, a seasonally adjusted net 26% of firms reported an expansion in trading activity in the September quarter, up from a net 22% in the June quarter and the highest since 2002, pointing to strong GDP growth in the September quarter (Figure 1).

Figure 1: Domestic trading activity and GDP



Sources: NZIER, Statistics NZ

A net 32% of firms expected an increase in activity in the December quarter, which continues to support the growth outlook. However, the QSBO does not include the agricultural sector, where dairy production has been reduced by the high slaughter rate of the dairy herd over the past year and by wet weather conditions recently. In addition, although dairy prices have increased recently, the pay-out remains below break-even for many dairy farmers in the current season.

Nevertheless, affirming the pick-up in business activity more generally, the seasonally adjusted BNZ-BusinessNZ Performance of Manufacturing Index rose 2.5 points to 57.7 in the September month, the highest since January and pointing to strong expansion in the manufacturing sector. The Performance of Services Index dropped 3.8 points to 54.1 in September, which was largely attributed to poor weather conditions, but the index still shows healthy growth in services activity.

…supporting investment and employment…

The QSBO measure of business confidence also rose in the September quarter, to a seasonally adjusted net 27% of firms positive about general economic conditions over the coming year, from a net 20% in the June quarter. Geographically, business confidence remained highest in regions most exposed to net migration inflows and tourism, particularly the upper North Island. However, confidence in the regions more exposed to dairy also lifted, supported by the recent rise in dairy prices. The ANZ Business Outlook (ANZBO) also showed higher business confidence in the September month, driven by broad improvements across most sectors and regions. The October ANZBO will be released on Monday 31 October.

Higher trading activity and business confidence supported investment and employment intentions. In the QSBO, a seasonally adjusted net 20% of firms in the September quarter expected to increase investment over the next 6 months, up from a net 17% in the June quarter. A net 24% of firms expected to hire more staff in the next quarter, which is a 43-year high, although only a net 9% of firms actually increased employment in the September quarter. Relatively low hiring in the quarter may reflect an increase in the difficulty of finding skilled workers, which is reported by a net 44% of firms. Labour market statistics for the September quarter are scheduled for release on 2 November. We expect strong employment growth and the unemployment rate to remain low.

…driven by the construction sector…

The construction sector led the improvement in business activity and confidence, boosted by a large pipeline of residential and commercial building projects across the country. Construction firms expected a sustained pick-up in activity over the coming year, as rapid growth in the population boosts the demand for new housing, and the elevated level of tourist arrivals drives investment in hotels and tourism infrastructure. The retail sector is also experiencing high demand on the back of buoyant tourist and household spending, supporting investment in new retail space.

…and by healthy growth in retail spending…

Private consumption is expected to show solid growth in the September quarter, although not as high as its 1.9% surge in the June quarter. The seasonally adjusted value of electronic card transactions rebounded 2.0% in the September month following a 1.1% dip in August, to be up 0.7% in the quarter. Cards transactions rose by 6.3% from a year ago in September.

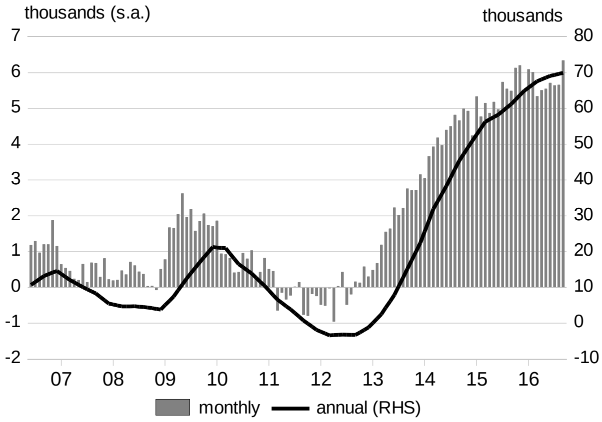
Growth in electronic card transactions both in the quarter and from a year ago was broad-based. Growth was particularly strong for hospitality and services, which reflects demand in the economy being driven by tourist spending and population growth. Durable goods transactions continued to show solid growth from a year ago despite a dip in the September quarter, supported by high residential investment growth. Petrol sales values fell 2.4% in the quarter, primarily as a result of a 1.7% dip in petrol prices, but also point to a drop in petrol sales volumes. All told, with retail prices remaining low, we expect September quarter's retail trade survey (released 15 November) to record solid volume growth.

…reflecting strong population growth…

New Zealand's resident population is estimated by Statistics NZ to have risen by 97,300 (2.1%) in the year to June 2016 to 4,647,000, with permanent and long-term (PLT) net migrant inflows contributing more than 70% of this increase.

Annual net migration inflows lifted to a record high of 70,000 in the year to September from 69,100 in the year to August, and from 61,200 in the year to September 2015. The seasonally adjusted monthly net inflows rose from 5,700 in August, which they had averaged over recent months, to 6,300 in September (Figure 2).

Figure 2: Net migration inflows



Source: Statistics NZ

Lower departures contributed to the rise in annual net migrant inflows from a year ago, but higher arrivals remained the dominant driver, boosted by residents and workers, which more than offset a fall in annual student arrivals. Geographically, growth in arrivals continued to be driven by Australia, China, and, more recently, South Africa. The annual net inflow from Australia continued to rise in September, reflecting a strengthening labour market in New Zealand and a relatively soft labour market across the Tasman. Annual net migration in the September quarter was close to the BEFU forecast, although its peak is evidently later than the forecast for the June quarter. Elevated net migration inflows will boost both aggregate demand and labour supply.

…and record international tourist arrivals

The Tourism Satellite Account showed a 19.6% surge in international tourist spending in the year ended March 2016, following a 17.1% rise in the March year 2015, and domestic tourist spending also grew solidly by 7.4%. Tourism represented 5.6% of nominal GDP and 7.5% of total employment in the March 2016 year, up from 4.9% of nominal GDP and 6.9% of employment in the March 2015 year.

Growth in overseas visitor arrivals is expected to continue to support tourism spending and demand in the economy over coming quarters. Seasonally adjusted short-term visitor arrivals rose 3.6% in September, continuing to expand from a high level in August. Visitor arrivals in the September quarter rose 2.6% from the June quarter, which will support growth in total tourism spending and travel services exports. Growth in annual visitor arrivals remained strong at 11.4% in the year to September, to 3.39 million, led predominantly by an increase in holidaymakers.

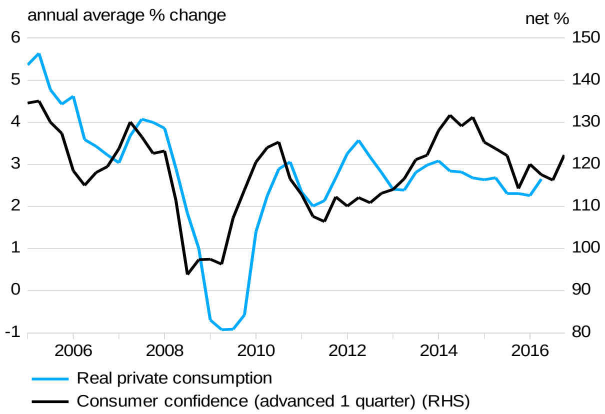
Seasonally-adjusted New Zealand resident traveller departures also increased in the September month (2.6%), with growth of 6.8% in the year to September. A rise in resident traveller departures and a high NZD are likely to support total spending by New Zealanders on overseas holidays, which will be reflected in solid services import growth in the September quarter. Services import growth will subtract from GDP growth, but, as it will be balanced by higher private consumption, it will not affect GDP in net terms.

…pointing to strong GDP growth in the September quarter

On balance, indicators continued to point to strong real GDP growth in the September quarter at around 0.8%, which is faster than the BEFU forecast (0.7%). Growth is expected to be led by residential and business investment, and a high level of services exports, with private consumption growth likely to remain solid. Underpinning demand in the economy are high population growth, strong housing demand, tourist arrivals and low interest rates. Looking ahead, the persistence of these drivers of demand suggests that healthy growth in activity will continue in the remainder of 2016.

Positive growth outlook for the December quarter led by high consumer confidence…

Figure 3: Private consumption and consumer confidence



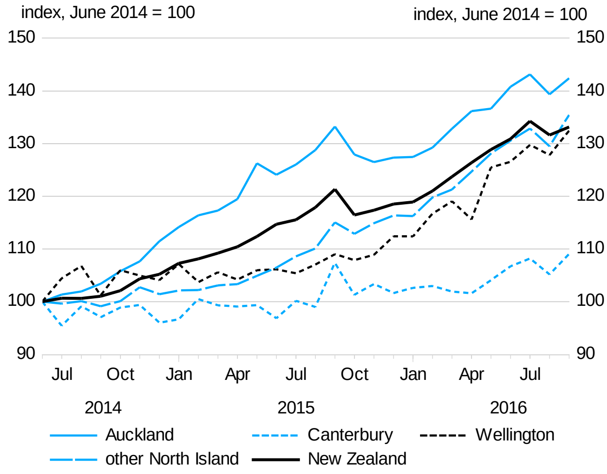
Sources: Statistics NZ and ANZ

A high level of consumer confidence is expected to support private consumption growth in the December quarter (Figure 3). The seasonally adjusted ANZ Roy-Morgan Consumer Confidence Index rose to 126 in October, the fifth consecutive monthly increase and the highest since late 2014, reinforced in part by recent strong employment growth. While high net migration inflows continued to lift labour supply, labour demand has kept up with supply on the back of higher business activity. The seasonally adjusted ANZ job ads index rose 0.3% in September, the eighth consecutive monthly lift, to be up 13.5% from a year ago, pointing to solid labour demand, employment, and total labour income growth.

…and supported by strong housing demand…

High population growth and low interest rates continued to underpin housing demand. The seasonally adjusted Real Estate Institute of New Zealand (REINZ) stratified house price index rose 1.2% in September following a 2.0% fall in August, led by a rebound across most regions, including Auckland, Christchurch and Wellington. This suggests the resumption of strong housing demand after the market adjusted to tighter nationwide loan-to-value (LVR) lending restrictions for investors. While the Reserve Bank formally implemented the new rules on 1 October, most retail banks had already applied them to new investor lending. On an annual basis, the national stratified median price rose 9.7% in September, led by strong annual price growth in Wellington (21.7%) and other North Island regions excluding Auckland (17.8%) (Figure 4). Despite the pick-up in housing demand, house sales continued to decline, owing to large falls in the number of properties listed for sale across the country.

Figure 4: REINZ stratified median house prices



Source: REINZ

…lifting residential investment activity…

Rapid growth in dwelling prices continues to support residential building activity. The seasonally adjusted number of dwelling consents remained high in August, despite falling 1.0% from July. The fall in consents in the month was the result of a drop in the lumpy retirement village unit consents, with all other categories – other multi-dwelling units and houses – up in the month. Consents in the year to August were 14.3% higher than in the year to August 2015, driven by

Auckland and, to a lesser extent, other North Island regions. Dwelling consents data for September will be released on 31 October.

…suggesting strong growth in tax revenue

The Crown's tax revenue in the fiscal year to June 2016 was higher than forecast in the BEFU, reflecting more activity in the economy than forecast. This, together with lower expenditure than forecast, resulted in the Government's operating balance (before gains and losses) exceeding the BEFU forecast of 0.3% of nominal GDP, at 0.7% in the fiscal year 2016, and up from 0.2% in the fiscal year 2015.

The outlook for nominal GDP growth continues to be stronger than in the BEFU forecast, owing to a more positive outlook for real GDP growth and despite continued low inflation. This suggests a better outlook for tax revenue than previously forecast. Growth in household spending, tourist arrivals and residential investment will support GST revenue, solid employment and total labour income growth points to higher PAYE, and rising business activity is expected to lift corporate tax. An updated set of forecasts will be released in the *Half-Year Economic and Fiscal Update* on 8 December. This month's special topic looks at the economic factors that have changed since the BEFU.

Dairy prices consolidate following a rise…

The recent pick-up in commodity export prices also supports the outlook for nominal GDP: the ANZ world commodity price index lifted 5.1% in September (10.6% from a year ago) and 8.9% in the September quarter. Dairy was the dominant driver, up 19.0% in the quarter, although price rises were also seen in meat (4.4%) and seafood (7.1%). However, the lift in the NZD price index was smaller than the world price increase, at 3.3% in the quarter. Compared to September 2015, the NZD price index is 5.1% lower, dampened by a 13.2% appreciation in the NZD trade-weighted index, to 77.8, which is significantly higher than projected in the BEFU. While world commodity prices in the September quarter are higher than forecast, prices in NZD terms are closer to forecast.

Dairy prices consolidated in October. The average of the GlobalDairyTrade (GDT) price index in the two auctions in October dipped 1.5% from September, but this followed a surge of nearly 30% in the September quarter. The price fall in October was driven by both whole milk powder (-2.4%) and skim milk powder (-2.3%), which more than offset price increases in the proportionally smaller butter (2.6%) and anhydrous milk fat (1.1%) product lines.

GDT auction volumes were down around 10% in October from September, reflecting expectations of lower production owing to the earlier culling of the dairy herd and wet weather in New Zealand, as well as reduced auction offerings by Fonterra to support prices. Despite the retracement in dairy prices, their broad upward direction is expected to remain as global supply continues to adjust, although the high NZD will weigh on farm-gate milk prices.

…while falls in export volumes and a high NZD widened the trade deficit

The annual merchandise trade deficit widened slightly in the September quarter to $3.4 billion from $3.3 billion in the June quarter, driven by a decline in goods exports in the quarter and higher goods imports. On a seasonally adjusted basis, goods exports rose 1.2% in the September month, but fell 4.8% in the quarter. The fall in exports was led by a 15% decline in meat and edible offal in the quarter and 26% from a year ago, reflecting a drop in export volumes following seasonally high slaughter in late 2015 and a fall in meat prices in NZD terms.

Declines in fruit, and machinery and equipment exports also contributed to the fall in total exports in the quarter, while dairy exports were broadly steady. The appreciation in the NZD over the past year is likely to have weighed on export values generally, and six of the top 10 export categories fell in value. Goods imports rose 6.0% in the month and 2.2% in the September quarter, owing to the import of two large aircraft, without which imports would have fallen 1.8% in the quarter. The trend for imports, which excludes high-value items, has fallen gradually over the past year.

Price pressures muted despite rising activity…

While the QSBO measures of cost pressures rose from a low level, a pass-through to higher selling prices is not evident so far. A net 21% of firms reported an increase in their average input cost in the September quarter, up from 18% in the June quarter, and more firms are expecting costs to increase in the next quarter, consistent with expectations of strong activity ahead. However, indicators of price pressures weakened. A net 4% of firms lowered their selling prices in the September quarter, and a net 7% expect to increase prices in the next quarter, down from 1% increasing their prices and 11% intending to do so soon in the June quarter.

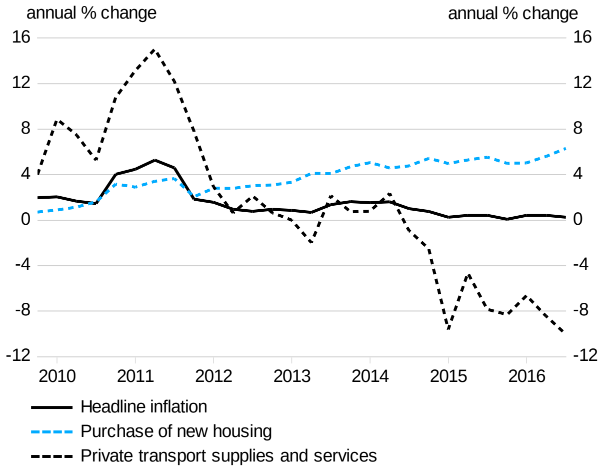
Capacity utilisation remained high at 92.5% (easing from 92.9%), but capacity constraints do not appear to be holding back business activity so far, mainly because of strong growth in labour supply, a high NZD reducing imported costs and low global commodity prices. However, skill shortages could become more acute as robust activity is sustained, leading to higher price pressures, particularly if growth continues to be concentrated in certain industries. For now, price pressures outside of the construction industry remain low despite strong activity generally, contributing to still-low non-tradables inflation.

…dampening annual inflation in the quarter…

Annual CPI inflation remained low at 0.2% in the September quarter and down from 0.4% in the June quarter, although it was slightly higher than in the BEFU forecast and market expectations (0.1%). Inflation in the quarter was also 0.2%. Annual tradables inflation was -2.1% in the September quarter, down from -1.5% in the June quarter, chiefly reflecting a large annual decline in petrol prices and a high NZD dampening import prices. Meanwhile, annual non-tradables inflation was 2.1% in the September quarter, up from 1.8% previously, driven by higher housing costs.

Falling transport prices continued to weigh on annual headline inflation, although this was offset by strong growth in the cost of housing and household utilities (Figure 5). Household contents and services also contributed solidly to inflation.

Figure 5: Inflation and key subgroup movements



Source: Statistics NZ

Transport prices fell 6.7% from a year ago and 3.0% in the September quarter, chiefly owing to a 10.1% annual decline in the private transport supplies and services subgroup. This reflected lower petrol prices (down 11.1% from a year ago), driven by large falls in international oil prices and, more recently, the appreciation in the NZD, and also reflected a decline in the ACC motor vehicle levy on 1 July 2016, which subtracted 0.3% points from annual inflation. A high NZD also weighed on other import prices, including for vehicles and some electronics equipment, and lower oil prices contributed to a large annual fall in international air travel costs.

On the other hand, annual growth in housing and household utilities prices (3.2%) continued to support inflation. The cost of building a new house grew 6.3% from a year ago, the fastest since 2005, which reflected strong nationwide housing demand and cost increases in construction. Excluding the purchase of housing subgroup, annual headline inflation would have been 0.0%. Higher annual price growth relative to headline inflation continued to be seen in property maintenance and rates, although rate rises were smaller than a year ago. Excluding the housing and household utilities group, annual inflation would have been -0.6%.

Meanwhile, higher price growth is evident in some other groups. Annual price growth in household contents and services picked up (to 2.8%), partly as furnishing, hardware and other durable goods demand was supported by residential investment. The annual fall in communications (of 1.2%) was the smallest since 2011, owing to emerging price pressures in communication services, despite weak telecommunication equipment prices. Meanwhile, audio-visual and computing equipment rose for the first time since 2001, by 1.1% in the quarter, possibly reflecting previous falls in the NZD.

While headline inflation remained low, the overall percentage of items which increased in price in the September quarter (52%) was the highest since the September quarter 2014, and the percentage that decreased in price (33%) was the lowest over the same period. As demand in the economy continues to pick up, price pressures may broaden beyond housing.

…although underlying inflation ticked up…

While headline inflation remained subdued, inflation measures excluding the impact of large price changes continued to be higher and some picked up slightly. The 10% and 15% trimmed mean measures of annual inflation remained steady at 0.8% and 0.9% respectively and higher than the headline inflation. The 25% and 30% trimmed mean measures continued to pick up gradually on an annual basis, to 1.2% and 1.3% respectively in the September quarter. Annual inflation excluding food and energy also rose to

1.1% from 1.0% previously, while the Reserve Bank's sectoral factor model estimated core annual inflation to be steady at 1.5%.

…and headline inflation is expected to rise

Treasury expects annual headline CPI inflation to have troughed in the September quarter 2016, and to pick up steadily from here. Large petrol price declines in late 2015 and early 2016 will drop out of the annual calculations starting in the December quarter 2016, resulting in higher tradables inflation, although a high NZD exchange rate and continued weak global inflation will continue to weigh on tradables prices to some extent. Non-tradables inflation is likely to continue to be dominated by increases in housing costs, but robust domestic demand may lead to rising price pressures in other areas as well, for example services and household durables.

Markets expect further reduction in the OCR

The annual inflation outturn matched the Reserve Bank's forecast in its August Monetary Policy Statement. Meanwhile, the NZD remained elevated and the Reserve Bank has indicated that further policy easing will be required to help bring inflation up to its targeted range. The balance of these factors supports the market and most economists continuing to expect at least one further reduction in the OCR. As of 25 October, markets have priced in around an 85% probability of a 25 basis-points reduction in the OCR on 10 November, but only around a 25% chance of a second cut is priced in by the middle of 2017.

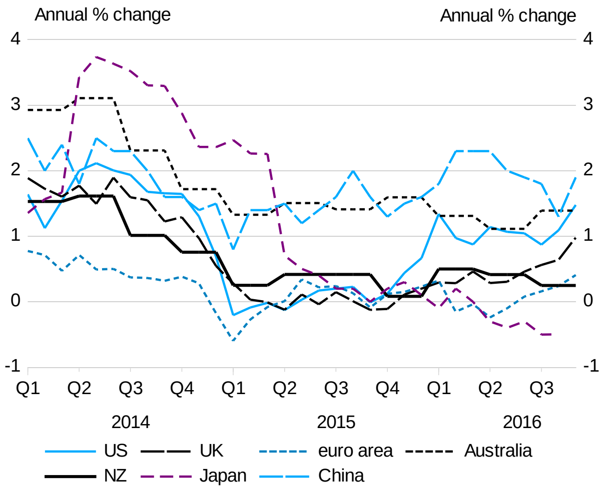
Global markets stable in October and commodity prices rise

Global financial markets were relatively stable in October as data were generally positive and expectations of monetary tightening in the US increased as inflation lifted. The US dollar strengthened over the month and 10-year bond yields rose slightly. Hard commodity and energy prices were up, with further increases in spot prices for coal and iron ore, largely attributable to production cutbacks in China, and oil prices held above US$50/bbl following reports at the start of the month of an OPEC agreement to reduce production. The NZD lost some ground early in the month against the firmer US dollar (USD), but regained some strength later in the month from positive domestic data, increases in commodity prices and a more stable global environment.

Expectations for Fed tightening increase…

US economic data over the past month were generally positive and supported expectations of a rate increase by the Federal Reserve before the end of the year. June quarter GDP growth was revised up slightly, consumer confidence rose on both the main survey measures (although it slipped back again on the preliminary October readings) and the ISM manufacturing and services indices both strengthened.

Figure 6: Major trading partners' inflation



Source: Haver

Non-farm jobs growth – while weaker than expected – was still solid with 156,000 new jobs created in September and annual growth in hourly earnings increased from 2.4% in August to 2.6%. Retail sales recovered from a dip the previous month, but industrial production continued its decline from a year ago. However, annual headline CPI inflation rose to 1.5% (from 1.1% in August) while core inflation was steady at 2.2% (Figure 6). Expectations that the Federal Reserve will increase its Funds Rate by the end of the year have risen to around a 60% probability.

…and growth steady in China…

China's annual GDP growth was 6.7% in the September quarter, unchanged from the previous two quarters. There are signs that the rebalancing of the economy is occurring with the services sector accounting for just over 50% of GDP and manufacturing just less than 40%. Growth in the September quarter was supported by fiscal stimulus and a booming housing market.

Other indicators showed a mixed picture of activity in September month: annual growth in industrial production declined from 6.3% in August to 6.1%, fixed asset investment growth was 8.2% (up from 8.1% in August) and annual retail sales growth increased slightly to 10.7%. Annual CPI inflation recovered from its low of 1.3% in August to 1.9% (Figure 6) on higher food prices and producer price inflation was positive for the first time in four years.

…but domestic demand soft in Australia

Growth in domestic demand remains soft in Australia, apart from residential investment. Retail sales picked up in August but annual growth of 3.0% remains lower than in 2014 and 2015. However, building approvals remained around record levels, although credit growth continued to moderate. Higher commodity prices will boost national income growth and reduce the trade deficit. Jobs growth eased with a fall in full-time jobs outweighing part-time jobs growth in September, taking annual employment growth down to 1.4%. The unemployment rate eased from 5.7% to 5.6% as participation fell to a two-year low of 64.5%. CPI inflation surprised on the upside in the September quarter at 0.7% (1.3% apc) (Figure 6), but the average of the core measures remained subdued at 0.3% (1.5% apc). The RBA is expected to leave its policy rate unchanged at 1.5% on 1 November.

Euro area data positive but inflation weak…

Data for the euro area have generally been quite strong in the past month. Although retail sales were up only 0.6% in the year to August, annual growth in industrial production rebounded from -0.4% to +1.9%. Business confidence has increased and manufacturing and services PMIs lifted in October, pointing to ongoing growth in output. Annual headline inflation picked up from 0.2% to 0.4% (Figure 6), but core remained low at 0.8% in September. The ECB is expected to announce an extension of its asset purchase programme in December.

…while the UK shows price pressure

UK industrial production fell 0.4% in August (+0.8% apc), but the manufacturing PMI rose to 55.4 in September, its highest level in two years, although the services PMI dipped slightly to 52.6. The pound has fallen around 6% against the USD so far in October as a "hard Brexit" looks more likely, taking its fall from pre-Brexit to around 16%. This is putting upward pressure on prices, with producer input prices up 7.2% in the year to September and annual headline inflation rising to a two-year high of 1.0% (Figure 6) (core 1.5%). The Bank of England has indicated that it is prepared to tolerate higher inflation in the short term.

Japan's economic data mixed

Household spending in Japan fell for the sixth consecutive month in August, to be down 4.6% from a year ago, and the services PMI declined to 48.2 in September. However, the manufacturing PMI rose from 49.5 to 50.4 and annual growth in industrial production was positive for the first time in a year at 1.1% in August. However, inflation remained negative (-0.5%) in the year to August (Figure 6).

GDP growth in Korea in the third quarter eased from 0.8% in June to 0.7% as cuts in production of the Galaxy 7 mobile phone affected output. Services and construction growth was robust.

Global outlook revised down

The IMF released its latest forecasts for the world economy in October, with advanced economies' growth revised down from its July *Update*, chiefly on the weaker outturns in the US in the first half of the year; growth in the UK in 2017 had already been reduced following the Brexit vote. World growth is expected to dip to 3.1% in 2016 (from 3.2% in 2015) and pick up to 3.4% in 2017. Downside risks dominate the global outlook.

Long-term *Consensus Forecasts* were also updated in October, with downward revisions for many of New Zealand's trading partners from the April estimates. Downward revisions were spread across both advanced and developing economies, but with some positive offsets. However, on a trade-weighted basis, annual growth was revised down by 0.1 percentage point to around 3.5%, low compared to history.

Special Topic: Key Judgements for the Economic Outlook

Over the first half of 2016 the economy grew at a faster pace than was expected in the *Budget Economic and Fiscal Update* (the Budget Update), as did tax revenue. Forward indicators suggest this momentum has been sustained over the second half of the year. Support for growth is coming from immigration, tourism, construction and low interest rates, while weak global demand and the high New Zealand are providing headwinds. Judgements around how these forces will play out and interact with other economic drivers over the medium term are essential in forming our view of the economic outlook. In preparation for the release of the Treasury's *Half-Year Economic and Fiscal Update* (Half-Year Update), to be released on 8 December, this special topic explores the nature of the judgements required in the areas identified above.

Judgements on the drivers of economic growth…

Over the first half of 2016 growth in real GDP was buoyed by net migration inflows, construction and tourism. In addition, the terms of trade improved as dairy prices rose and the oil price fell. The net result was a 4.2% rise in nominal (or current price) GDP in the year ended June. This compares with expected growth of 3.5% in the Budget forecasts. As a consequence, the value of GDP was $1.7 billion higher than expected, which was reflected in tax revenue exceeding the Budget forecast by $0.7 billion. Most of the variance to the Budget forecast was driven by income tax paid by individuals, reflecting a stronger-than-expected labour market.

The external environment remained challenging over the first half of 2016. Trading partner growth was below average, monetary policy accommodation increased and CPI inflation receded further as energy prices declined.

The contrasting fortunes of the domestic and international economy have been reflected in the appreciation of the New Zealand dollar over much of the year to date. This appreciation, together with weak external prices more generally, has been contributing to very low rates of CPI inflation this year. However, over the past month, the TWI has depreciated and international oil prices have increased.

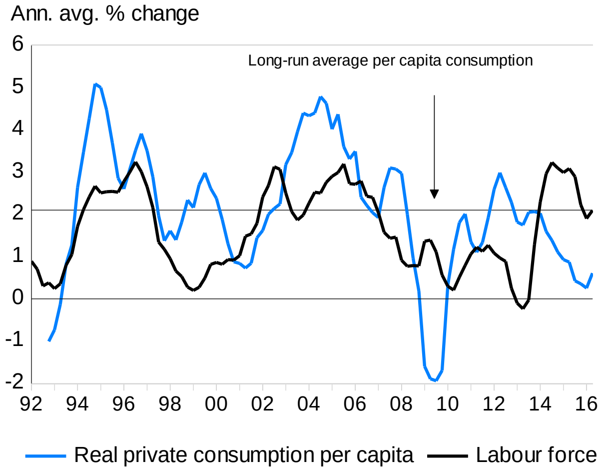
…will underpin the Half-Year Update

In the Half-Year Update we must make judgements on whether the recent drivers of growth, inflation and tax revenue persist, strengthen or subside over the next five years or so. We must also consider the interactions between these drivers and their implications for other aspects of economic performance, including the current account deficit and productivity.

Net migration inflows have added to the economy's productive capacity…

Since 2013, net migration inflows have added around 150,000 (or 4.5%) to the nation's working-age population. Over the same period, the number of people employed has increased by 250,000 and the number of people unemployed has decreased by 9,000 (together the number of people employed and unemployed create the labour force). That is, the inflow of migrants has been absorbed into employment, which has led to an increase in output. In contrast to the strength of labour supply growth, domestic demand growth has been around its long-run average. The corollary is that, in per capita terms, demand growth has been subdued. This is particularly evident in private consumption, where per capita growth has been advancing at less than 1% per year since early 2015, compared to an historical average of over 2% per year (Figure 1).

Figure 1: Labour supply growth and real private consumption expenditure per capita



Source: Statistics NZ

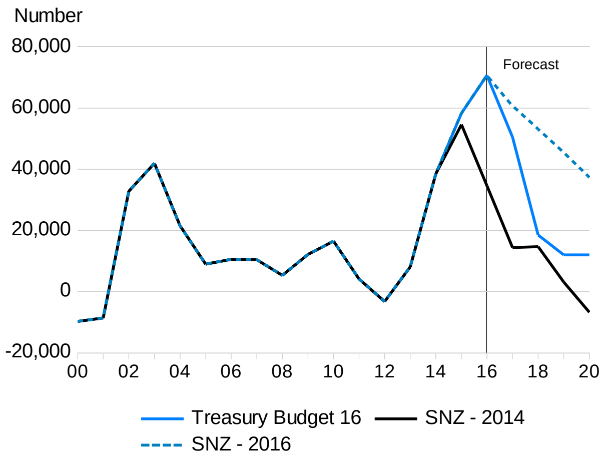
The overall balance between demand and supply in the economy is reflected in prices, and consistent with the relative strength in labour supply and relative the weakness of consumption demand, wage and price inflation has been low.

In the Budget Update, the Treasury forecast a further migration inflow of around 80,000 working-age migrants (or 2.2% of the working-age population) over the next four years. This inflow increased the economy's productive capacity by a similar proportion. That is, net migration inflows were assumed to increase the economy's underlying growth capacity by an average of 0.5% per year, which contributed to actual GDP growth averaging 2.9% per year between the years ending June 2017 and June 2020.

…and migration inflows may be slower to subside than expected in the Budget

In the Budget Update, net migration inflows were expected to subside from around the current level of 70,000 per year to 12,000 by 2019 (Figure 2). Key drivers included improved prospects for the global economy and a more balanced flow of migrants on student visas as the recent influx of arrivals completed their courses of study and left the country.

Figure 2: Net migration assumptions



Sources: SNZ, Treasury

However, the prospect of continued sub-trend trading partner growth, combined with recent signs that domestic growth will continue to outperform the Budget forecasts, suggests that New Zealand has become a relatively more attractive place to live and work. Indeed, Statistics New Zealand's (SNZ) most recent population projections include a cyclical migration assumption that is considerably stronger than previously projected (Figure 2), and well above the Treasury Budget assumption.

In sum, judgements around the level of migration inflows and their broad economic impacts (including on consumer and housing demand, the labour force and wages) have an important bearing on the outlook, including the overall size of the economy and thus the projected tax base.

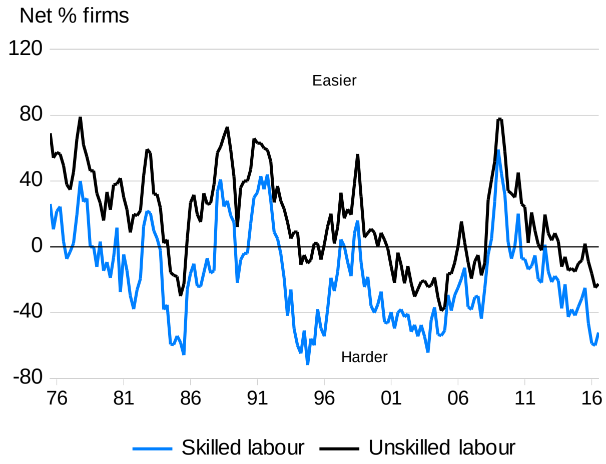
Booming construction and tourism activity…

In the housing market, the increase in demand from migration is contributing to higher prices, although other factors, including low interest rates and expectations of future increases are equally important. Following several years of relatively modest levels of supply growth, consent issuance has increased in most regions. The Auckland Unitary Plan appears to support additional supply, and the government has allocated funds to better enable housing infrastructure development. Nevertheless, construction activity will need to be sustained at a high level for some time to meet demand and alleviate price pressures.

…is meeting capacity constraints

Some indicators suggest there is limited spare capacity in the construction industry at present. House construction costs are rising at 6.3% per annum, labour costs are rising faster than the national average and builders reporting greater difficulty finding skilled labour is historically high (Figure 3).

Figure 3: Builders difficulty finding skilled and unskilled labour



Sources: NZIER

Capacity pressures are also emerging in the tourism sector. Strong competition between airlines, growth in the number of routes and low fuel prices are helping to make travel more affordable, most notably for the Chinese population. This is putting pressure on accommodation, visitor attractions and other infrastructure.

Looking forward, our forecasts will need to incorporate judgements on the ability of these sectors to meet the capacity challenges they face and the implications this has for prices.

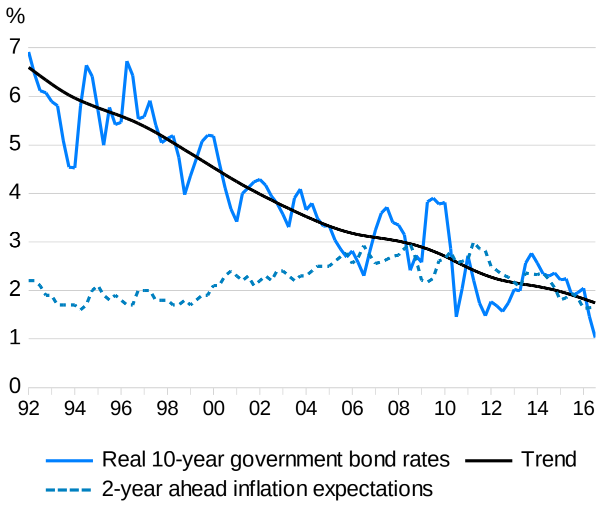
Low global inflation…

Interest rates in advanced economies are very low, in some cases below zero, as central banks continue to provide support for demand. Weak demand is also reflected in low commodity prices, particularly for energy and hard commodities, high unemployment and low global inflation. Long-term inflation expectations have fallen.

In contrast, growth in New Zealand is above trend and interest rates are relatively high. The relative attractiveness of NZ dollar assets is supporting the exchange rate at an historically high level. In addition, outside the dairy sector, prices for a number of export commodities are quite high. In the dairy sector, prices have lifted, although it is uncertain whether recent gains will be sustained. In the medium term, there are questions around where dairy prices will settle – the OECD-FAO recently downgraded their medium-term price projection. In addition, the path of the exchange rate will affect the returns to New Zealand exporters and importers.

...is affecting inflation expectations

Figure 4: Inflation expectations and real 10-year government bond rates*



* Real 10-year government bond rate is the nominal bond rate deflated by on-year ahead inflation expectations.

Sources: Reserve Bank, Statistics NZ

Persistently low rates of inflation, both at home and abroad, have been accompanied by lower rates of expected inflation (Figure 4). These lower inflation expectations are embodied in wage and price setting behaviour which in turn means that there is less upward pressure on inflation. In the current low inflation environment, a fall in inflation expectations means that a given level of interest rates may have less impact on investment than has been the case in the past.

Other factors may also be contributing to low interest rates. In particular, there is some evidence that neutral real interest rates – interest rates that are neither stimulating nor restraining output growth – have fallen (Figure 4). Several developments may have contributed to this decline, including a greater propensity to save in the wake of the global financial crisis, slower productivity growth and slower growth in the working-age population of many advanced economies. In New Zealand, slower productivity growth is the most likely explanation for the trend decline in real interest rates.[1] While the housing market and household credit is responding to low interest rates, the degree of stimulus being provided to business investment is less clear.

With the global outlook remaining subdued, global interest rates are likely to remain low for some time. With domestic interest rates likely to continue to offer relatively high returns, the New Zealand dollar is likely to continue to remain well support.   However, the extent of that support will be tested by developments in the United States, where expectations of a rise in interest rates has strengthened in recent months.

Our judgements around the way inflation, interest rates and the exchange rate evolve in the presence of these forces affects the overall shape of the economic forecasts including the current account, nominal GDP and tax revenue.

[1] “Shifting gear: why have neutral interest rates fallen?” Dr John McDermott, http://www.rbnz.govt.nz/research-and-publications/speeches/2013/speech2013-10-02

Monthly Economic Indicators is a regular report prepared by the Forecasting team of the Treasury.

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New Zealand Key Economic Data

Quarterly Indicators

		2015Q1	2015Q2	2015Q3	2015Q4	2016Q1	2016Q2	2016Q3
Gross Domestic Product (GDP)								
Real production GDP	qtr % chg[1]	0.2	0.4	0.8	0.9	0.9	0.9	...
	ann ave % chg	3.6	3.3	2.9	2.5	2.5	2.8	...
Real private consumption	qtr % chg[1]	0.6	0.3	0.7	0.9	0.5	1.9	...
	ann ave % chg	2.6	2.7	2.3	2.3	2.3	2.7	...
Real public consumption	qtr % chg[1]	0.8	0.7	0.3	-0.2	0.6	1.0	...
	ann ave % chg	2.3	2.1	2.0	2.0	1.8	1.7	...
Real residential investment	qtr % chg[1]	0.3	0.4	1.5	1.5	4.9	6.0	...
	ann ave % chg	11.5	8.6	7.8	5.9	7.2	10.3	...
Real non-residential investment	qtr % chg[1]	-2.5	1.3	2.6	-2.8	1.8	1.7	...
	ann ave % chg	9.0	7.5	4.9	1.9	1.4	1.3	...
Export volumes	qtr % chg[1]	1.8	0.1	2.0	-0.1	-0.4	4.0	...
	ann ave % chg	4.3	5.9	7.6	6.8	5.5	4.9	...
Import volumes	qtr % chg[1]	0.8	1.1	-2.3	0.8	0.7	2.6	...
	ann ave % chg	7.4	6.6	5.6	3.6	2.1	1.2	...
Nominal GDP - expenditure basis	ann ave % chg	3.6	2.8	2.8	3.2	3.8	4.2	...
Real GDP per capita	ann ave % chg	1.9	1.5	1.1	0.6	0.5	0.7	...
Real Gross National Disposable Income	ann ave % chg	3.3	2.1	1.3	1.4	2.0	2.6	...
External Trade								
Current account balance (annual)	NZ$ millions	-8,469	-8,752	-8,529	-8,321	-7,821	-7,384	...
	% of GDP	-3.5	-3.6	-3.5	-3.4	-3.1	-2.9	...
Investment income balance (annual)	NZ$ millions	-9,566	-9,499	-9,581	-9,207	-8,752	-8,374	...
Merchandise terms of trade	qtr % chg	1.2	1.5	-3.8	-2.0	4.2	-2.1	...
	ann % chg	-5.6	-4.2	-3.6	-3.2	-0.4	-3.9	...
Prices								
CPI inflation	qtr % chg	-0.2	0.4	0.3	-0.5	0.2	0.4	0.2
	ann % chg	0.3	0.4	0.4	0.1	0.4	0.4	0.2
Tradable inflation	ann % chg	-2.4	-1.8	-1.2	-2.1	-1.2	-1.5	-2.1
Non-tradable inflation	ann % chg	2.4	2.1	1.5	1.8	1.6	1.8	2.1
GDP deflator	ann % chg	-0.8	0.5	0.8	0.4	1.3	1.3	...
Consumption deflator	ann % chg	0.5	0.6	1.1	0.7	0.8	0.7	...
Labour Market								
Employment (HLFS)	qtr % chg[1]	0.6	0.0	-0.3	0.9	1.4	2.4	...
	ann % chg[1]	3.2	2.9	1.5	1.3	2.0	4.5	...
Unemployment rate	%[1]	5.4	5.5	5.5	5.0	5.2	5.1	...
Participation rate	%[1]	69.3	68.9	68.3	68.2	68.8	69.7	...
LCI salary & wage rates - total (adjusted)[5]	qtr % chg	0.3	0.5	0.4	0.4	0.4	0.4	...
	ann % chg	1.7	1.6	1.6	1.5	1.6	1.5	...
QES average hourly earnings - total[5]	qtr % chg	0.0	0.8	1.0	0.3	0.3	0.5	...
	ann % chg	2.1	2.8	2.3	2.1	2.4	2.1	...
Labour productivity[6]	ann ave % chg	0.5	0.6	0.7	0.5	0.9	-0.1	...
Retail Sales								
Core retail sales volume	qtr % chg[1]	2.2	0.0	1.2	1.4	1.1	2.6	...
	ann % chg	7.2	5.8	5.2	5.2	4.8	6.4	...
Total retail sales volume	qtr % chg[1]	2.1	0.1	1.5	1.1	1.0	2.3	...
	ann % chg	7.1	5.5	5.7	5.3	4.9	6.0	...
Confidence Indicators/Surveys								
WMM - consumer confidence[3]	Index	117	113	106	111	110	106	108
QSBO - general business situation[4]	net %	23.3	5.1	-14.5	14.7	1.7	18.6	25.7
QSBO - own activity outlook[4]	net %	25.0	9.3	21.7	21.6	3.8	16.8	39.2

Monthly Indicators

		2016M04	2016M05	2016M06	2016M07	2016M08	2016M09	2016M10
External Sector								
Merchandise trade - exports	mth % chg[1]	24.1	-1.5	-1.3	1.6	-8.3	1.2	...
	ann % chg[1]	4.7	4.7	2.3	-4.9	-8.9	-5.7	...
Merchandise trade - imports	mth % chg[1]	11.6	-1.4	-1.1	4.1	-3.4	6.0	...
	ann % chg[1]	0.7	5.7	-4.5	-11.9	-3.7	1.8	...
Merchandise trade balance (12 month total)	NZ$ million	-3600	-3624	-3335	-2956	-3109	-3404	...
Visitor arrivals	number[1]	284,130	284,890	282,960	291,490	286,350	296,710	...
Visitor departures	number[1]	294,270	294,860	286,400	297,740	284,390	291,360	...
Housing								
Dwelling consents - residential	mth % chg[1]	7.6	-0.2	19.8	-8.2	-1.0	...	...
	ann % chg[1]	11.8	16.1	34.8	-0.5	23.7	...	...
House sales - dwellings	mth % chg[1]	8.8	-4.1	-2.3	-9.5	7.7	-5.3	...
	ann % chg[1]	18.4	13.6	5.9	-10.1	-3.1	-9.5	...
REINZ - house price index	mth % chg	2.2	2.0	1.6	2.6	-2.0	1.2	...
	ann % chg	14.5	14.7	14.2	16.3	11.7	9.7	...
Private Consumption								
Electronic card transactions - total retail	mth % chg[1]	0.8	-0.2	1.2	0.2	-1.2	1.9	...
	ann % chg	7.8	3.3	6.8	5.8	3.2	6.1	...
New car registrations	mth % chg[1]	7.0	-4.2	-0.8	-0.1	9.7	-2.7	...
	ann % chg	8.7	4.2	-1.2	-1.9	10.5	8.6	...
Migration								
Permanent & long-term arrivals	number[1]	10,440	10,220	10,250	10,450	10,350	10,960	...
Permanent & long-term departures	number[1]	4,930	4,670	4,540	4,810	4,690	4,630	...
Net PLT migration (12 month total)	number	68,110	68,432	69,090	69,015	69,119	69,954	...
Commodity Prices								
Brent oil price	US$/Barrel	41.58	46.74	48.25	44.95	45.84	46.57	*49.93*
WTI oil price	US$/Barrel	40.76	46.76	48.80	44.69	44.76	45.20	*50.19*
ANZ NZ commodity price index	mth % chg	-2.8	2.5	0.1	-0.3	1.9	3.9	...
	ann % chg	-8.5	-3.5	-6.1	-5.8	-0.5	-5.0	...
ANZ world commodity price index	mth % chg	-0.8	1.0	3.5	2.1	3.2	5.1	...
	ann % chg	-16.8	-11.7	-5.6	1.9	11.1	10.6	...
Financial Markets								
NZD/USD	$[2]	0.6892	0.6804	0.7034	0.7123	0.7229	0.7309	*0.7162*
NZD/AUD	$[2]	0.8998	0.9290	0.9502	0.9472	0.9481	0.9634	*0.9403*
Trade weighted index (TWI)	June 1979 = 100[2]	72.80	72.86	75.23	76.30	76.77	77.84	*76.82*
Official cash rate (OCR)	%	2.25	2.25	2.25	2.25	2.00	2.00	2.00
90 day bank bill rate	%[2]	2.34	2.38	2.37	2.37	2.24	2.23	*2.16*
10 year govt bond rate	%[2]	2.86	2.68	2.51	2.27	2.20	2.40	*2.50*
Confidence Indicators/Surveys								
ANZ - business confidence	net %	6.2	11.3	20.2	16.0	15.5	27.9	...
ANZ - activity outlook	net %	32.1	30.4	35.1	31.4	33.7	42.4	...
ANZ-Roy Morgan - consumer confidence	net %	120.0	116.2	118.9	118.2	117.7	121.0	122.9
Performance of Manufacturing Index	Index	56.7	57.1	57.6	55.6	55.2	57.7	...
Performance of Services Index	Index	57.8	56.9	56.5	54.3	57.9	54.1	...

qtr % chg	quarterly percent change
mth % chg	monthly percent change
ann % chg	annual percent change
ann ave % chg	annual average percent change

1 Seasonally adjusted
2 Average (11am)
3 Westpac McDermott Miller
4 Quarterly Survey of Business Opinion
5 Ordinary time
6 Production GDP divided by HLFS hours worked

Sources: Statistics New Zealand, Reserve Bank of New Zealand, NZIER, ANZ, Haver Analytics, Thompson Reuters, Westpac McDermott Miller, ANZ-Roy Morgan, REINZ, BNZ-Business NZ