

Monetary Policy *Statement*

March 2015¹

This *Statement* is made pursuant to Section 15 of the Reserve Bank of New Zealand Act 1989.

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¹ Projections finalised on 25 February 2015. Policy assessment finalised on 11 March 2015.

1 Policy assessment

The Reserve Bank today left the Official Cash Rate unchanged at 3.5 percent.

Global financial conditions remain very accommodative, and are reflected in high equity prices and record low interest rates. However, volatility in financial markets has increased since late-2014 following the sharp drop in oil prices, continued uncertainty about the global outlook and US monetary policy, and policy easings by a number of central banks.

Trading partner growth in 2015 is expected to continue at a similar pace to 2014. Growth remains robust in the US, but has slowed recently in China.

World oil prices are about 50 percent below their June-2014 peak, more reflecting increased supply than demand factors. The fall in oil prices is net positive for global economic growth, but will further reduce inflation in the near term, at a time when global inflation is already very low.

The domestic economy remains strong. The fall in petrol prices has increased households' purchasing power and lowered the cost of doing business. Employment and construction activity are strong. Net immigration remains high, and monetary policy continues to be supportive. The housing market is showing signs of picking up, particularly in Auckland. However, there are a number of factors weighing on domestic growth, including drought conditions in parts of the country, fiscal consolidation, reduced dairy incomes, and the high exchange rate.

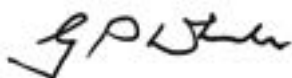
On a trade-weighted basis, the New Zealand dollar remains unjustifiably high and unsustainable in terms of New Zealand's long-term economic fundamentals. A substantial downward correction in the real exchange rate is needed to put New Zealand's external accounts on a more sustainable footing.

Annual CPI inflation is expected to fall to around zero in the March quarter and remain low over 2015, reflecting the high exchange rate, low global inflation, and the recent falls in petrol prices. Inflation expectations appear to have fallen recently, and we will be closely monitoring the impact of this trend on wage and price setting behaviour, especially in the non-traded sector.

Monetary policy remains focused on ensuring inflation settles at 2 percent over the medium term. As the economy expands, inflation returns gradually towards the midpoint of the target range.

Our central projection is consistent with a period of stability in the OCR. However, future interest rate adjustments, either up or down, will depend on the emerging flow of economic data.

Graeme Wheeler



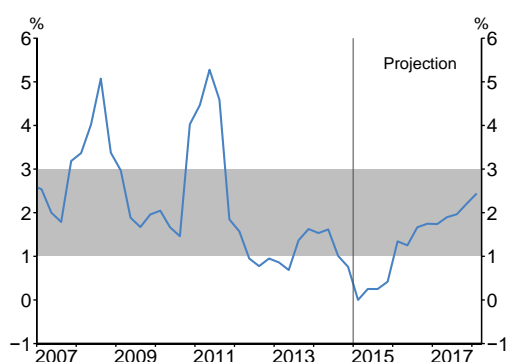
Governor

2 Key policy judgements

New Zealand's economy is estimated to have grown by more than 3 percent in 2014. Household income and consumption have been increasing strongly, as has business investment. Behind this momentum are low interest rates, increasing construction activity, high net immigration, rising house prices, and the flow-on effects from the high export commodity prices of the 2013/14 dairy season.

Despite this rate of output growth, annual Consumers Price Index (CPI) inflation has been low for some time and fell to 0.8 percent in the December 2014 quarter (figure 2.1). Annual non-tradables inflation has averaged 2.6 percent over the past three years while annual inflation in the tradables sector has averaged -0.8 percent. The weakness in tradables inflation stems from weak global inflation, falling prices for capital goods, the high exchange rate, and over the December quarter from sharp falls in petrol prices.

Figure 2.1
CPI inflation and projection
(annual)



Source: Statistics New Zealand.

The major development since the December *Statement* has been a sharp fall in the level of world oil prices. Dubai oil prices were US\$55 per barrel when the current projection was finalised – 50 percent below the June 2014 peak and 35 percent below what we assumed in the December *Statement* (on a quarterly-average basis). The fall appears to be driven more by increased supply than weaker demand, so should be positive for global growth and trading partner demand. The fall in world

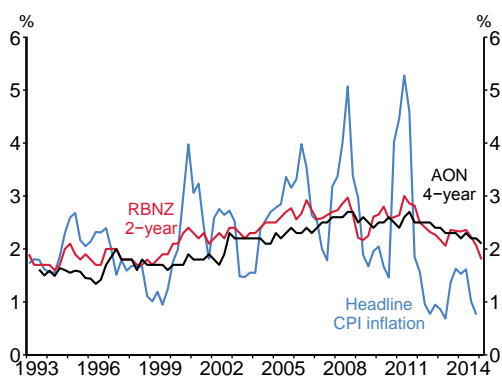
oil prices is also positive for the New Zealand economy, lowering inflation in the near term and increasing the outlook for medium-term GDP growth. Chapter 6 gives a detailed discussion of the framework we use to think about how a fall in the level of oil prices will affect the economy.

Monetary policy is not responding to the direct, near-term effects on inflation of the fall in the oil price level of the past six months, nor will it respond to the direct effects of the rise in oil prices assumed in the projection for 2017. This is because monetary policy affects inflation with a lag and cannot offset these effects – trying to do so would result in unnecessary instability in output, interest rates and the exchange rate. Consequently, Clause 3 of the *Policy Targets Agreement* (PTA) directs monetary policy to focus on the medium-term trend in inflation when faced with price level shifts of this sort. In general, the two main influences on medium-term inflation are price-setting behaviour and the strength of demand for productive resources.

We see current price-setting behaviour as consistent with annual inflation settling at 2 percent in the medium term. Reflecting the low-inflation environment of the past three years, survey measures of inflation expectations have been easing since 2013 to be closer to the 2 percent target midpoint, and have fallen further since the December *Statement* (figure 2.2, overleaf). Box A discusses risks to this view – how the outlook for policy could change if price setters built in an even lower expectation of inflation in response to recent low CPI outturns.

Over the medium term, growth in output is expected to increase the utilisation of productive resources, leading to a pick-up in domestic inflation. Building work is projected to continue rising with the rebuild in Canterbury and in response to a shortage of housing in Auckland especially. The current shortage of housing, high net immigration and low interest rates are expected to see house price inflation increase over 2015. Low interest rates, increasing house prices, strong household income growth, and falls in oil prices are supporting consumption and investment growth, and are expected to continue doing so over the

Figure 2.2
Headline inflation and measures of inflation expectations
(annual)



Source: AON, Statistics New Zealand, RBNZ/UMR.

medium term. With rising utilisation of labour and capital in the economy, domestic inflation is expected to increase over time and annual headline inflation return to about 2 percent.

However, with inflation currently at modest levels and expected to increase only gradually, it is appropriate for monetary policy to remain supportive for an extended period. Relative to the December *Statement*, the outlook for medium-term inflation pressure is more muted, reflecting continued falls in surveyed measures of inflation expectations and a lower starting point for inflation. Consequently, the projection for 90-day interest rates at the start of 2017 is 70 basis points lower than in the December *Statement*.

This outlook and the corresponding projection for interest rates depend on a number of key assumptions that we discuss in more detail below:

- oil prices and the domestic response;
- dairy prices and farmers' spending;
- the housing market; and
- capacity pressure and domestic inflation.

Oil prices

In the projection we assume the Dubai oil price remains near US\$55 per barrel over the next two years before increasing towards US\$70 at the end of the

projection. We expect petrol price falls to date to directly lower annual CPI inflation by about 0.9 percentage points, to around zero, in the year to the March 2015 quarter. These direct effects are likely to weigh on annual inflation figures until the end of 2015. The fall in world oil prices is also expected to lower inflation over the next 18 months by lowering input costs for businesses. It also boosts demand growth in the economy: at a national level the fall in the price of imported oil raises New Zealand's purchasing power, as measured by the terms of trade.

As noted above, monetary policy's focus is on the medium-term trend in inflation, and oil prices affect that only to the extent that they affect wider pricing behaviour and demand pressure. Box A discusses the risk to our view that price-setting behaviour is, and will remain, consistent with medium term inflation settling at an annual rate of 2 percent. It notes that a significant reduction in inflation expectations would warrant more supportive monetary policy.

Dairy prices

While the aggregate price for dairy products on the GlobalDairyTrade (GDT) platform has picked up since the December *Statement*, it remains 35 percent below the record high of February 2014. Fonterra's projected payout of \$4.70 per kg of milk solids will see dairy farm incomes over the 2014/15 season be about \$6 billion lower than in the 2013/14 season.

There are signs that many farmers used last season's strong payout to reduce debt levels. That would allow some smoothing by dairy farmers of spending through the lower incomes this season, consistent with past behaviour. A risk, however, is that the reduced cash flow results in a sharper slowdown in spending and economic activity. Further, dry weather over the past few months has adversely affected grass growth and milk production, leading Fonterra to reduce its production forecast for the season. The Minister for Primary Industries has classified the east coast of the South Island as being in drought, and some North Island regions are being monitored.

Box A

Price-setting behaviour and the outlook for policy

Price- and wage-setting behaviour is very important for medium-term inflation and the stance of monetary policy. In the short term, CPI inflation can fluctuate considerably. The path for international crude oil prices, for example, could be very different than what is assumed in our central projection, creating volatility in headline inflation. Monetary policy cannot offset this temporary volatility, but instead focuses on inflation over the medium term.

Nonetheless, changes in headline inflation can have pervasive and persistent effects on price-setting behaviour with significant implications for policy. Between 2000 and 2010, annual CPI inflation was about 2.5 percent on average, and inflation expectations settled there over time. Recently, headline inflation has been more subdued and inflation expectations have moderated towards the 2 percent target midpoint.

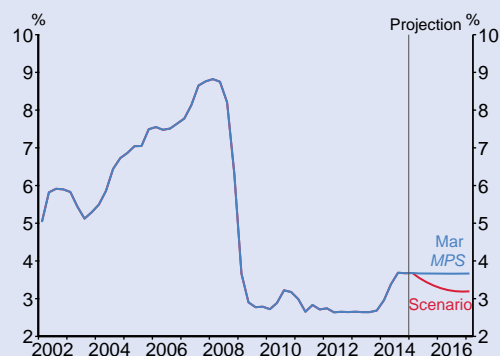
In our central projection, annual inflation is expected to gradually return to about 2 percent and inflation expectations are expected to remain anchored near the target midpoint. Pressures on wages and prices are expected to be contained, despite strong domestic demand and increasing utilisation of resources in the economy. Consequently, it is appropriate for monetary policy to remain accommodative for an extended period.

However, it is possible that price- and wage-

setting behaviour responds differently to what is currently assumed. Low headline inflation as a result of recent falls in oil prices could alter price-setting behaviour. One alternative scenario to our central projection is that inflation expectations settle near 1 percent over the coming year – considerably lower than the target midpoint.

Annual CPI inflation would increase more gradually as households and businesses negotiate prices and wages in light of these lower inflation expectations. It would be necessary for the 90-day rate to be lower than currently projected, for annual CPI inflation to reach 2 percent and inflation expectations to be anchored at the target midpoint over the medium term. In this scenario, the 90-day rate would be lower by enough to ensure annual inflation, and inflation expectations, return to 2 percent over the medium term (figure A1).

Figure A1
90-day interest rate



Source: RBNZ estimates.

The housing market

Annual house price inflation on a 3-month moving average picked up to 6.5 percent in January, with Auckland the strongest region at just under 13 percent. We expect annual house price inflation to peak in late 2015 and ease gradually thereafter as increased construction helps address housing shortages and net immigration falls over 2015.

Two key upside risks to house price inflation relate to the outlook for net immigration and to movements in fixed mortgage rates. While net immigration is already very high and departures have fallen to a very low level, New Zealand's labour market outlook is relatively strong, which could lead to sustained strength in net inflows. Interest rates on 2-year and 3-year fixed mortgages have fallen to levels close to those of mid-2013.

The inflation outlook

The high exchange rate and weak global inflation have held down tradables inflation, and so headline inflation, over the past few years. Recent falls in oil prices will further lower annual tradables inflation in the March quarter to about minus 2.6 percent.

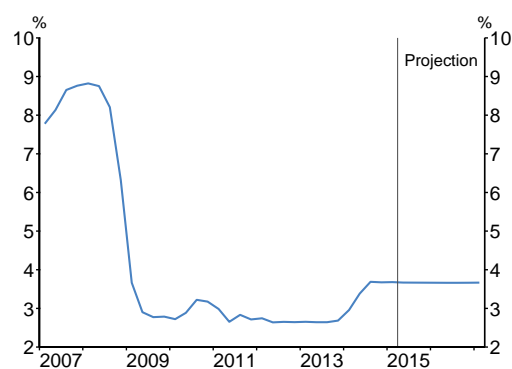
While non-tradables inflation has been higher than tradables inflation, at 2.4 percent in annual terms, it remains below its long-term average. One reason is that – according to a wide range of indicators – the absorption of spare capacity since the recession of 2008/09 has been gradual. Another is that low international inflation and a high exchange rate have held down headline inflation, weighing on price- and wage-setting behaviour. Consistent with the strong growth outlook, we expect annual non-tradables inflation to pick up gradually to 3.3 percent in early 2018.

Monetary policy

Annual CPI inflation is low, and expected to fall further this quarter, reflecting recent petrol price decreases. The low headline inflation of the past three years is being reflected in price- and wage-setting behaviour, with survey measures of inflation expectations falling since 2013 to be centred around 2 percent. In that environment, it is appropriate for interest rates to remain around current levels (figure 2.3).

With domestic momentum strong, interest rates supportive (Box B) and lower petrol prices boosting demand, GDP growth is expected to be between 3 and 4 percent over the next two years. This will increase capacity utilisation in the economy, and will see annual CPI inflation rise gradually to about 2 percent over the medium term.

Figure 2.3
90-day interest rate



Source: RBNZ estimates.

Box B

Review of recent monetary policy decisions and economic conditions

Annual CPI inflation has averaged 1.1 percent since the start of 2012, held down largely by international factors. Non-tradables inflation has been higher than tradables inflation, but to date has responded in a muted way to strong growth in output. In part, this reflects how gradually output growth has absorbed the economy's spare productive resources in recent years.

In the face of the large negative output gap that resulted from the 2008/09 recession, short-term interest rates were cut significantly and held below the Bank's assessment of the neutral level (figure B1). The neutral interest rate is an important concept in monetary policy. It represents the dividing line between where interest rates are stimulating the economy, to prevent deflationary forces gaining momentum, or constraining economic activity, to prevent inflationary forces gaining momentum. Accordingly, the stance of monetary policy in recent years has supported the subsequent recovery in growth, and is consistent with meeting the Bank's medium-term price stability objective.

The Bank began to increase the OCR in March 2014 as spare capacity was steadily being absorbed and the outlook indicated it was appropriate to start moving interest rates towards neutral. After lifting the OCR by 100 basis points to 3.5 percent by July 2014, the Bank indicated a pause to assess how the recent interest rate increases and other forces would pass through the economy.

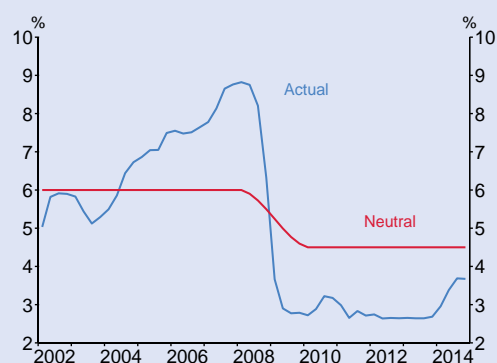
Since that time, the outlook for medium-term inflationary pressures has been revised lower, reflecting a deterioration in the global economic outlook, low observed headline inflation, and a continued moderation in inflation expectations which are now centred around 2 percent. More recently, the large decline in international oil prices has dampened the short-term outlook for headline CPI inflation. The Bank has indicated that it is appropriate for monetary policy to remain at current supportive levels for longer than previously indicated to

ensure annual CPI inflation increases to 2 percent over the medium term.

We continue to assess some key assumptions in our policy framework – such as the neutral interest rate level. At this point in time, we view the stance of monetary policy as remaining in stimulatory territory: the steady absorption of productive resources is consistent with the decline in the unemployment rate, the increase in the Quarterly Survey of Business Opinion (QSBO), survey measures of capacity pressures and the steady increase in our estimate of the output gap (figure B.2).

The Bank lowered its neutral nominal 90-day interest rate assumption following the Global Financial Crisis (GFC)¹ However, it remains an open question whether these changes were sufficient to reflect developments in recent years, including the more recent signs that longer-term inflation expectations have adjusted lower to being more consistent with the midpoint of the Bank's target range.

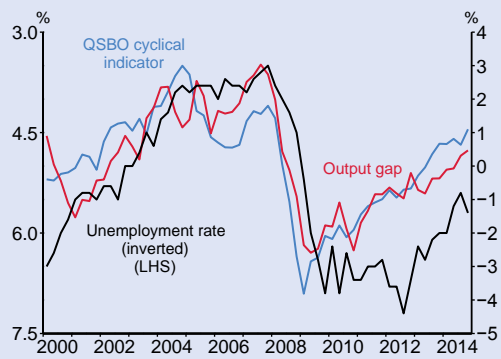
Figure B1
Nominal 90-day rate and neutral nominal rate



Source: RBNZ estimates.

¹ See McDermott, J (2013) "Shifting gear: why have neutral interest rates fallen?", speech delivered to the New Zealand Institute of Chartered Accountants CFO and Financial Controllers Special Interest Group, October.

Figure B2
Output gap, unemployment rate and QSBO
capacity utilisation



Source: Statistics New Zealand, NZIER, RBNZ estimates.

3 Financial market developments

Market volatility has increased since late last year, on further disinflationary pressures from the plunge in oil prices, increased uncertainty about the global economic outlook, and surprise policy easings by a number of major central banks. Investor risk appetite has fallen, but further monetary stimulus has driven global bond yields to new historical lows and helped fuel further gains in equity markets.

Lower global interest rates have been transmitted into the New Zealand yield curve, with significant falls in local swap and bond rates. The overnight indexed swaps (OIS) market has shifted from pricing in future OCR rate hikes to pricing in a chance of rate cuts through 2015. These trends, along with strong competition among local banks, have led to widespread cuts in fixed mortgage rates across all durations. Mortgage holders continue to move from floating to fixed rates.

The New Zealand dollar trade-weighted index (TWI) has moved in a range of 75-80 over the past quarter, with considerable variation in bilateral rates within the TWI. The New Zealand dollar reached multi-year highs against the Australian dollar, euro, and Japanese yen, but depreciated against the United States dollar and Chinese renminbi.

International market developments

Prices for a wide range of commodities have fallen since the middle of last year and that trend intensified towards the end of the year, particularly for oil. The correlated falls in many commodity prices reflect a number of factors – the stronger US dollar, the increased supply response after years of above-average commodity prices, and weaker global demand. Furthermore, the particularly large fall in oil prices has flowed through into oil substitutes and pushed down the cost of producing commodities for energy-intensive industries.

The large fall in oil prices since the end of June contributed to financial market volatility by fuelling investor concerns about global disinflationary pressure and the global economic outlook. Other factors contributing to increased market volatility include geopolitical tensions

in Russia, Ukraine, and the Middle East, and a number of surprise easings in monetary policy by central banks (as noted below). Greece's change of government in late January raised concerns about the country's continued membership of the euro area, as it negotiated the terms of the existing bailout programme.

A number of volatility indicators bottomed around the middle of last year and have since shown much bigger swings, particularly over the past few months. The VIX index, a measure of implied volatility for the S&P500 has risen above 20 five times since the beginning of October, compared to only once during the prior 12 months. Bond market and currency volatility has also increased.

Financial market participants have noted the increased divergence in economic performance between the US and other major countries. This has led to diverging monetary policy trends and strength in the US dollar.

In the United States, investors remain focused on the date for the Federal Reserve's first increase in the federal funds rate after a prolonged period of monetary accommodation. The January Federal Open Market Committee (FOMC) statement signalled that the Federal Reserve would be patient in beginning to normalise the stance of monetary policy, while at the same time dropping the language that policy would be unchanged for a "considerable" time. Many FOMC members believed that mid-year was likely to be an appropriate time to raise interest rates, but market pricing continues to reflect a start date closer to September.

In contrast to the US, a large number of other central banks have eased monetary policy this year – in many cases surprising markets. At its January meeting, the European Central Bank (ECB) announced that from March it would increase the size of its asset purchases from about EUR13 billion per month to EUR60 billion, mainly via purchases of government bonds. This will continue until September 2016, or until there is evidence that inflation expectations are rising and the inflation outlook is improving. At this rate, additional asset purchases will amount to EUR1.14 trillion by September 2016, with the size of the programme surprising market

estimates to the upside.

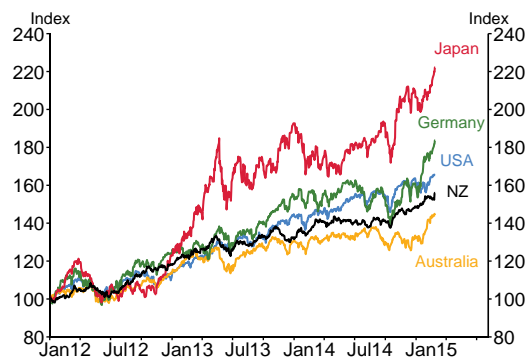
Ahead of the ECB's announcement, the Swiss National Bank (SNB) abandoned its defence of the exchange rate floor of CHF1.20 per euro in early January, a policy that had been in place since September 2011. The market was unprepared and traded chaotically, a result of a lack of market liquidity. The Swiss franc per euro exchange rate appreciated by more than 40 percent at one stage, before settling about 20 percent stronger. At the same time the SNB cut its policy rate by 50 basis points to a range of minus 0.75 percent to minus 0.25 percent. The motivation for the policy move was the reduced overvaluation of the Swiss franc. However, many analysts suggested that a larger asset purchase programme from the ECB would put significant upward pressure on the size of the SNB's balance sheet if the Swiss franc–euro floor was to be maintained.

The SNB's and ECB's policy moves made it more challenging for Denmark's central bank to maintain its currency peg against the euro. To reduce portfolio flows, Denmark's central bank cut its policy rate four times over a three-week period, with the deposit rate reduced by a cumulative 70 basis points to minus 0.75 percent.

Other central banks also eased monetary policy, with more than 20 central banks adopting an easier stance since the beginning of 2015. Of the major central banks, these included policy rate cuts by Canada, Australia, Sweden and Russia. The People's Bank of China continued with its small incremental policy easing measures by cutting the system-wide reserve requirement ratio by 50 basis points to 19.5 percent. The Bank of Japan continues to expand its monetary base at an annualised rate of 80 trillion yen through 2015.

Easier monetary policy has driven global bond yields lower and global equities higher. A number of global equity benchmarks reached record highs, including the S&P500 index in the United States and Germany's DAX index, while Japan's Nikkei 225 index reached its highest level in nearly 15 years. Australia's S&P-ASX200 index reached a seven-year high following the surprise easing by the Reserve Bank of Australia, while the NZX50 continued its strong run (figure 3.1).

Figure 3.1
Benchmark stockmarket indices
(capital indices, 1 January = 100, local
currency terms)



Source: Reuters.
Note: Indices shown are USA S&P500, Japan Nikkei 225, Germany DAX, Australia S&P-ASX200, and New Zealand NZX50.

A number of risk appetite indices (measured by the relative performance of high-risk assets versus low-risk assets) show that investor risk appetite is fairly low, reflecting higher market volatility and concerns about the global economic outlook. Thus, the strength of global equity markets likely reflects the easy global monetary conditions more than the strength of the economic outlook. This view is supported by the fact that price-to-earnings multiples have been expanding steadily, while earnings growth has remained modest.

Financing and credit

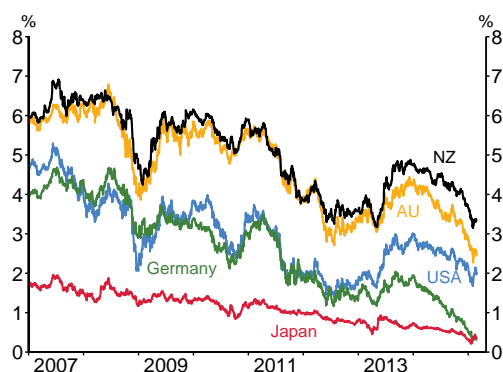
Government bond yields have continued to trend lower since December, with some markets seeing historical lows. The ECB's announcement of a major quantitative easing programme, mostly made up of purchases of government bonds, and negative policy rates in Switzerland, Denmark and Sweden, have driven many European sovereign bond rates negative. At least 10 European countries have negative government bond rates out to two-years maturity, while Germany, Netherlands, Switzerland, Denmark, Austria and Finland face negative 5-year government bond rates. In late January, Switzerland's government bond curve had negative yields out to 15-years maturity, but rates have since lifted.

Germany's 10-year bond rate has declined about 40 basis points since December and traded below 0.30

percent at the end of February. Countries that were at the heart of the European debt crisis such as Italy, Spain, Portugal and Ireland, saw big reductions in their 10-year rates, ranging from 50 to 100 basis points. Thus, there was no clear evidence of any spillover from the uncertainty following Greece's election.

In mid-January, Japan's 10-year rate fell to as low as 0.20 percent before staging a rebound back towards 0.40 percent. The United States 10-year rate has traded in a wide range of 1.65 percent to 2.30 percent since December. Falling European rates had a clear impact on the US market, as investors switched out of low or negative yielding European markets. Recently, bond market investors adopted a more cautious approach, driving rates higher as the timing for the first policy hike by the Federal Reserve approaches.

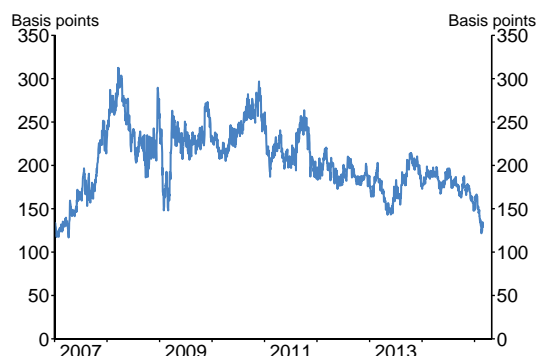
Figure 3.2
10-year government bond yields



Source: Reuters.

New Zealand and Australia's high relative yields attracted investors, driving a lower trend in New Zealand-global and Australia-global interest rate spreads. New Zealand's 10-year government bond rate fell to as low as 3.10 percent in early February, a record low, before rising back up to 3.30 percent by the end of February. The New Zealand-United States 10-year bond spread declined to 120 basis points in mid-February, its lowest level in about seven years (figure 3.3). Falling Australian bond rates were supported by easier monetary policy. Australia's 10-year rate fell to a record low of 2.30 percent, before rebounding towards 2.50 percent.

Figure 3.3
NZ-US 10-year government bond spread



Source: Reuters.

Lower government bond rates have fed through into corporate bond rates, meaning that companies have been able to borrow at historically low rates. Global high-grade credit spreads troughed around the middle of last year and while there has been a small uplift since then, they have been fairly steady over the past quarter. Global high-yield bond spreads have generally been widening over the past six months, reflecting the high volatility environment and a significant widening in credit spreads for the energy sector as oil prices have plummeted. New Zealand corporate bond spreads have remained low, hovering close to post-GFC lows over recent months.

Marginal funding costs for New Zealand banks have increased slightly over recent months, but remain near six-year lows. There have been few overseas long-term debt issues by local banks, reflecting that they are well funded by strong deposit growth while credit growth has remained modest.

Foreign exchange market

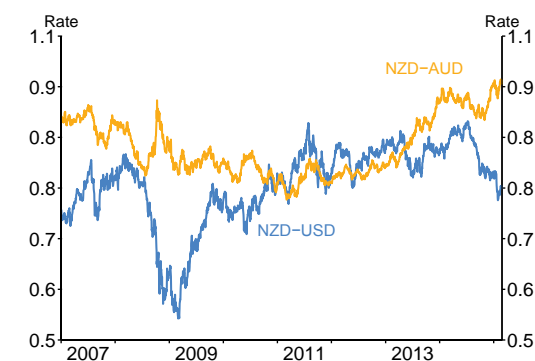
At 78, the New Zealand dollar TWI is up slightly since the December *Statement* and has remained in a range of 75-80. Cross-currency correlations are close to the bottom of a five-year range, suggesting that idiosyncratic factors have driven recent movements in currencies.

The NZD-AUD exchange rate reached a post-float high of just over 0.97 in late February (figure 3.4). The Australian dollar weakened, with investors remaining concerned about growth prospects as the country transitions away from strong resource investment growth. Falling commodity prices and unexpectedly easier monetary policy have also contributed.

In late-February, the NZD-EUR exchange rate reached its highest level since the euro was introduced, and over the past few months has increased more than 6 percent. The euro has been one of the weakest major currencies, driven by the ECB's announcement of a major quantitative easing programme. Negative interest rates on some government bonds in the euro area have driven portfolio flows away from the region, contributing to the weaker euro.

Against the major currencies in the TWI basket, the New Zealand dollar has fallen the most against the US dollar. The US dollar has been supported by the recovery of the US economy and expectations of tighter monetary policy later in the year. In late December the NZD-JPY reached a seven-year high, but has subsequently fallen. In general, the Japanese yen has been relatively well supported over the last quarter, despite the ongoing expansion of Japan's monetary base.

Figure 3.4
NZD exchange rates



Source: Reuters.

Other domestic interest rate developments

Since the December *Statement* the market has shifted from pricing in future OCR hikes to pricing in future rate cuts. OIS market prices build in a slightly increasing probability of a 25 basis point rate cut as the year progresses. With 16 basis points of rate cuts priced in by December 2015, one could interpret this as a 64 percent chance of a 25 basis point cut by the end of the year.

There are a number of possible explanations for this change in market view. In the January OCR Review, the Reserve Bank's policy guidance was that future interest rate adjustments could be either up or down. This, compared to previous guidance of likely future policy rate increases, drove a modest fall in short-term interest rates on the day. The surprise policy easings by a number of other central banks, including Australia and Canada, have supported expectations of a possible easing by the Reserve Bank of New Zealand. Lower oil prices and a December quarter CPI outturn that was below market expectations have also supported the view that future monetary policy will be more stimulatory.

The New Zealand yield curve is very flat. The 3-month bank bill rate five years forward is trading at 3.72 percent, not much higher than the current 3-month rate of 3.66 percent, and well down on the 4.10 percent rate prevailing just before the December *Statement*.

Indeed, New Zealand interest rates have moved lower across the yield curve. Falls in 3-month and 6-month bank bill rates have been modest and reflect the small chance of cuts to the OCR priced in for this year. Falling global rates have had a more substantial impact on the longer end of the curve, with a 44 basis point fall in the 10-year swap rate compared to a 22 basis point fall in the 2-year rate, resulting in a further flattening of the yield curve. At one stage around the end of January, the swap curve was almost completely flat, with just a 6 basis point spread between the 2-year and 10-year rate.

Continued Kauri issuance has contributed to a lower interest rate curve. Kauri issuance began the year strongly, with \$2.7 billion of issuance in the first two months of the year. Kauri issuers have sought to offset

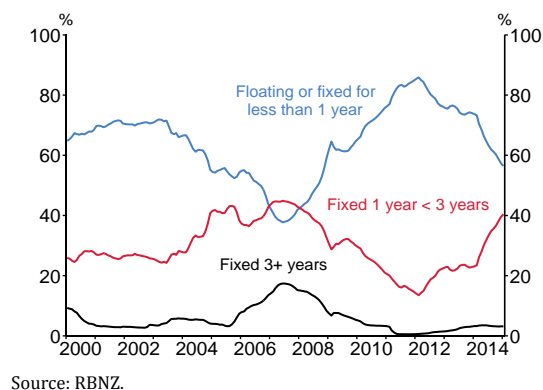
their fixed-rate exposure through the swap market, putting downward pressure on swap rates. The average floating mortgage rate has been unchanged since July, when the Reserve Bank last increased the OCR. However, since then a downward trend in swap rates has fed through into lower fixed mortgage rates (figure 3.5). The average 2-year fixed rate has fallen by about 95 basis points, while the average 3-year fixed rate has fallen by about 85 basis points. Furthermore, strong competition in the banking sector means that cash-back deals and discounting of advertised rates is still taking place. The flat yield curve has encouraged New Zealand's first 10-year fixed rate mortgage to be offered.

Mortgage holders continue to move away from the relatively more expensive floating-rate mortgages. The migration towards fixed-rate mortgages appears to be slowing, but the recent declines in fixed mortgage rates could encourage an increase in that flow over coming months. The proportion of mortgages on floating rates or fixed for less than one year declined to 56 percent in January, down from 74 percent a year ago (figure 3.6). The mortgage book overall remains fairly short in duration, with only 3 percent of mortgages on fixed rates of more than three years. The weighted average time to re-price mortgages increased to 12.0 months in January, up from 8.4 months a year earlier.

Figure 3.5
Average mortgage rates by term



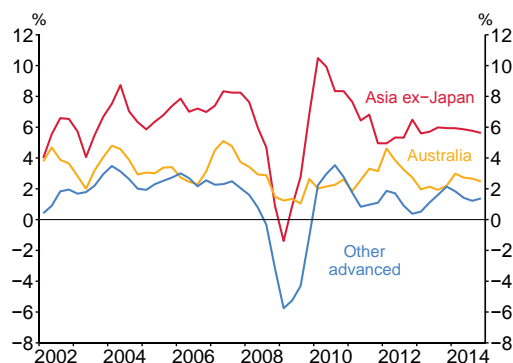
Figure 3.6
Proportion of mortgage book by time to rate reset



4 Economic conditions in New Zealand's trading partners

Economic growth in New Zealand's trading partner economies continued at a moderate pace in the second half of 2014, but with large divergences in growth among regions. Growth in New Zealand's emerging Asian trading partners has generally remained strong, while growth in most advanced economies has been modest (figure 4.1). As a result, New Zealand continues to benefit from its high share of trade with emerging Asian economies.

Figure 4.1
Trading partner GDP growth
(annual)



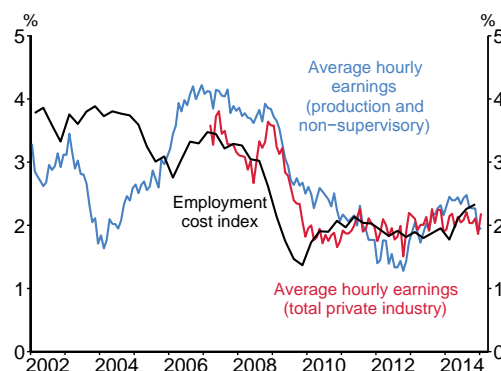
Source: Haver Analytics, RBNZ estimates.
Note: Asia ex-Japan includes China, Hong Kong, India, Indonesia, Malaysia, Singapore, South Korea, Taiwan, Thailand, and the Philippines. Other advanced trading partners include Canada, the euro area, Japan, the United Kingdom, and the United States.

The economic recovery has continued in major advanced economies, although the speed of recovery has differed across regions. The prolonged and gradual nature of the recovery means that spare capacity remains in most advanced economies.

Growth in the United States gained momentum during 2014, with quarterly GDP growth averaging 1 percent in the June, September and December quarters. Indicators of economic activity have generally remained strong, and are consistent with annual GDP growth of around 3 percent in the near term. Accommodative monetary policy remains a key driver of activity. Long-term mortgage rates have declined over the past year, boosting house price inflation and construction. Stronger

economic growth is contributing to further improvement in the labour market. Despite the significant decline in the unemployment rate over recent years, growth in nominal wages remains low relative to history (figure 4.2). However, low consumer price inflation has been supporting growth in consumers' purchasing power. While the Federal Reserve is expected to increase the federal funds rate in 2015, accommodative monetary policy will remain a key driver of the economic recovery. Economic growth is expected to maintain its recent momentum, with annual growth of about 3 percent forecast over the projection.

Figure 4.2
Measures of wage growth in the United States
(annual)



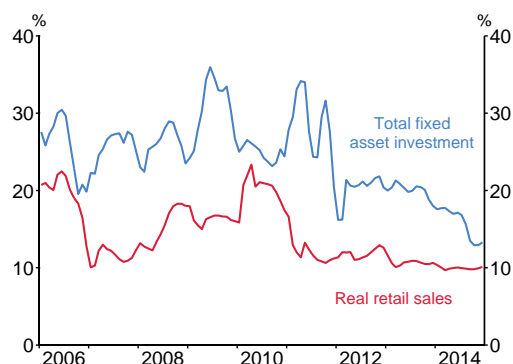
Source: Haver Analytics.

Quarterly growth in the euro area increased in the December quarter, but remained low at 0.3 percent. Indicators suggest growth has remained modest since then. In response to modest growth and weak inflation, the ECB announced a large-scale asset purchase programme in January (see Chapter 3). Accommodative monetary policy and the slower pace of fiscal consolidation than in recent years will provide support to demand. However, a slow pace of structural reform, continuing balance sheet repair in the financial sector, and high political and economic uncertainty are likely to continue to restrict the pace of growth. Reflecting these headwinds, annual growth in the euro area is expected to increase only gradually, to about 1.5 percent in 2016.

Economic activity in Japan is recovering after a sharp decline in output. This followed an increase in the consumption tax in April 2014. Despite the decline in economic activity, the labour market has continued to strengthen. The unemployment rate is at its lowest level since 1997, and employment has continued to grow despite the declining population. Accommodative monetary policy and the recent fall in oil prices will support demand. Over the past year, long-term interest rates have continued to decline, equity prices have risen strongly, and the exchange rate has depreciated significantly. Japan's economy is expected to grow at an average pace of slightly over 1 percent per year in the forecast period, with capacity constraints becoming increasingly binding.

Growth in China slowed slightly over 2014. Annual GDP growth was 7.3 percent in the December 2014 quarter, down from 7.6 percent a year earlier. Slower growth has been concentrated in industrial activity and construction. This is primarily due to ongoing weakness in the property market, particularly in small- and medium-sized cities. New construction and sales of residential property remain lower than in 2013. Residential property prices continue to fall, although the pace of decline has eased since the middle of 2014. Weakness in construction has contributed to a decline in output growth in the heavy industrial sector. Weaker construction and increased spare capacity in the industrial sector led to a reduction in investment growth

Figure 4.3
Chinese fixed asset investment and retail sales growth
(annual, 3-month moving average)



Source: Haver Analytics, RBNZ estimates.

over 2014 (figure 4.3), and has weighed on global demand for industrial commodities.

Chinese authorities have taken a number of steps to support economic activity over the past six months, including cutting benchmark interest rates and the reserve requirement ratio for banks. Consumption growth remained strong in 2014, and growth in real retail sales has remained steady. GDP growth is expected to ease further over the projection, but remain high relative to other economies. Annual growth in China is expected to be in the range of 6-7 percent, with consumption and services likely to account for an increasing share of GDP growth.

Growth in New Zealand's other Asian trading partners has generally been robust. Growth in India has increased over the past few years, but growth has softened slightly in some higher-income Asian economies. While exports from New Zealand's other Asian trading partners to the United States have generally improved, this has been offset by weakness in exports to Europe. Both monetary and fiscal policy remain supportive across Asia. An accommodative policy stance is expected to support continued robust growth over the projection.

Annual GDP growth in Australia is below trend, at 2.5 percent for the December quarter. Strong growth in bulk commodity export volumes is contributing to economic growth. Domestic demand remained weak over 2014, due to declining investment in the resource sector, and lower prices for Australia's commodity exports. Growth outside the resource sector has been improving, but remains low. As a result, spare capacity in the Australian economy has increased, with the unemployment rate rising to 6.4 percent in January, the highest level since 2002 (figure 4.4). Quarterly house price inflation has continued at a pace of about 2 percent, and residential investment has grown strongly.

Figure 4.4
Australian unemployment rate
(seasonally adjusted)



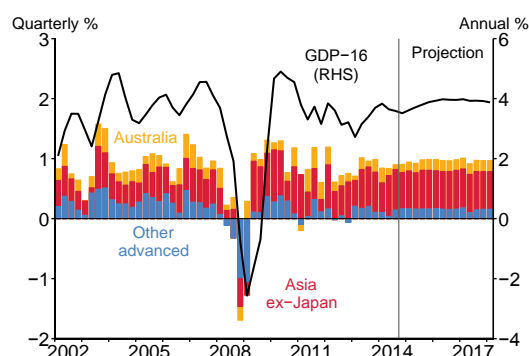
Source: Haver Analytics.

Annual growth in Australia is expected to increase gradually over the projection to slightly over 3 percent. Export volumes are expected to continue to grow strongly over the next few years, as liquefied natural gas production increases sharply. Low interest rates should support domestic demand. The exchange rate has declined substantially over the past two years, and this will improve conditions for exporters outside the resource sector. At present, investment outside the resource sector is subdued, and surveys of investment intentions point to continued weakness over the next year. The gradual pace of the transition away from growth in the resource sector to other parts of the economy is likely to see spare capacity in the labour market persist for several years.

In aggregate, economic growth in New Zealand's trading partners is expected to continue at around its historical average pace over the projection (figure 4.5). Divergences in the pace of growth across regions are expected to continue.

There are several important risks to the outlook for growth in New Zealand's trading partners. If the decline in oil prices has been predominantly due to higher supply, and remains persistent, then growth could increase to substantially above-average rates (see Chapter 6 for further details on the drivers of the decline in oil prices). If the property market in China began to correct more sharply, this could cause GDP growth to slow rapidly, and could generate significant spillovers to our other Asian

Figure 4.5
Trading partner growth



Source: Haver Analytics, RBNZ estimates.

Note: Asia ex-Japan includes China, Hong Kong, India, Indonesia, Malaysia, Singapore, South Korea, Taiwan, Thailand, and the Philippines. Other advanced trading partners include Canada, the euro area, Japan, the United Kingdom, and the United States. GDP-16 is an aggregate of 16 of New Zealand's major trading partners.

trading partners and Australia. Additional risks include the possibility of further financial instability in the euro area, and the impact of monetary policy normalisation in the United States on financial conditions in developing economies.

Trading partner inflation

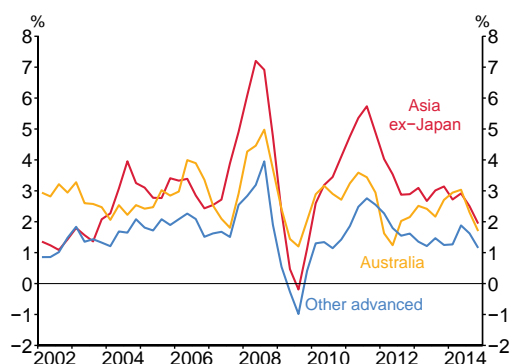
Inflation declined in New Zealand's trading partners over the second half of 2014 (figure 4.6). The large decline in oil prices has been the main reason for the drop in inflation across countries. However, measures of core inflation remain low in most economies, mainly due to lingering spare capacity.

As yet, lower oil prices have not materially reduced measures of core inflation. However, indirect and second-round impacts of lower oil prices due to lower intermediate input costs and lower inflation expectations may dampen core inflation over the next few years. Inflation in China has fallen substantially over the past year, reflecting the high weight of food and energy commodities in the Chinese consumption basket. In Australia, non-tradables inflation declined over 2014, as a result of low inflation in market services (due to low wage inflation) and declines in utility prices after the repeal of the carbon price.

Trading partner inflation is expected to remain low during 2015, but recover in 2016 as the direct effect

of lower oil prices on petrol prices wanes. Underlying inflation is likely to remain below target in most economies until the end of the forecast period, as spare capacity is absorbed only gradually.

Figure 4.6
Trading partner inflation
(annual)



Source: Haver Analytics, RBNZ estimates.
Note: Asia ex-Japan includes China, Hong Kong, India, Indonesia, Malaysia, Singapore, South Korea, Taiwan, Thailand, and the Philippines. Other advanced includes Canada, the euro area, Japan, the United Kingdom, and the United States.

Monetary policy

Despite global growth continuing at a moderate pace, a large number of central banks have reduced policy interest rates since late last year (see Chapter 3

for a full description). These moves reflect a number of different factors. Some central banks, including Denmark and Switzerland, reduced policy rates in response to increased capital inflows in anticipation of large-scale asset purchases by the ECB. A number of central banks in oil-exporting countries, such as Canada and Norway, also reduced interest rates, reflecting the fact that lower oil prices are likely to reduce activity and inflation in these economies. Central banks in a range of developing economies have also reduced interest rates. Energy and food comprise a large share of the consumption basket in many of these countries, and so the recent decline in commodity prices has reduced consumer price inflation and inflation expectations considerably. The Reserve Bank of Australia's decision to reduce interest rates earlier this year was due to a slower recovery in growth than expected and a view that the economy will be operating with a degree of spare capacity for some time, leading to subdued domestic cost pressures. As discussed above, declining investment in the resource sector has reduced GDP growth in Australia, and has contributed to rising unemployment.

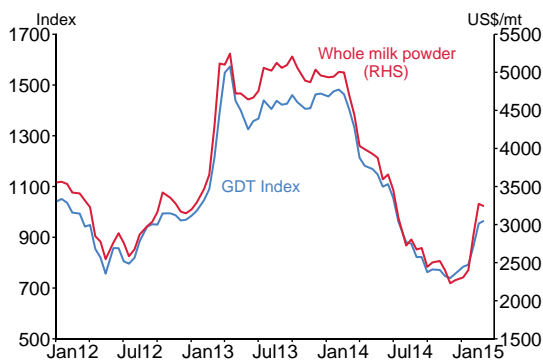
5 Domestic economic conditions

Real GDP in the March 2015 quarter is estimated to be 3 percent higher than it was a year ago. This is stronger than potential output growth, and so spare capacity has been absorbed further. Despite this, inflation remains subdued, with measures of core inflation largely unchanged since 2013. The fall in petrol prices over the end of 2014 means annual CPI inflation in the March quarter is expected to be zero percent.

External demand

Dairy prices on the GDT auction platform stabilised over the end of 2014, and have rebounded over the first two months of 2015. The GDT index halved between February 2014 and December 2014, but the recent rebound leaves the index 35 percent below its February 2014 peak (figure 5.1). Whole milk powder prices on the GDT platform have seen a similar rebound, and at US\$3,241 per metric tonne are currently 35 percent below their February 2014 value.

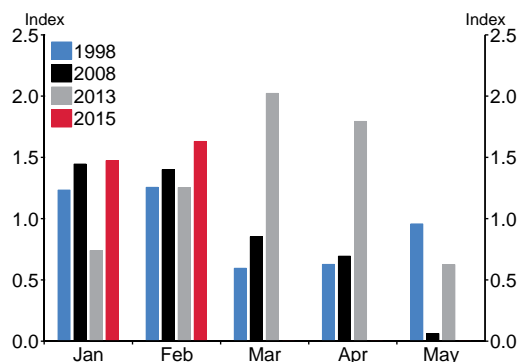
Figure 5.1
GDT index



Source: GlobalDairyTrade.

Much of the increase in dairy prices appears to have been driven by expectations of lower milk production over the 2014/15 season, with dry conditions (figure 5.2) disrupting supply in New Zealand. Climatic conditions are already having an effect on domestic milk production, and further dry weather could lead to a large fall in milk production this season.

Figure 5.2
Soil moisture deficit index (SMDI) in drought episodes¹



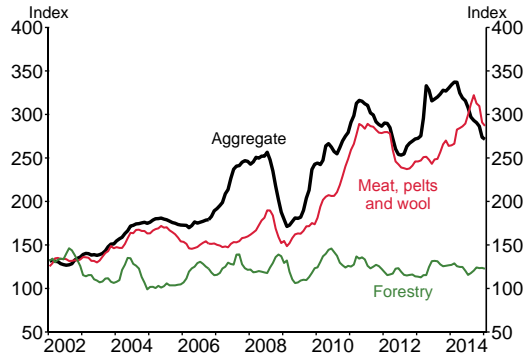
Source: NIWA, RBNZ estimates.

Note: This index shows the nationwide soil moisture deficit. It is standardised such that a value of 0 indicates average dryness for a particular month, and the index value is the standard deviation of the series (i.e. a SMDI value of 2 indicates a drought that has been seen on average only once in every 20 years). Note that the 2015 SMDI values are skewed by very dry conditions in the South Island, with only moderately dry conditions in the North Island. North Island droughts tend to have a larger impact on GDP than South Island droughts. For more information, see Kamber, McDonald, and Price, 2013 'Drying out: Investigating the economic effects of drought in New Zealand', RBNZ Analytical Note, AN2013/02.

Dry conditions will affect export volumes over the first half of 2015, as milk production falls and animal slaughter is brought forward in the season.

Prices of New Zealand's other export commodities trended downward over the end of 2014, led by a fall in the price of meat from very high levels (figure 5.3). The price of beef was pulled down by strong supply from Australia and increasing slaughter in New Zealand, although herd rebuilding continues in the US.

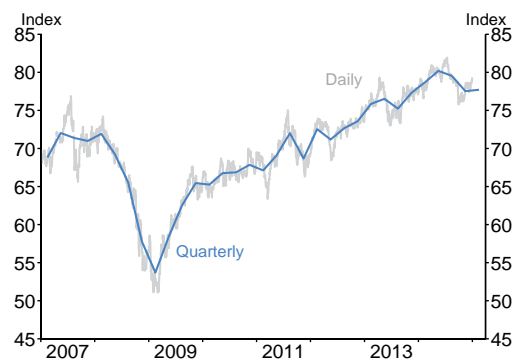
Figure 5.3
Export commodity price indices
(world terms)



Source: ANZ Bank.

The New Zealand dollar TWI remains high, reflecting New Zealand's strong economic performance and the increasingly accommodative monetary policy settings in many advanced economies. The TWI is at a level similar to its December quarter average (figure 5.4) although there have been significant divergences in the individual cross rates since December (see Chapters 3 and 4). The elevated TWI remains a drag on growth, by weighing on net exports.

Figure 5.4
New Zealand Dollar TWI



Source: RBNZ.

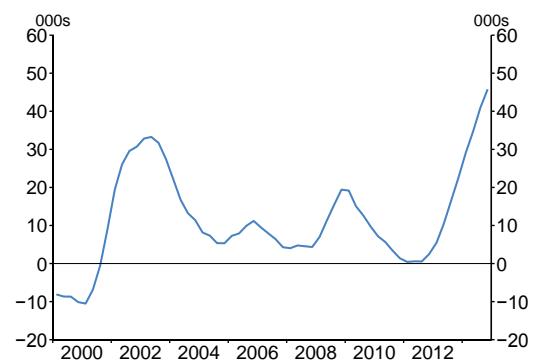
Domestic demand

Domestic demand is growing strongly. High net immigration is boosting demand and the impulses from previous high dairy prices and growth in construction activity are flowing into domestic incomes and spending. GDP is expected to grow 1.3 percent over the first half of 2015, despite the negative impact of dry conditions on growth in the agriculture sector.

Strong labour market conditions and an improving housing market are supporting high consumer confidence, which along with high real wage growth is boosting consumption. Private consumption is estimated to have increased by 4.1 percent in the year to December 2014, and electronic card transaction data over the start of 2015 are consistent with further strength in consumption. The persistently elevated TWI encourages an increasing share of consumption to be spent on imported goods.

Record-high net immigration continues to provide an impulse to growth in the economy. Net immigration (permanent and long-term, working-age) in the year to January was 47,700 people (figure 5.5), a boost to the working-age population of 1.3 percent.

Figure 5.5
Net immigration
(permanent and long-term, working age,
annual total)

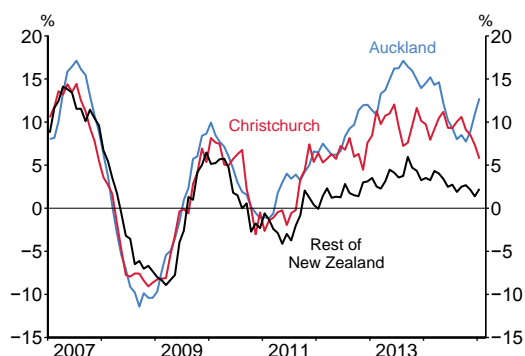


Source: Statistics New Zealand.

Over much of 2014, house price inflation was weaker than would typically have been expected given low mortgage interest rates and strong net immigration. Increases in house price inflation over late 2014 and

early 2015 suggest that a more typical relationship may be reasserting itself. In part, this is likely related to the impacts of loan-to-value ratio restrictions waning. Nationwide house price inflation increased to an annual rate of 6.5 percent in the three months to January. House price inflation remains strongest in Auckland, at 12.8 percent, and eased in Christchurch to 5.7 percent in January (figure 5.6).

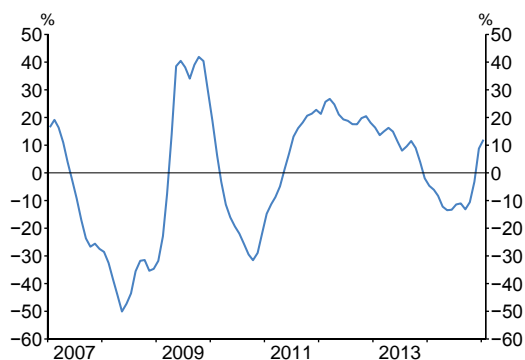
Figure 5.6
House price inflation
(annual, 3-month moving average)



Source: REINZ, RBNZ estimates.

Increases in house price inflation reflect higher property sales activity and decreasing inventories relative to sales. Annual growth in house sales increased to 12 percent in the three months to January (figure 5.7).

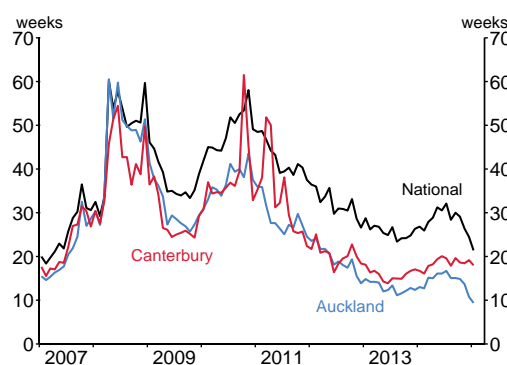
Figure 5.7
House sale growth
(annual, 3-month moving average)



Source: REINZ, RBNZ estimates.

The property market has tightened around the country since the middle of 2014, as house sales have outstripped new listings and housing inventories have fallen. Tightness remains particularly pronounced in Auckland, but did not materially worsen in Christchurch over 2014 (figure 5.8).

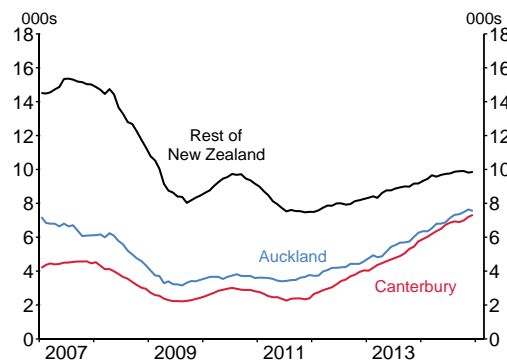
Figure 5.8
Indicator of regional housing market tightness
(weeks to clear housing inventories)



Source: Realestate.co.nz.

Total construction industry activity is estimated to have grown by about 16 percent in the year to the December 2014 quarter. While the Canterbury rebuild makes up a significant part of this, consent issuance has picked up across the country for both residential (figure 5.9) and non-residential construction.

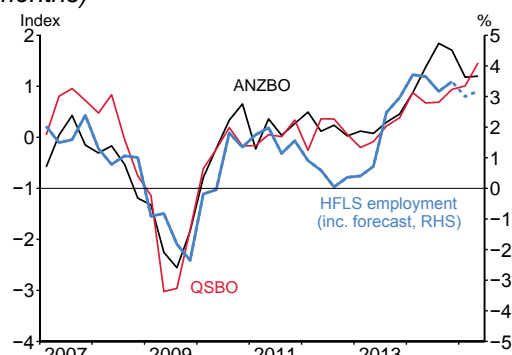
Figure 5.9
Residential consent issuance by region
(annual total)



Source: Statistics New Zealand.

The labour market strengthened further over the end of 2014, with numbers employed and filled jobs growing by 3.5 percent and 2.5 percent respectively over the year. Continued strong employment growth is expected over the first half of 2015, with firms reporting very high employment intentions over much of 2014 (figure 5.10).

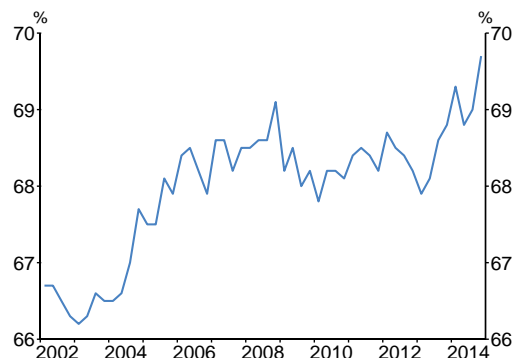
Figure 5.10
Annual employment growth and business survey employment intentions
(intentions are standardised, advanced six months)



Source: ANZ Bank, NZIER, Statistics New Zealand, RBNZ estimates.

Labour supply also grew strongly over the end of 2014, due to historically high net immigration and increased labour force participation. Labour force participation reached a record high in the December 2014 quarter, rising 0.7 percentage points to 69.7 percent (figure 5.11). In part, this sharp movement reflects the significant quarterly volatility of the series. However, the participation rate has been trending upwards for the past two decades, driven by structural factors in the labour market. The December quarter saw further increases in the participation rates of older cohorts, and a record participation rate for females. Some of the rise in participation over the past two years is likely to represent a cyclical 'encouraged-worker effect', with robust employment growth making it more attractive for people to enter the workforce. The number of people who went from non-participation in the labour force straight to employment increased strongly over 2013 and 2014.

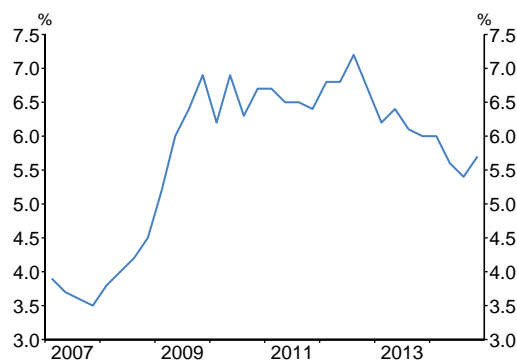
Figure 5.11
Labour force participation rate
(seasonally adjusted)



Source: Statistics New Zealand.

Labour supply growth in the December quarter outstripped employment growth such that the unemployment rate increased 0.3 percentage points to 5.7 percent (figure 5.12). This was the first increase since June 2013; the unemployment rate has trended downwards over the past two years.

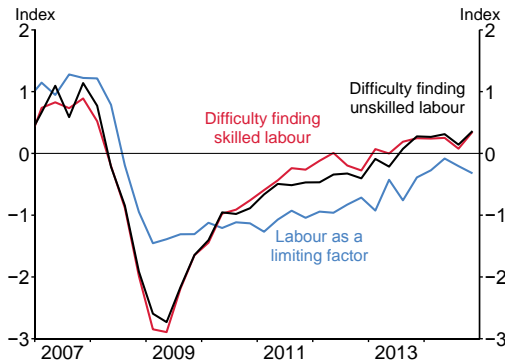
Figure 5.12
Unemployment rate
(seasonally adjusted)



Source: Statistics New Zealand.

Despite falls in the unemployment rate over the past two years, firms' reported difficulty in finding labour is broadly unchanged since the start of 2013. Reported difficulty in finding labour is close to its long-term average (figure 5.13).

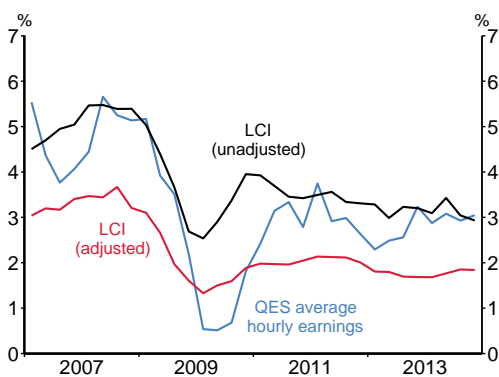
Figure 5.13
Business survey measures of labour constraints
(standardised, seasonally adjusted)



Source: NZIER, RBNZ estimates.

Consistent with low headline inflation and inflation expectations, nominal wage growth remains moderate. Quarterly Employment Survey (QES) average hourly earnings increased by 3 percent over 2014 while the Labour Cost Index (LCI) – that is adjusted to exclude productivity-driven pay increases – increased by 1.8 percent (figure 5.14).

Figure 5.14
Nominal wage growth
(annual)



Source: Statistics New Zealand.

Real wage growth has been strong, with the QES average hourly earnings deflated by the CPI growing at an annual rate of 2.3 in the December quarter. Furthermore, the recent increase in average hours worked meant that real gross weekly pay increased by 4.9 percent over 2014.

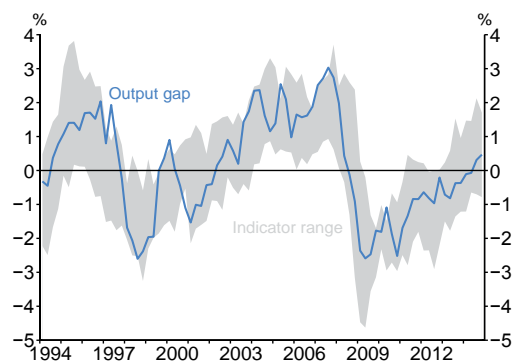
Firms are reporting a high level of investment intentions. While annual business investment growth slowed over 2014, the outlook remains positive, underpinned by non-residential and transport investment. The elevated TWI and low trading-partner inflation mean that imported capital goods are cheap relative to history.

Capacity pressures and inflation

In December, Statistics New Zealand revised historical GDP numbers, resulting in lower growth over 2013 and 2014 than previously estimated. As discussed in Box C (page 24) the downward revision to GDP growth is estimated to reflect a combination of lower trend growth (i.e. potential output) and lower cyclical growth.

A wide range of indicators suggests that strong output growth has been steadily absorbing spare capacity over the past few years, and continues to do so. Following the revisions to GDP, the Bank's best estimate of the output gap is positive, and about half a percent of potential GDP. This is consistent with our suite of indicators (figure 5.15).

Figure 5.15
Output gap and indicator suite
(percent of potential output)



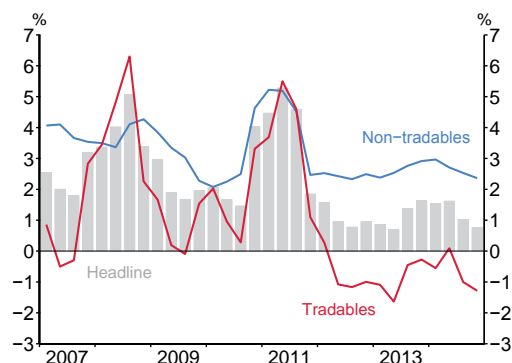
Source: RBNZ estimates.

Annual CPI inflation was 0.8 percent in the December 2014 quarter, down from 1.5 percent in the March 2014 quarter (figure 5.16).

The moderation in annual CPI inflation in the December 2014 quarter was mainly driven by easing tradables inflation. In the December 2014 quarter, annual

tradables inflation went from -1 percent to -1.3 percent, and non-tradables inflation eased from 2.5 percent to 2.4 percent.

Figure 5.16
Headline CPI inflation and components
(annual)

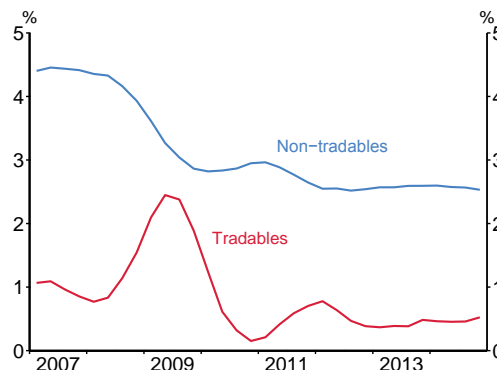


Source: Statistics New Zealand.

The slump in oil prices through the second half of 2014, and the pass-through to domestic petrol prices, explains some of the moderation in inflation. In the December 2014 quarter, the direct impact of falling petrol prices on annual CPI inflation was 0.3 percentage points. Annual CPI inflation ex-fuel was 1.1 percent.

In addition to the oil price developments, the easing in both tradables and non-tradables inflation over the course of 2014 appears to be due to the unwinding of specific factors that previously boosted inflation at the end of 2013. Core tradables and non-tradables inflation as measured by our sectoral factor model have remained stable during this period (figure 5.17). Other measures of core annual CPI inflation, such as the trimmed mean and weighted median, remain between 1 and 2 percent.

Figure 5.17
Sectoral factor model of inflation
(annual)



Source: Statistics New Zealand, RBNZ estimates.

Annual CPI inflation is expected to fall to zero percent in the March 2015 quarter as the declines in petrol prices are reflected in the quarterly CPI. Domestic petrol prices fell by close to 6 percent in the December quarter, and a further 11 percent decline is currently forecast for the March 2015 quarter. This means that petrol is expected to detract about 0.9 percentage points from annual CPI inflation by the end of the March 2015 quarter.

Box C

Recent data improvements and implications for the projection

Since the *December Statement*, there have been a number of improvements to historical data that have been included in the economic projection presented in this *Statement*:

- System of National Accounts (SNA) data were revised as part of the usual national accounts benchmarking process;
- SNA data have been rebased (to 2010) and updated for SNA 2008;
- the TWI has changed to the new TWI-17 measure, which better reflects our nominal exchange rate relative to our trading partners; and
- trading partner CPI data have been constructed using a group of economies and methodology consistent with the new TWI measure (CPI-17).

These data improvements have implications for our understanding of recent history. The key implications of these changes are:

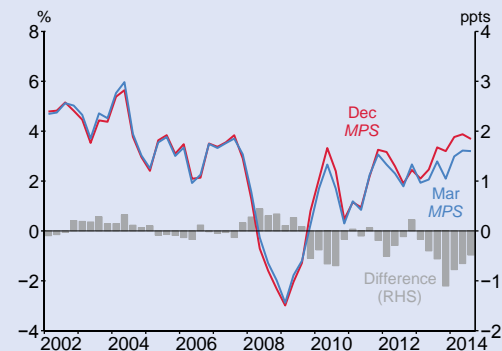
- a more accurate understanding of the composition of the economy;
- lower GDP growth over history and therefore lower potential output growth;
- a downwardly-revised estimate of the output gap;
- less appreciation of the nominal TWI over history, but a broadly unchanged assessment of New Zealand's competitiveness; and
- higher trading partner inflation.

Updated SNA data help us to better understand the composition of the economy. Rebasing of national accounts data and improvements to methodology in SNA 2008 inform our understanding of the composition of production and expenditure in the economy.

Revisions to national accounts data as a result of annual benchmarking and rebasing suggest

that the pace of GDP growth over 2013 and 2014 was consistently weaker than previously thought (figure C1). Since 2011, GDP has grown at an annual rate of about 2.4 percent on average, compared with 2.7 percent estimated before the revisions.

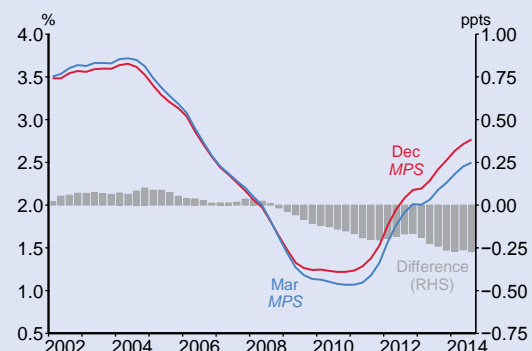
Figure C1
GDP growth
(annual)



Source: Statistics New Zealand, RBNZ estimates.

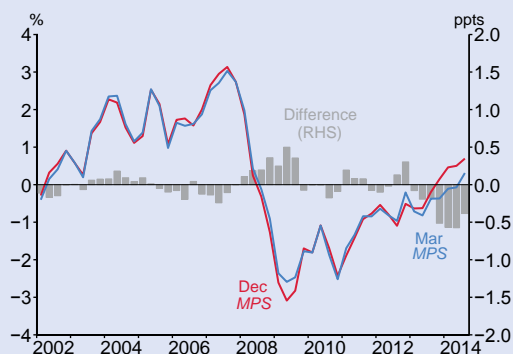
This lower rate of GDP growth is assumed to reflect lower potential output growth and weaker capacity pressures. Over the year to the September 2014 quarter, potential output is now estimated to have grown 2.5 percent (figure C2). The output gap is estimated to have been 0.6 percentage points lower in early 2014 than assumed in the *December Statement* (figure C3). This helps explain some, but not all, of

Figure C2
Potential output growth
(annual)



Source: Statistics New Zealand, RBNZ estimates.

Figure C3
Output gap
(percent of potential output)



Source: Statistics New Zealand, RBNZ estimates.

the recent weakness in non-tradables inflation relative to what capacity pressures and inflation expectations would suggest.

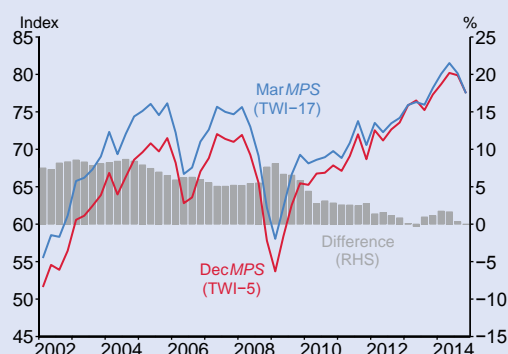
Since the time of the December *Statement*, the Reserve Bank has changed its definition of the New Zealand dollar TWI. The TWI-17 better represents New Zealand's exchange rate because the index has been expanded to include more trading partners and the weighting methodology has been adjusted to include only trade weights.²

According to our new TWI-17 measure, the nominal TWI has not appreciated as much over history (figure C4) and is now expected to settle at a level that is about 1 percent higher over the long term. After adjusting for the effects of the change in methodology, the starting point for the TWI is slightly lower than assumed in the December *Statement*.

The new nominal TWI has not changed our assessment of New Zealand's trade competitiveness. The real exchange rate and its trend are estimated to have appreciated less over recent history. But the deviation of the real exchange rate from its trend is broadly unchanged (figure C5).

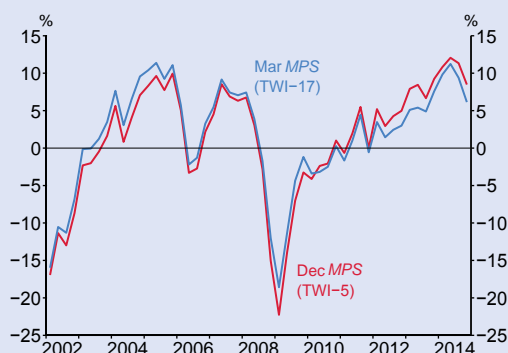
We have used an equivalent methodology to construct an aggregate trading partner CPI inflation measure (CPI-17). Trading partner inflation is now

Figure C4
New Zealand dollar TWI



Source: RBNZ.

Figure C5
Real exchange rate
(deviation from trend)



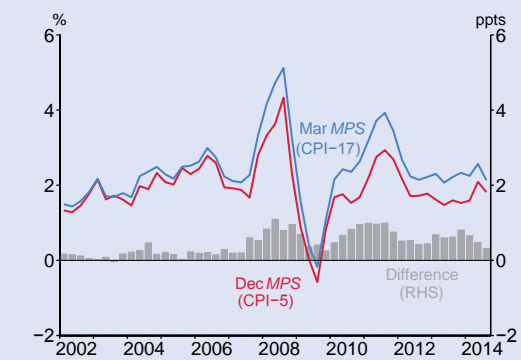
Source: RBNZ, RBNZ estimates.

estimated to have been higher on average than previously assumed because the new TWI basket includes some Asian economies that have experienced higher inflation than the rest of our trading partners (figure C6).

Trading partner inflation is expected to continue to be higher than domestic inflation over the forecast horizon. This differential means that a constant real exchange rate is consistent with an increasing nominal exchange rate. Thus, for a given forecast for the real exchange rate, the nominal exchange rate is expected to be higher.

2 See Steenkamp, D (2014) 'Measuring New Zealand's effective exchange rate', Reserve Bank of New Zealand *Bulletin* Vol. 77, No. 6, December 2014 for more detail.

Figure C6
 Trading partner inflation
 (annual)



Source: Haver Analytics, RBNZ estimates.

6 Oil prices and the New Zealand economy

The price of Dubai crude oil has fallen sharply to be 50 percent below the June 2014 peak (figure 6.1). As a highly-traded and storable commodity, the price of oil reflects the balance of current oil supply and demand as well as expected future oil supply and demand conditions. Higher supply appears to be the main factor behind recent sharp falls in oil prices. This chapter discusses the global drivers and implications of the fall in oil prices, and what it means for the New Zealand economy and monetary policy.

Figure 6.1
Dubai oil prices
(daily)



Source: Reuters.

The fall in global oil prices

Several developments over the past six months have contributed to stronger current and expected oil supply. Production of oil in the United States has risen rapidly over the past few years. Technological advances in the extraction of oil have meant that production in the United States has been stronger than expected, and that extraction costs have fallen. A decision by the Organisation of Petroleum Exporting Countries (OPEC) in November to maintain production despite falling oil prices was perceived to be a change in strategy, and boosted expected oil supply. Fewer disruptions to production in the Middle East than expected have also contributed to stronger-than-expected supply.

Weaker demand for oil has also played a role in the decline in oil prices. Economic activity in Europe has

been weak, and slower growth in heavy industrial activity in China has led to slower growth in demand for industrial commodities. Between July and December 2014 the International Energy Agency revised down its projected oil demand for 2015, despite the large decline in oil prices.

The view that supply factors have contributed more than demand factors to the decline in oil prices is consistent with that of the majority of international agencies and central banks. Although a range of commodity prices have declined since June 2014 (see Chapter 3), the timing and extent of the fall in oil prices suggests that factors specific to the oil market have played a more important role than a general decline in demand for commodities.

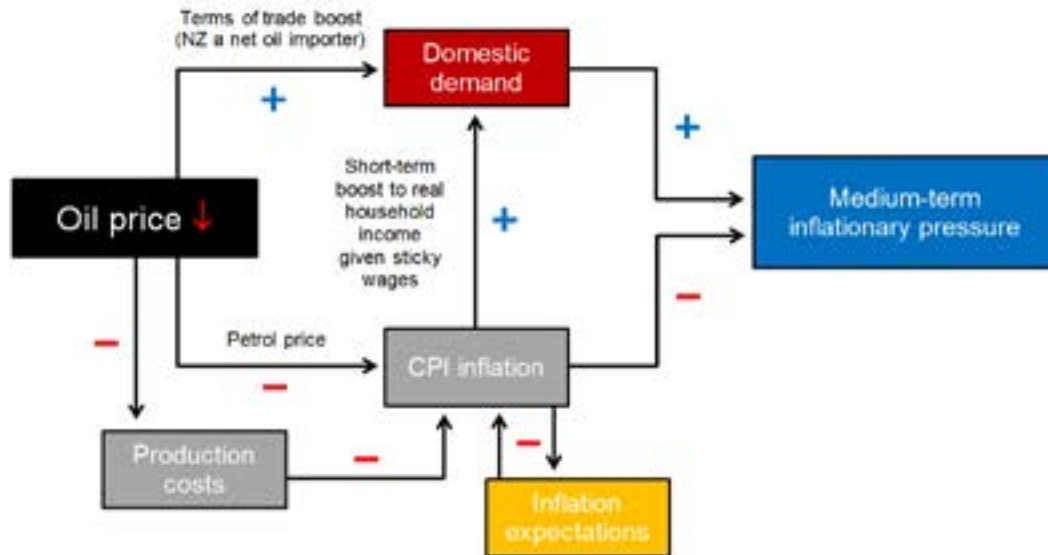
The decline in oil prices due to higher supply has positive implications for global activity. Recent estimates by the International Monetary Fund suggest that the boost to global growth could be substantial. Countries that are net importers of oil and other energy commodities, such as China, should benefit the most. Although the overall effect on global growth is positive, lower oil prices will have negative impacts for some economies. Countries that are net exporters of oil, such as Canada, will experience a fall in their terms of trade and in future oil exploration and investment activity. Countries that are net importers of oil, but net exporters of energy commodities, will experience offsetting effects. For example, Australia will benefit from lower imported oil prices, but the price of its liquefied natural gas exports is likely to decline. In aggregate, the decline in oil prices is expected to be positive for growth in New Zealand's trading partners.

How a positive 'supply shock' affects New Zealand

The decline in oil prices is a positive supply shock for the New Zealand economy: it lowers near-term inflation and boosts output (figure 6.2). The fall in oil prices has a large effect on CPI inflation in the near term through declines in prices of oil-intensive goods such as petrol. There is a broader, indirect effect on inflation through lower input costs in the economy. These factors represent a one-off change in the price level, meaning that

Figure 6.2

Stylised representation of the transmission of a supply-driven fall in oil prices to the New Zealand economy



the impact on inflation is temporary. The PTA requires the Bank to 'look through' such effects on inflation, focusing instead on inflation in the medium term.

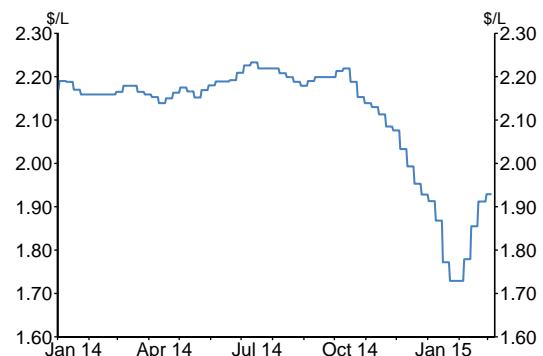
Transitory impacts on inflation

In New Zealand, the imported cost of crude or refined oil accounts for about 40 percent of the price of petrol, and fixed and variable taxes account for a further 45 percent of the price. A decline in the price of petrol has a significant direct effect on the CPI, with petrol having a weight of 5 percent in the index. The decline in oil prices has translated into a sharp fall in petrol prices (figure 6.3), which is expected to subtract 0.9 percentage points from annual CPI inflation by the March 2015 quarter.

The decline in oil prices indirectly influences the prices of other goods and services in the economy through lower input costs. Lower oil prices reduce the production costs for other oil-intensive goods such as fertilisers and plastics, and translate into lower transportation and distribution costs throughout the economy.

In this projection we have assumed that the total size of the indirect effects on CPI inflation is about a third of the direct effects, spread over the next 18 months. This effect is smaller than the indirect effects the Bank has assumed in previous episodes of sharp oil

Figure 6.3
Domestic petrol price
(weekly)



Source: Ministry of Business Innovation and Employment.

price movements. In the June 2008 *Statement*, when oil prices had increased from just above US\$90 per barrel to US\$130 per barrel, the Bank assumed that just over half of the direct price effects were indirectly passed through into other consumer price increases. The reason for changing our approach is that our research shows businesses are more likely to increase prices following a cost increase than reduce their price following a fall in costs.¹

¹ Parker, M (2014) 'Price-setting behaviour in New Zealand' Reserve Bank of New Zealand *Discussion Paper* 2014/04.

Medium-term inflation effects

Lower oil prices have offsetting influences on medium-term inflation. Lower oil prices boost aggregate demand by improving household and firms' purchasing power due to more favourable terms of trade.

Based on the latest Household Economic Survey data (2013) on household spending patterns and petrol consumption, the observed drop in petrol prices would boost average household disposable income by about \$350 over the course of a year.

As a net importer of oil, lower oil prices improve domestic purchasing power more generally, consistent with an improvement in New Zealand's terms of trade. We estimate that lower oil prices boost national income by about \$2.4 billion in each year that oil prices remain at current levels (relative to June 2014 prices).

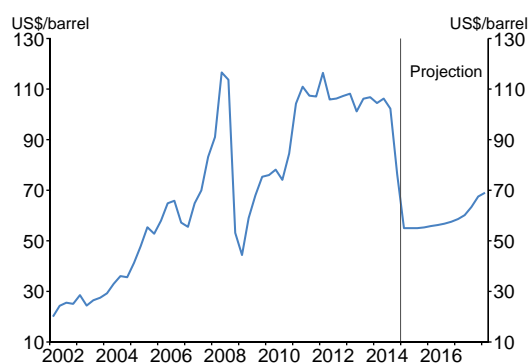
At the same time, a lower-inflation environment may affect households' and businesses' price- and wage-setting behaviour. We have seen longer-term inflation expectations adjust lower since 2013 to a level that is now more consistent with the 2 percent inflation target midpoint. Survey measures of inflation expectations for longer horizons declined modestly in March 2015 and now sit around 2 percent, after averaging 2.5 percent between 2008 and 2011. This adjustment in inflation expectations most likely reflects the low-inflation environment over the past few years rather than our response to the recent sharp fall in oil prices. Our projection assumes that inflation expectations will remain around current levels. With inflation expectations now lower and more consistent with the medium-term inflation target, interest rates can remain at a more supportive level than otherwise would be the case.

However, the net effect on medium-term inflationary pressures is uncertain and the Bank will need to continually assess its judgements in this area. Box A in Chapter 2 presents the monetary policy implications for a scenario where inflation expectations decline further than assumed.

The assumed future path of oil prices

In this projection, we have assumed that oil prices remain at their current quarterly average of US\$55 per barrel for about 18 months before gradually increasing towards US\$70 per barrel (figure 6.4). There is considerable uncertainty regarding this future path. The futures curve for oil prices is sloping upward but this may be capturing expectations about interest rates and exchange rates in addition to future expectations of oil prices. The International Energy Agency estimates that crude oil stocks have continued to increase through 2015 and are currently well above the typical level of stocks for this time of the year. This will maintain downward pressure on international oil prices over the coming year or so, before supply eventually responds to the low prices.

Figure 6.4
Dubai oil price
(quarterly)



Source: Reuters, RBNZ estimates.

The evolution of oil prices has an important bearing on the economic and inflation outlook. The Bank will need to assess the factors driving changes in oil prices and its effect on trading partner activity. To the extent that price- and wage-setting behaviour remains consistent with the medium-term inflation target, monetary policy should look through the short-term volatility in headline inflation arising from fluctuations in oil prices.

7 The macroeconomic outlook

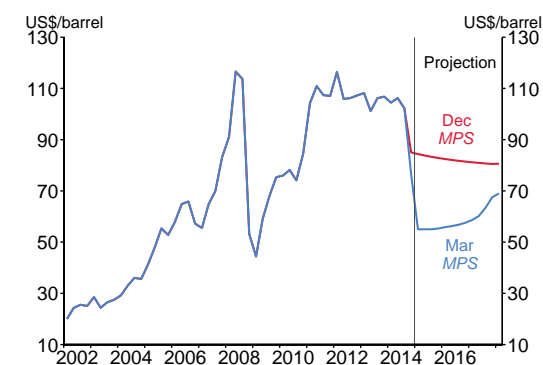
Consequently, GDP is expected to grow at an annual pace of between 3 and 4 percent for the next two years. As resource utilisation in the economy increases, annual CPI inflation is expected to increase towards 2 percent.

External forces

Since the December *Statement*, crude oil prices have fallen dramatically and this decline has significantly affected the projection (see Chapter 6 for more details). Dubai oil prices are assumed to remain near US\$55 per barrel for the next two years, before increasing (figure 7.1).

Globally, lower oil prices are also expected to dampen costs of production and transport, thereby reducing world prices of New Zealand's non-oil imports. Over the medium term, world prices of our non-oil imports are expected to rise at a subdued pace, reflecting a modest outlook for global inflation.

Figure 7.1
Dubai oil prices

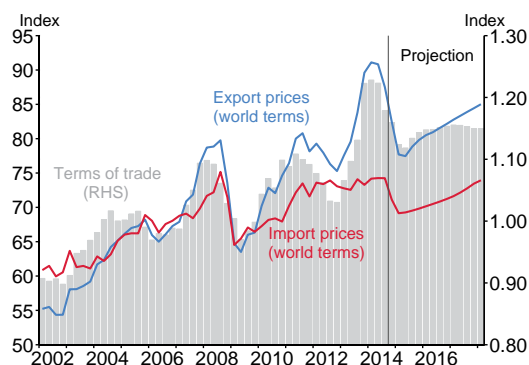


Source: Reuters, RBNZ estimates.

Moderate trading partner growth (as discussed in Chapter 4) and increasing demand for protein from developing economies are expected to underpin a continued upward trend in the prices of our exports. Dairy prices, in particular, are projected to continue to recover, with the price of whole milk powder expected to rise to between US\$3,500 and US\$3,800 per metric tonne over the medium term.

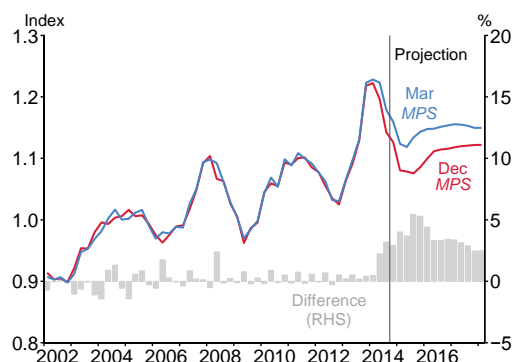
A very subdued outlook for import prices, combined with a gradual upward trend in export prices, results in a favourable outlook for the terms of trade over the projection (figure 7.2). Relative to the time of the December *Statement*, the SNA terms of trade are expected to be about 3 percent higher over the medium term (figure 7.3).

Figure 7.2
SNA terms of trade and components
(seasonally adjusted)



Source: Statistics New Zealand, RBNZ estimates.

Figure 7.3
SNA terms of trade
(seasonally adjusted)

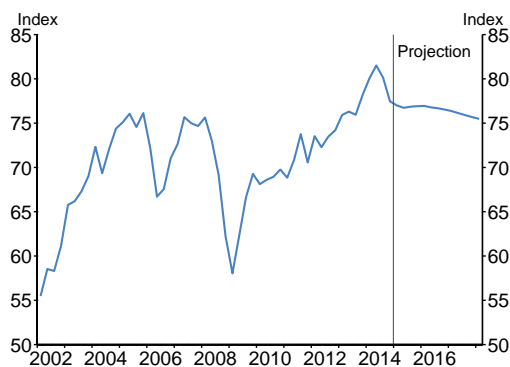


Source: Statistics New Zealand, RBNZ estimates.
Note: SNA data and December projection have been adjusted using a scale factor to control for rebasing of national accounts data (see Box C).

The exchange rate remains persistently elevated over the projection, with monetary policy settings in the rest of the world likely to remain very accommodative for an extended period. The New Zealand dollar TWI is

assumed to remain near its current level over the forecast horizon (figure 7.4), dampening net exports.

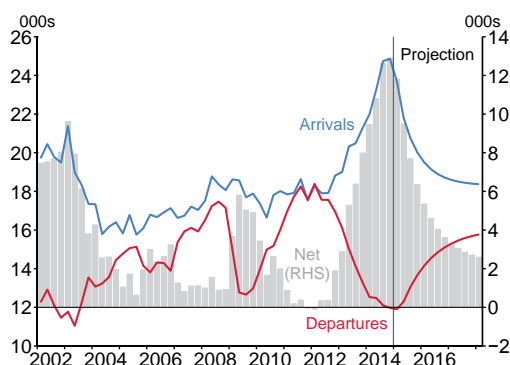
Figure 7.4
New Zealand dollar TWI



Source: RBNZ, RBNZ estimates.

New Zealand's favourable economic outlook is likely to continue to encourage strong net immigration (figure 7.5). Departures of New Zealanders are assumed to remain low in the near term before increasing towards more normal levels. Arrivals to New Zealand are also expected to return to about average levels over the projection. Strong immigration boosts housing market activity, domestic demand, and labour supply over the projection.

Figure 7.5
Departures, arrivals and net immigration
(*permanent and long-term, working age, seasonally adjusted, quarterly*)



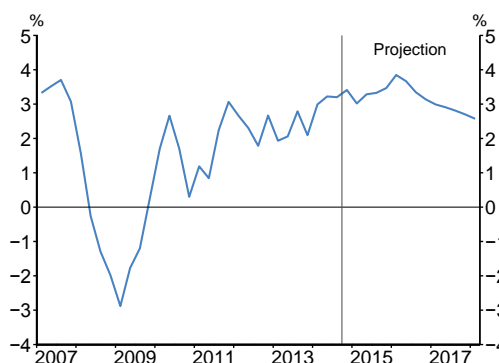
Source: Statistics New Zealand, RBNZ estimates.

Activity outlook

GDP is projected to grow at an annual pace of between 3 and 4 percent for the next two years (figure 7.6), boosted by:

- construction in Auckland and Canterbury;
- strength in the housing market, in part related to strong net immigration;
- the elevated terms of trade, in part due to low oil prices (Chapter 6); and
- interest rates that are expected to remain low for an extended period.

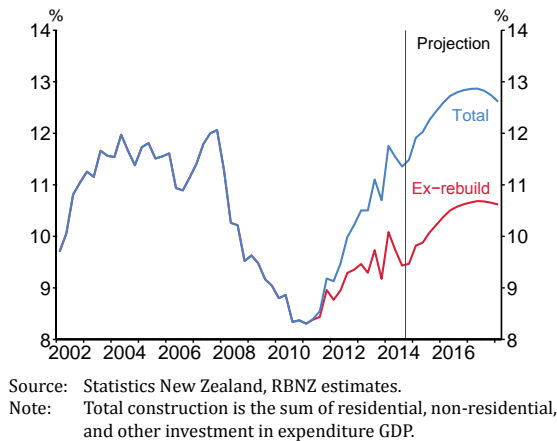
Figure 7.6
GDP growth
(*annual*)



Source: Statistics New Zealand, RBNZ estimates.

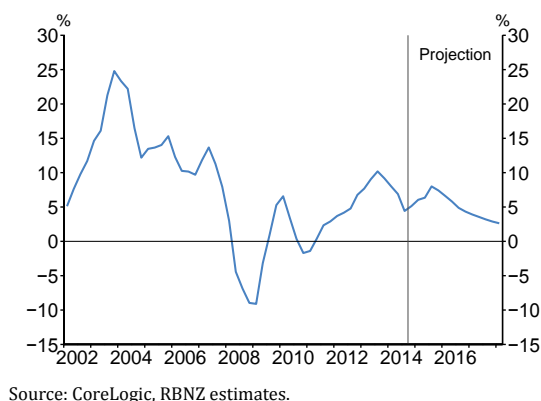
Construction expenditure is expected to boost economic output significantly over coming years, and peak at 13 percent of potential output in early 2017 (figure 7.7). Construction will remain elevated for an extended period as the post-earthquake rebuild in Canterbury continues. At the same time, the housing shortage and high house price inflation in Auckland are expected to lead to increased home building.

Figure 7.7
SNA total construction expenditure
(seasonally adjusted, percent of potential output)



House prices are projected to increase by 8 percent in the year to the September 2015 quarter (figure 7.8), boosted by supply shortages in Auckland and Canterbury, strong immigration, and low interest rates. Over the projection, annual house price inflation eases and real house prices stabilise.

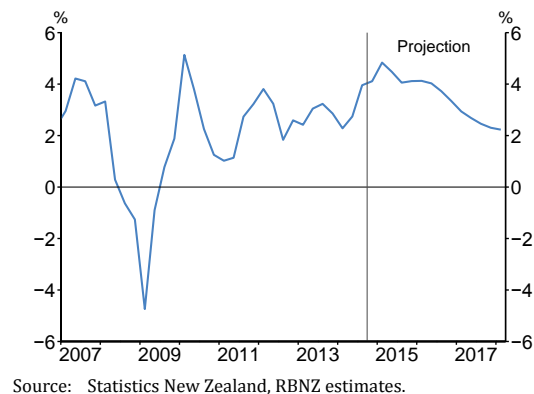
Figure 7.8
House price inflation
(annual)



Robust domestic demand is underpinned by income gains – in part, related to the elevated terms of trade – and interest rates remaining low for an extended period. In addition, household consumption is expected to be boosted by increased purchasing power, as a result

of low consumer price inflation, and strong house price inflation. Consequently, real consumption is able to expand at an annual pace of 4 percent for the next two years (figure 7.9).

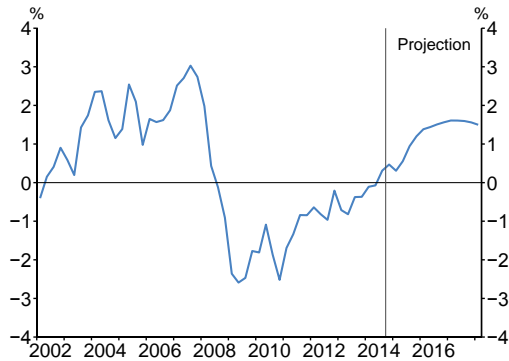
Figure 7.9
Private consumption growth
(annual)



The Government remains focused on fiscal restraint, providing a partial offset to the strong outlook for domestic demand. Consistent with the *Half Year Economic and Fiscal Update 2014*, fiscal consolidation is expected to cumulatively detract 1.7 percent from nominal GDP over the projection.

GDP is projected to grow at a faster pace than potential output in coming years, so that the output gap widens and peaks at just above 1.5 percent of potential output in early 2017 (figure 7.10).

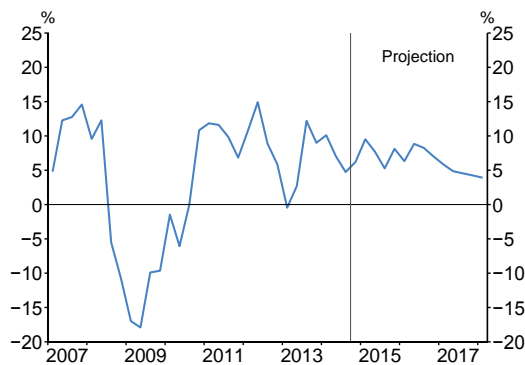
Figure 7.10
Output gap
(percent of potential output)



Source: Statistics New Zealand, RBNZ estimates.

Increased utilisation of resources in the economy is expected to encourage increased investment as businesses look to expand their productive capacity. Business investment is projected to grow at a robust annual pace of 7.5 percent on average over the next three years (figure 7.11).

Figure 7.11
Market business investment growth
(annual)

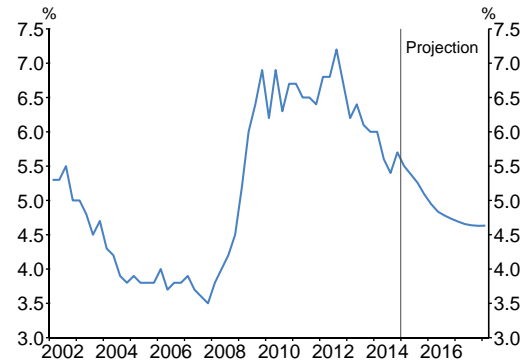


Source: Statistics New Zealand, RBNZ estimates.

Strong growth in economic activity will increase the demand for labour. The growth in labour demand is expected to outpace labour supply, absorbing spare capacity in the labour market. Labour supply is expected to continue expanding – albeit at a slower pace than over the past two years – boosted by strong net immigration and high rates of labour force participation. The unemployment

rate is expected to decline gradually towards 4.5 percent (figure 7.12).

Figure 7.12
Unemployment rate
(seasonally adjusted)

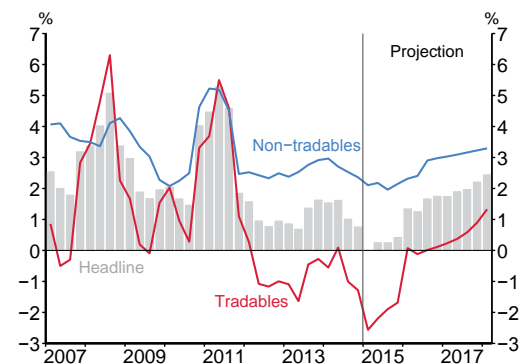


Source: Statistics New Zealand, RBNZ estimates.

Inflation

Despite a strong outlook for economic activity, inflation is expected to increase only gradually over the projection period (figure 7.13). After reaching a trough of zero percent in early 2015, annual CPI inflation is projected to increase towards 2 percent over the medium term.

Figure 7.13
CPI inflation and components
(annual)

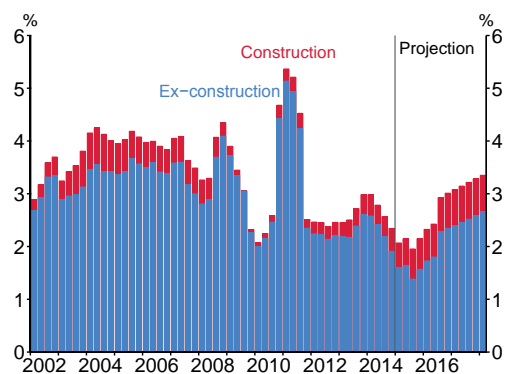


Source: Statistics New Zealand, RBNZ estimates.

Over the next 18 months, tradables and non-tradables inflation will be dampened by the indirect effects of lower fuel prices. In addition, low headline inflation is expected to keep inflation expectations near current levels – suppressing price and nominal wage movements despite increasing capacity pressures.

As resources in the economy are utilised, non-tradables inflation is forecast to increase. Domestic pricing pressures are expected to be most prominent in the construction industry (figure 7.14).

Figure 7.14
Non-tradables inflation components
(annual)



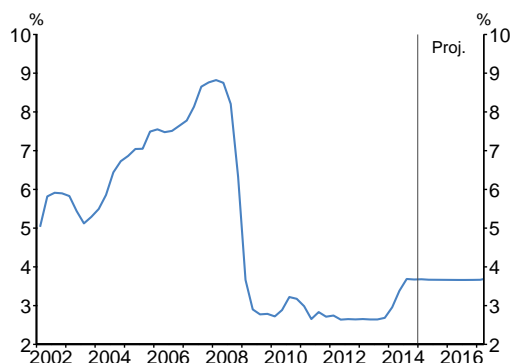
Source: Statistics New Zealand, RBNZ estimates.
Note: 'Construction' refers to the index for the purchase of newly-built houses from the CPI.

Annual non-tradables inflation is forecast to return to slightly above 3 percent (figure 7.13), with capacity pressures remaining elevated over the latter part of the projection period. Recent weakness in non-tradables inflation is expected to dissipate gradually over the forecast horizon.

Tradables inflation increases (figure 7.13) as the effects of recent falls in oil prices dissipate and the exchange rate gradually depreciates. Annual headline CPI inflation reaches 2.4 percent at the end of the projection.

It is appropriate for monetary policy to remain stimulatory (figure 7.15). Low interest rates will play a role in ensuring that annual CPI inflation rises towards 2 percent, with price-setting consistent with inflation settling at 2 percent in the medium term. The 90-day rate is projected to remain unchanged.

Figure 7.15
90-day interest rate



Source: RBNZ estimates.

Appendix A¹

Summary tables

Table A

Projections of GDP growth, CPI inflation and monetary conditions
(CPI and GDP are percent changes, GDP seasonally adjusted)

		GDP Quarterly	CPI Quarterly	CPI Annual	TWI	90-day bank bill rate
2007	Mar	1.2	0.5	2.5	72.6	7.8
	Jun	0.7	1.0	2.0	75.7	8.1
	Sep	0.9	0.5	1.8	75.0	8.7
	Dec	0.2	1.2	3.2	74.7	8.8
2008	Mar	-0.3	0.7	3.4	75.6	8.8
	Jun	-1.1	1.6	4.0	73.0	8.8
	Sep	-0.2	1.5	5.1	69.1	8.2
	Dec	-0.5	-0.5	3.4	62.2	6.3
2009	Mar	-1.2	0.3	3.0	58.0	3.7
	Jun	0.1	0.6	1.9	62.3	2.9
	Sep	0.4	1.3	1.7	66.6	2.8
	Dec	1.0	-0.2	2.0	69.3	2.8
2010	Mar	0.2	0.4	2.0	68.1	2.7
	Jun	1.0	0.2	1.7	68.6	2.9
	Sep	-0.5	1.1	1.5	68.9	3.2
	Dec	-0.4	2.3	4.0	69.8	3.2
2011	Mar	1.1	0.8	4.5	68.8	3.0
	Jun	0.7	1.0	5.3	70.8	2.7
	Sep	0.8	0.4	4.6	73.8	2.8
	Dec	0.4	-0.3	1.8	70.6	2.7
2012	Mar	0.7	0.5	1.6	73.5	2.7
	Jun	0.3	0.3	1.0	72.3	2.6
	Sep	0.3	0.3	0.8	73.5	2.7
	Dec	1.3	-0.2	0.9	74.2	2.6
2013	Mar	0.0	0.4	0.9	75.9	2.7
	Jun	0.4	0.2	0.7	76.3	2.6
	Sep	1.0	0.9	1.4	75.9	2.6
	Dec	0.6	0.1	1.6	78.2	2.7
2014	Mar	0.9	0.3	1.5	80.1	3.0
	Jun	0.7	0.3	1.6	81.5	3.4
	Sep	1.0	0.3	1.0	80.1	3.7
	Dec	0.8	-0.2	0.8	77.5	3.7
2015	Mar	0.5	-0.4	0.0	77.0	3.7
	Jun	0.9	0.5	0.3	76.7	3.7
	Sep	1.1	0.3	0.3	76.9	3.7
	Dec	0.9	0.0	0.4	76.9	3.7
2016	Mar	0.9	0.5	1.3	76.9	3.7
	Jun	0.7	0.4	1.3	76.8	3.7
	Sep	0.8	0.7	1.7	76.7	3.7
	Dec	0.7	0.1	1.7	76.5	3.7
2017	Mar	0.7	0.5	1.7	76.4	3.7

¹ Notes for these tables follow on pages 39 and 40.

Table B

Measures of inflation, inflationary pressures and asset prices

	2013			2014			2015	
	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar
Inflation (annual rates)								
CPI	0.7	1.4	1.6	1.5	1.6	1.0	0.8	
CPI non-tradables	2.5	2.8	2.9	3.0	2.7	2.5	2.4	
CPI tradables	-1.6	-0.5	-0.3	-0.6	0.1	-1.0	-1.3	
Sectoral factor model estimate of core inflation	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
CPI trimmed mean (of annual price change)	0.8	1.4	1.6	1.5	1.7	1.3	1.0	
CPI weighted median (of annual price change)	1.3	1.8	2.0	1.7	2.2	1.9	1.7	
GDP deflator (derived from expenditure data)	-0.1	3.7	7.6	5.7	4.7	1.6		
PPI - Input prices	0.0	3.3	2.8	3.1	1.4	-2.2	-1.9	
PPI - Output prices	0.8	4.1	3.8	4.0	2.5	-1.0	-0.8	
Inflation expectations								
RBNZ survey of expectations - inflation one-year-ahead	1.5	1.9	1.9	2.0	2.1	2.0	1.6	1.1
RBNZ survey of expectations - inflation two-years-ahead	2.1	2.4	2.3	2.3	2.4	2.2	2.1	1.8
ANZ Bank Business Outlook - inflation one-year-ahead (quarterly average to date)	2.3	2.3	2.4	2.6	2.6	2.5	2.3	1.7
AON Hewitt Economist Survey - inflation one-year-ahead	1.8	2.0	2.0	2.2	2.1	2.1	2.0	1.1
AON Hewitt Economist Survey - inflation four-years-ahead	2.3	2.3	2.3	2.2	2.3	2.2	2.2	2.1
Pricing and costs (net balances)								
ANZ Bank Business Outlook - Pricing intentions, next 3 months (quarterly average to date)	22.2	29.4	26.0	31.6	27.5	22.8	21.5	23.4
QSBO Average selling prices, next three months (Economy wide)	18.1	24.0	23.3	37.2	33.3	29.5	13.0	
QSBO Average costs, past three months (Economy wide)	18.9	20.7	21.6	18.7	19.6	21.8	25.7	
Asset prices (annual percentage changes)								
Quarterly house price index (Quotable Value Limited)	9.0	10.2	9.2	8.0	6.9	4.4		
REINZ Farm Price Index (quarterly average to date)	-1.8	10.8	5.7	9.0	15.3	3.7	1.2	1.6
NZX 50 (quarterly average to date)	28.9	26.7	20.6	16.5	14.6	12.7	12.7	16.6

Table C

Composition of real GDP growth

(annual average percent change, seasonally adjusted, unless specified otherwise)

March year	Actuals										Projections		
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
Final consumption expenditure													
Private	3.7	-1.6	1.7	2.1	2.7	2.5	2.9	3.9	4.2	3.5	2.4		
Public authority	4.7	4.0	-0.5	2.0	1.5	-0.6	2.7	2.5	-0.2	0.3	1.3		
Total	3.9	-0.2	1.1	2.0	2.4	1.7	2.8	3.6	3.1	2.7	2.2		
Gross fixed capital formation													
Residential	1.8	-21.2	-9.0	1.6	-0.2	17.7	16.7	13.2	13.6	6.4	1.1		
Other	10.0	-2.6	-9.3	3.8	7.1	4.4	8.6	6.4	6.0	7.4	4.4		
Total	7.7	-7.5	-9.2	3.3	5.5	7.1	10.4	8.0	7.9	7.1	3.6		
Final domestic expenditure	4.8	-2.0	-1.2	2.3	3.1	2.9	4.5	4.6	4.3	3.8	2.5		
Stockbuilding ¹	0.8	-0.3	-0.7	0.7	0.3	-0.4	0.2	0.1	-0.3	0.2	0.0		
Gross national expenditure	5.6	-2.3	-1.6	3.0	3.5	2.4	4.7	4.9	3.9	4.1	2.5		
Exports of goods and services	3.9	-2.8	4.1	2.8	2.3	3.0	0.2	1.2	2.6	2.7	3.5		
Imports of goods and services	10.9	-3.6	-9.2	11.4	6.7	1.3	8.0	6.9	3.5	5.4	2.8		
Expenditure on GDP	3.6	-2.1	2.3	0.7	2.2	2.9	2.4	3.2	3.6	3.2	2.7		
GDP (production)	3.0	-1.6	-0.3	1.5	2.2	2.2	2.5	3.2	3.5	3.3	2.7		
GDP (production, March qtr to March qtr)	1.6	-2.9	1.7	1.2	2.7	1.9	3.0	3.0	3.8	3.0	2.6		

¹ Percentage point contribution to the growth rate of GDP.

Table D
Summary of economic projections
(annual percent change, unless specified otherwise)

March year	Actuals										Projections		
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
Price measures													
CPI	3.4	3.0	2.0	4.5	1.6	0.9	1.5	0.0	1.3	1.7	2.4		
Labour costs	3.5	3.1	1.3	2.0	2.1	1.8	1.7	2.0	2.0	2.0	2.1		
Export prices (in New Zealand dollars)	11.3	7.2	-7.6	7.7	-2.9	-5.3	11.4	-11.3	3.7	3.6	3.9		
Import prices (in New Zealand dollars)	0.1	17.3	-11.2	3.3	-1.9	-4.2	-3.4	-3.1	1.5	2.9	4.4		
TWI													
TWI (year average)	75.2	65.6	66.6	69.0	72.2	74.0	77.6	79.0	76.9	76.6	75.8		
Output													
GDP (production, annual average % change)	3.0	-1.6	-0.3	1.5	2.2	2.2	2.5	3.2	3.5	3.3	2.7		
Potential output (annual average % change)	2.2	1.7	1.2	1.1	1.3	1.9	2.2	2.5	2.7	2.8	2.7		
Output gap (% of potential GDP, year average)	2.6	-0.7	-2.2	-1.8	-0.9	-0.7	-0.4	0.3	1.0	1.5	1.6		
Labour market													
Total employment (seasonally adjusted)	1.3	-0.9	-0.2	1.8	0.9	0.4	3.7	3.0	2.1	1.4	1.1		
Unemployment rate (March qtr, seasonally adjusted)	3.8	5.2	6.2	6.7	6.8	6.2	6.0	5.5	4.9	4.7	4.6		
Trend labour productivity	1.0	0.8	0.7	0.6	0.6	0.6	0.7	0.8	1.0	1.1	1.2		
Key balances													
Government operating balance (% of GDP, year to June)	3.0	-2.1	-3.3	-9.1	-4.4	-2.1	-1.3	-0.2	0.4	1.3	1.8		
Current account balance (% of GDP)	-6.7	-7.2	-1.5	-2.9	-3.2	-3.8	-2.6	-4.2	-5.3	-5.7	-5.7		
Terms of trade (SNA measure, annual average % change)	8.5	-1.9	-4.5	7.8	1.6	-4.3	11.7	0.1	-3.0	1.4	-0.0		
Household saving rate (% of disposable income)	-1.5	-1.3	0.9	2.7	1.5	2.3	2.1	3.0	1.9	1.8	2.0		
World economy													
Trading partner GDP (annual average % change)	4.2	0.3	1.1	4.5	3.5	3.2	3.5	3.6	3.8	4.0	3.9		
Trading partner CPI (TWI weighted, annual % change)	4.2	1.6	2.2	3.2	2.7	2.3	2.2	1.1	2.1	2.2	2.3		

Notes and definitions

These forecasts were finalised using National Accounts data as at the quarterly June 2014 GDP release. Historical and forecast data shown in these tables do not incorporate the transition to SNA08 or annual data for the year to March 2014, published on 21 November.

CPI	Consumers Price Index.
Weighted median inflation	To calculate weighted median inflation, first the percentage changes in all components of the CPI are ranked. The weighted median is the rate of price change that half of all weighted price movements are below, and half are above.
Trimmed mean inflation	To calculate trimmed mean inflation, first percentage changes in all components of the CPI are ranked, then the price changes for a specified weight of the CPI are removed. The trimmed mean is the average of the remaining price changes.
Sectoral factor model estimate of core inflation	Estimates core inflation by up weighting those components of the CPI that most closely reflect the general trend in the CPI inflation and down weighting those that do not. The weightings evolve over time as the volatility of each component changes.
TWI	Nominal trade-weighted index of the exchange rate. Defined as a geometrically-weighted index of the New Zealand dollar bilateral exchange rates against the currencies of 17 major trading partners.
90-day bank bill rate	The interest yield on 90-day bank bills, quarter average.
World GDP	RBNZ definition. 16-country index, export weighted. Seasonally adjusted.
World CPI inflation	RBNZ definition. Five-country index, TWI weighted.
Import prices	Domestic currency import prices. System of National Accounts.
Export prices	Domestic currency export prices. System of National Accounts.
Terms of trade	Constructed using domestic currency export and import prices. System of National Accounts.
Private consumption	System of National Accounts.
Public authority consumption	System of National Accounts.
Residential investment	RBNZ definition. Private sector and government market sector residential investment. System of National Accounts.
Other investment	RBNZ definition. Total investment less residential investment.
Final domestic expenditure	RBNZ definition. The sum of total consumption and total investment. System of National Accounts.
Stockbuilding	Percentage point contribution to the growth of GDP by stocks. System of National Accounts.
Gross domestic income	The real purchasing power of domestic income, taking into account changes in the terms of trade. System of National Accounts.
Gross national expenditure	Final domestic expenditure plus stocks. System of National Accounts.
Exports of goods and services	System of National Accounts.
Imports of goods and services	System of National Accounts.
GDP (production)	Gross Domestic Product. System of National Accounts.
Potential output	RBNZ definition and estimate.

Output gap	RBNZ definition and estimate. The percentage difference between real GDP (production, seasonally adjusted) and potential output GDP.
Current account balance	Balance of Payments.
Total employment	Household Labour Force Survey.
Unemployment rate	Household Labour Force Survey.
Household saving rate	Household Income and Outlay Account.
Government operating balance	Operating balance before gains and losses. Historical and forecast data sourced from the Treasury and adjusted by the Reserve Bank.
Labour productivity	The series shown is the annual percentage change in a trend measure of labour productivity. Labour productivity is defined as GDP (production) divided by Household Labour Force Survey hours worked.
Labour cost	Private sector all salary and wage rates. Labour Cost Index.
Quarterly percent change	$(\text{Quarter}/\text{Quarter}_{-1} - 1) * 100$
Annual percent change	$(\text{Quarter}/\text{Quarter}_{-4} - 1) * 100$
Annual average percent change	$(\text{Year}/\text{Year}_{-1} - 1) * 100$

Source: Unless otherwise specified, all data conform to Statistics New Zealand definitions, and are not seasonally adjusted.
Rounding: All projections data are rounded to one decimal place.

Appendix B

Companies and organisations contacted by Reserve Bank staff during the projection round

2degrees	Mitre10
Air New Zealand	Nelson Regional Economic Development Agency
BP	New Zealand Automobile Association Incorporated
BusinessNZ	New Zealand Council of Trade Unions
Courier Post	New Zealand Food and Grocery Council
Crowe Horwath (Hawke's Bay)	New Zealand Manufacturers and Exporters Association
Employers and Manufacturers Association	New Zealand Oil and Gas
Federated Farmers (Hamilton)	New Zealand Retailers Association
Foodstuffs South Island	New Zealand Taxi Federation
Hale and Twomey	Northland Chamber of Commerce
Kathmandu	Progressive Enterprises
Mainfreight	Z Energy

Appendix C

Upcoming Reserve Bank *Monetary Policy Statements* and Official Cash Rate release dates

The following is the Reserve Bank's schedule for the release of *Monetary Policy Statements* (MPS) and Official Cash Rate (OCR) announcements. Please note that the Reserve Bank reserves the right to make changes, if required due to unexpected developments. In that unlikely event, the markets and the media would be given as much warning as possible.

Announcements are made at 9.00am on the day concerned and are posted to the website shortly after.

2015

30 April 2015	OCR
11 June 2015	OCR and <i>MPS</i> (webcast)
23 July 2015	OCR
10 September 2015	OCR and <i>MPS</i> (webcast)
29 October 2015	OCR
10 December 2015	OCR and <i>MPS</i> (webcast)

2016

28 January 2016	OCR
10 March 2016	OCR and <i>MPS</i> (webcast)
28 April 2016	OCR
9 June 2016	OCR and <i>MPS</i> (webcast)

Appendix D

Policy Targets Agreement

This agreement between the Minister of Finance and the Governor of the Reserve Bank of New Zealand (the Bank) is made under section 9 of the Reserve Bank of New Zealand Act 1989 (the Act). The Minister and the Governor agree as follows:

1. Price stability

- a) Under Section 8 of the Act the Reserve Bank is required to conduct monetary policy with the goal of maintaining a stable general level of prices.
- b) The Government's economic objective is to promote a growing, open and competitive economy as the best means of delivering permanently higher incomes and living standards for New Zealanders. Price stability plays an important part in supporting this objective.

2. Policy target

- a) In pursuing the objective of a stable general level of prices, the Bank shall monitor prices, including asset prices, as measured by a range of price indices. The price stability target will be defined in terms of the All Groups Consumers Price Index (CPI), as published by Statistics New Zealand.
- b) For the purpose of this agreement, the policy target shall be to keep future CPI inflation outcomes between 1 per cent and 3 per cent on average over the medium term, with a focus on keeping future average inflation near the 2 per cent target midpoint.

3. Inflation variations around target

- a) For a variety of reasons, the actual annual rate of CPI inflation will vary around the medium-term trend of inflation, which is the focus of the policy target. Amongst these reasons, there is a range of events whose impact would normally be temporary. Such events include, for example, shifts in the aggregate price level as a result of exceptional movements in the prices of commodities traded in world markets, changes in indirect taxes, significant government policy changes that directly affect prices, or a natural disaster affecting a major part of the economy.
- b) When disturbances of the kind described in clause 3(a) arise, the Bank will respond consistent with meeting its medium-term target.

4. Communication, implementation and accountability

- a) On occasions when the annual rate of inflation is outside the medium-term target range, or when such occasions are projected, the Bank shall explain in *Policy Statements* made under section 15 of the Act why such outcomes have occurred, or are projected to occur, and what measures it has taken, or proposes to take, to ensure that inflation outcomes remain consistent with the medium-term target.
- b) In pursuing its price stability objective, the Bank shall implement monetary policy in a sustainable, consistent and transparent manner, have regard to the efficiency and soundness of the financial system, and seek to avoid unnecessary instability in output, interest rates and the exchange rate.
- c) The Bank shall be fully accountable for its judgements and actions in implementing monetary policy.



Hon Bill English

Minister of Finance



Graeme Wheeler

Governor Designate
Reserve Bank of New
Zealand

Dated at Wellington 20 September 2012