



Monetary Policy Statement

June 2016

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

Monetary Policy Statement

June 2016

Projections finalised on 26 May 2016. Data finalised on 1 June 2016.
Policy assessment finalised on 8 June 2016.



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Chapter 1

Policy assessment



The Reserve Bank today left the Official Cash Rate unchanged at 2.25 percent.

Global financial market volatility has abated and the outlook for global growth appears to have stabilised after being revised down successively over recent quarters. There has been a modest recovery in commodity prices in recent months. However, the global economy remains weak despite very stimulatory monetary policy and significant downside risks remain.

Domestic activity continues to be supported by strong net immigration, construction, tourism and accommodative monetary policy. The dairy sector remains a moderating influence with export prices below break-even levels for most farmers.

The exchange rate is higher than appropriate given New Zealand's low export commodity prices. Together with weak overseas inflation, this is holding down tradables inflation. A lower New Zealand dollar would raise tradables inflation and assist the tradables sector. House price inflation in Auckland and other regions is adding to financial stability concerns. Auckland house prices in particular are at very high levels, and additional housing supply is needed.

There continue to be many uncertainties around the outlook. Internationally, these relate to the prospects for global growth and

commodity prices, the outlook for global financial markets, and political risks. Domestically, the main uncertainties relate to inflation expectations, the possibility of continued high net immigration, and pressures in the housing market.

Headline inflation is low, mostly due to low fuel and other import prices. Long-term inflation expectations are well-anchored at 2 percent. After falling in recent quarters, short-term inflation expectations appear to have stabilised.

We expect inflation to strengthen reflecting the accommodative stance of monetary policy, increases in fuel and other commodity prices, an expected depreciation in the New Zealand dollar and some increase in capacity pressures.

Monetary policy will continue to be accommodative. Further policy easing may be required to ensure that future average inflation settles near the middle of the target range. We will continue to watch closely the emerging flow of economic data.

Graeme Wheeler

A handwritten signature in black ink, appearing to read 'G Wheeler'.

Governor

Chapter 2

Key policy judgements



- Subdued global economic conditions continue to be a key force dampening inflationary pressure in New Zealand.
- Shorter-term inflation expectations have declined and, given their usual persistence, are likely to slow the return of inflation to the target midpoint.
- In this environment, ongoing monetary policy stimulus is required; the interest rate outlook is similar to the *March Statement*.
- Key judgements underlying the projection include that global conditions improve and that domestic spare capacity is absorbed by growth in residential construction and consumption.

For some time now, subdued global conditions have reduced the prices of New Zealand's imports and dampened domestic capacity pressure. The outlook for trading-partner growth is around average, despite very stimulatory monetary policy. The risk of a more severe global downturn appears to have subsided since March.

Subdued global demand has contributed to low international commodity prices. Falls in prices for New Zealand's key export commodities have caused a material decline in the terms of trade, despite import prices also

falling. Many dairy farmers are likely to face losses for a third consecutive season. Low export prices are dampening confidence, consumer spending, and business investment. The depreciation of the New Zealand dollar over 2015 only partially buffered the economy against the decline in export prices, and further depreciation appears warranted.

New Zealand's GDP grew by 2.5 percent in 2015, down from about 4 percent in 2014. Net immigration is at record-high levels, partly due to weak foreign conditions, and is increasing demand for housing and for goods and services. A shortage of housing, and consequent rising prices, is boosting residential construction. Tourist spending is also supporting domestic growth. While GDP growth was around average in 2015, migration flows also added to the supply of labour and increased productive capacity. This has moderated inflationary pressure.

Declines in import prices, including for fuel, and lower ACC vehicle levies have also dampened headline inflation. Annual CPI inflation was 0.4 percent in the March quarter. Looking through one-off price movements, core inflation measures have remained stable around the lower part of the target range over the past year.

Low headline inflation has coincided with a gradual decline in inflation expectations. Short- and medium-term inflation expectations fell in the

March quarter and stabilised at this lower level in the June quarter. This continues to dampen price- and wage-setting behaviour.

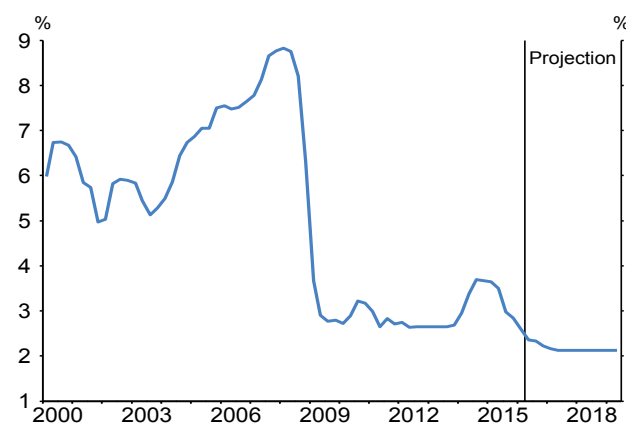
With capacity pressure weak and shorter-term inflation expectations having fallen, monetary policy needs to remain stimulatory. To ensure that inflation trends towards the midpoint of the 1 to 3 percent range over the medium term, the outlook for the 90-day rate is the same as it was in the March *Statement* (figure 2.1).

Low current inflation is largely due to factors outside the Bank's influence, and these factors can change quickly. Nonetheless, low inflation is concerning because it could cause expectations to fall further. The Policy Targets Agreement (PTA) directs the Bank to focus on the medium-term trend in inflation and to avoid unnecessary volatility in the economy. In the Bank's judgement, more monetary stimulus than projected, to return inflation to target a little sooner, would generate more volatility in non-tradables inflation and output than is necessary. In addition, the PTA directs the Bank to also have regard to financial stability. The high level of house prices relative to incomes in Auckland, and the recent increase in house price inflation in many parts of the country, is a concern from this perspective, and will continue to warrant close attention.

The current low level of short-term interest rates and further easing priced-in by markets mean that mortgage rates have fallen to record-low levels (figure 2.2), even with offshore funding costs having risen. Low mortgage rates are providing significant impetus to the outlook for domestic demand.

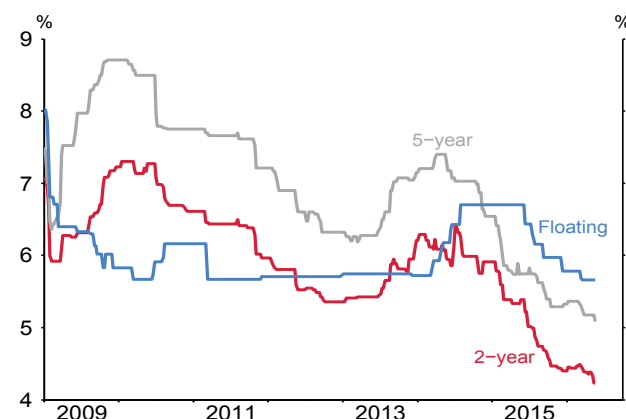
Supported by low interest rates, annual GDP growth is expected to average about 3 percent over the next two years. Productive capacity is estimated to be growing at a little more than 2.5 percent per annum.

Figure 2.1
90-day interest rate



Source: RBNZ estimates.

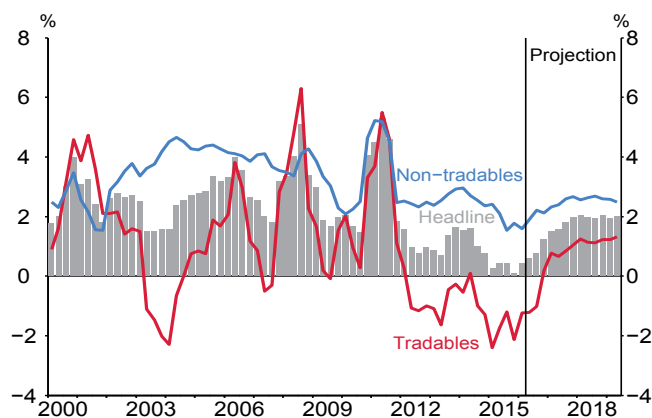
Figure 2.2
Mortgage interest rates



Source: interest.co.nz, RBNZ estimates.

Note: Each rate shown is the average rate on offer from four banks: ANZ, ASB, BNZ, and Westpac.

Figure 2.3
CPI inflation
(annual)



Source: Statistics New Zealand, RBNZ estimates.

Consequently, we expect capacity pressure to rise, which will contribute to an increase in non-tradables inflation to about 2.5 percent.

CPI inflation is forecast to be inside the target band from the end of 2016, as the fuel price declines that occurred late last year fall out of the annual calculation (figure 2.3). The increase in fuel prices since March and further expected depreciation of the exchange rate add to the pick-up.

A key assumption underlying the projections is that global economic conditions improve, allowing trading-partner growth to continue at around its average rate. Reflecting this, we assume that global commodity prices recover slowly, net immigration declines, and the New Zealand dollar trade-weighted index (TWI) depreciates over the next year to around 70.

The outlook for inflationary pressure also depends on how the domestic economy responds in this environment. Some key judgements we have made are that:

- housing pressures cause a substantial increase in residential investment, although this is muted relative to the record high net immigration;
- household spending remains modest relative to increases in housing wealth; and
- lower inflation expectations continue to weigh on price-setting behaviour.

If these assumptions prove to be inconsistent with incoming data, the outlook for monetary policy will be revised appropriately. The following section outlines the reasons for these assumptions and key risks around them.

Global economic conditions

Global demand for commodities is forecast to increase, which, along with a reduction in supply in some markets, contributes to our forecast for a slow recovery in the prices of both New Zealand's imports and exports. We assume that by 2019 the price of whole milk powder will rise to around USD 3,300 per metric tonne and that the Dubai oil price will rise to around USD 55 per barrel. In real terms, both import and export prices remain subdued relative to history.

A risk to this projection is that commodity prices, particularly dairy prices, remain weak for longer. This would further dampen export receipts and investment, initially in rural parts of New Zealand. In addition, if oil prices

were to fall back from recent increases, this would pose downside risk to inflation in the near term.

As the global recovery continues and labour market conditions improve, especially in Australia, we expect net immigration to decline from its current elevated level. A risk is that Australian conditions do not improve and, as a result, net immigration continues at the current rate. This would boost housing demand, but the weaker Australian growth would dampen demand and inflationary pressure in New Zealand.

We assume that the New Zealand dollar TWI will depreciate to around 70. If world interest rates remain lower for longer than markets currently anticipate, or if investors increase their appetite for New Zealand dollar assets despite the declining interest rate differential, the TWI could remain higher through the projection (see exchange rate scenario in chapter 5). More stimulatory monetary policy would be necessary to offset the impact on inflation.

Housing market and domestic demand

The projected increase in domestic capacity pressure mainly reflects an increasing draw on resources from construction activity, and further growth in consumption. While we have seen some growth in housing supply, it has not kept up with the population increase – especially in Auckland. Residential investment is expected to rise substantially over the next year, and increase as a share of the economy. Even so, this increase is constrained by land availability and productive capacity in the sector. House price inflation is likely to persist in the near term.

High house prices, low interest rates, and rapid population growth are expected to support consumption, but to a lesser extent than past relationships between consumption and each of these variables would

suggest. Household spending is expected to remain moderate due to the lower terms of trade and weaker consumer confidence. There are credible risks in both directions to this outlook. On the downside, concerns about global conditions, the outlook for export incomes, and housing affordability could weigh on spending by more than we have assumed. On the upside, consumption could be stronger if house price inflation becomes more widespread throughout New Zealand or low mortgage rates start to have more of an impact on spending.

We present a scenario in chapter 5 where existing housing pressures lead to a bigger house price increase over the next two years. We allow this to pass into construction and consumption in line with historical relationships. The boost to domestic activity means that monetary policy would not need to be as stimulatory.

Price-setting behaviour

Inflation expectations appear to have fallen, reflecting recent low inflation, and are weighing on price-setting behaviour. As CPI inflation returns to within the 1 to 3 percent target band, inflation expectations should gradually increase. The dampening effect of recent low inflation could be smaller than assumed if price setters are more forward looking and make price adjustments in line with longer-term inflation expectations, even if observed inflation is initially lower.

Box A

Recent monetary policy decisions

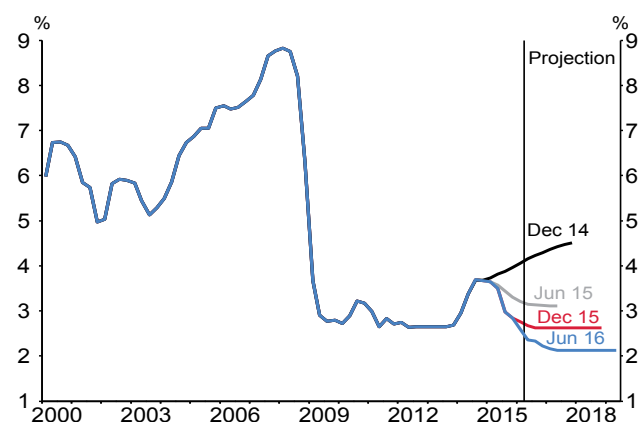
The Bank lowered the OCR by 100 basis points over 2015 (figure A.1). A key reason was that global conditions deteriorated and forecasts for trading-partner growth were revised down (figure A.2). In an associated move, New Zealand's export commodity prices fell considerably. Falls in the terms of trade dampened confidence and contributed to weaker-than-expected growth in consumption and investment. GDP growth was matched by growth in productive capacity, supported by rapid labour force growth. Consequently, spare capacity was not absorbed as we expected.

Volatility in financial markets during January and February heightened concerns about the global economic outlook. Commodity prices fell further than we expected in the December *Statement*, and bank funding costs increased. With many foreign central banks also loosening monetary policy, the New Zealand dollar exchange rate did not depreciate as expected.

Inflation expectations fell sharply at one- and two-year horizons in the March quarter, and more moderately at longer horizons. In addition, nominal wage movements continued to be benign.

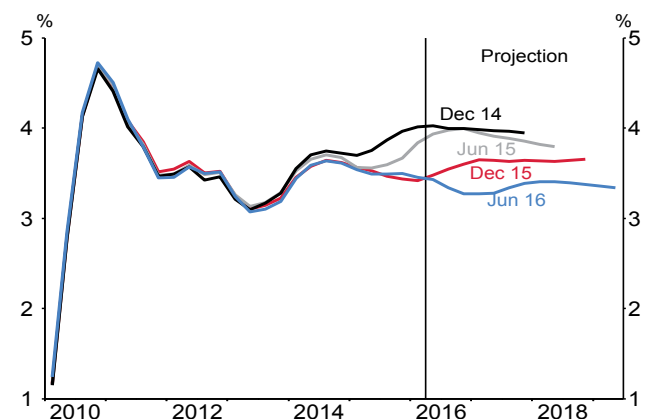
In response to these developments, the Bank cut the OCR by a further 25 basis points to 2.25 percent in March, and then held at this level at the April OCR review, albeit with an easing bias still in place.

Figure A.1
90-day interest rate



Source: RBNZ estimates.

Figure A.2
Trading-partner growth
(annual average)



Source: Haver Analytics, Statistics New Zealand, RBNZ estimates.

Table 2.1
Key forecast variables

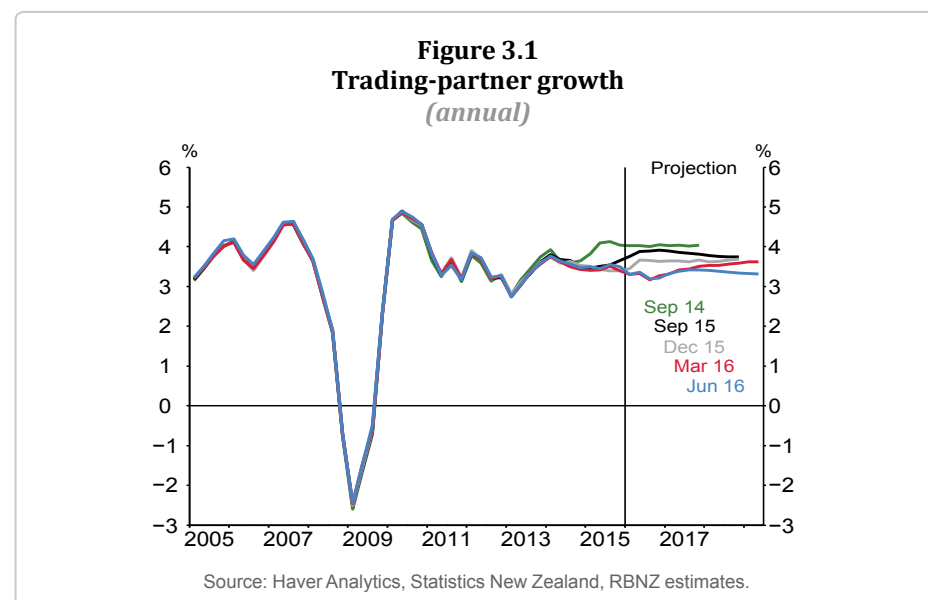
		GDP growth Quarterly	CPI inflation Quarterly	CPI inflation Annual	TWI	90-day bank bill rate
2014	Mar	1.4	0.3	1.5	80.1	3.0
	Jun	0.9	0.3	1.6	81.5	3.4
	Sep	0.9	0.3	1.0	80.1	3.7
	Dec	0.9	-0.2	0.8	77.5	3.7
2015	Mar	0.3	-0.2	0.3	77.9	3.6
	Jun	0.3	0.4	0.4	76.1	3.5
	Sep	0.9	0.3	0.4	69.8	3.0
	Dec	0.9	-0.5	0.1	72.1	2.8
2016	Mar	0.6	0.2	0.4	72.2	2.6
	Jun	0.7	0.6	0.6	72.6	2.3
	Sep	1.0	0.5	0.7	71.6	2.3
	Dec	0.9	0.0	1.3	71.0	2.2
2017	Mar	0.8	0.4	1.5	70.6	2.2
	Jun	0.7	0.7	1.6	70.2	2.1
	Sep	0.7	0.7	1.8	70.0	2.1
	Dec	0.6	0.2	2.0	69.8	2.1
2018	Mar	0.5	0.5	2.1	69.7	2.1
	Jun	0.5	0.6	2.0	69.7	2.1
	Sep	0.5	0.7	1.9	69.6	2.1
	Dec	0.5	0.2	2.0	69.6	2.1
2019	Mar	0.5	0.4	1.9	69.6	2.1
	Jun	0.5	0.6	2.0	69.7	2.1

Chapter 3

International developments

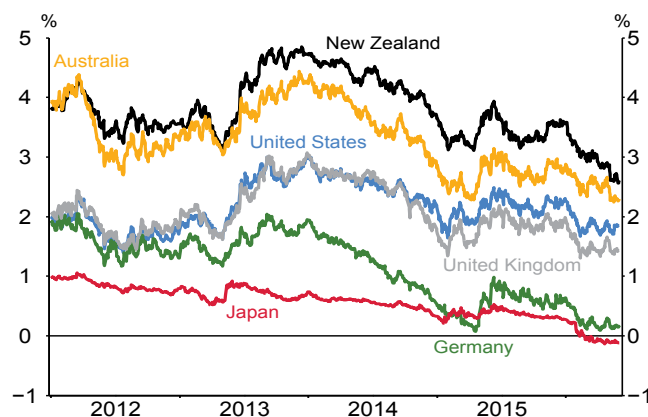


- Global inflation remains low, reflecting significant spare capacity and large falls in commodity prices since late-2014.
- The outlook for global growth and inflation remains subdued. This has resulted in further monetary stimulus since the *March Statement* and further declines in global bond yields.
- Lower global interest rates, reduced financial market volatility and improved risk sentiment have limited depreciation in the New Zealand dollar and contributed to a modest improvement in a range of commodity prices.



Global developments continue to be a key influence on the New Zealand economy. Global growth remains weak despite very stimulatory monetary policy. Significant spare capacity in many product and labour markets and large falls in commodity prices have depressed global inflation. Interest rates, as a result, are at record lows in many countries.

Figure 3.2
10-year bond yields

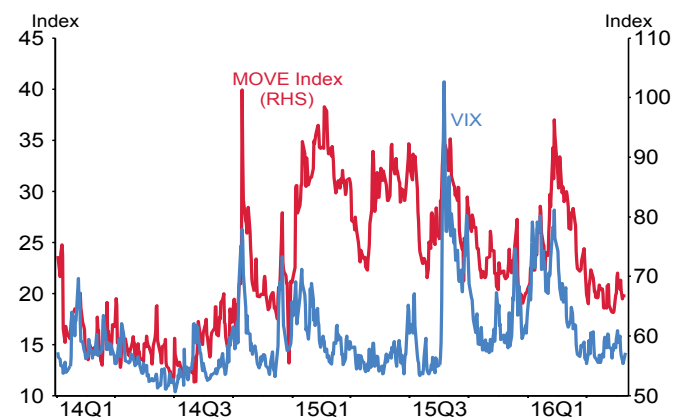


Source: Thomson Reuters.

Since the March *Statement*, the outlook for global growth has remained weak. At the same time, there has been some reduction in uncertainty about the global outlook, as indicated by reduced market volatility. While uncertainty remains and the risks remain skewed to the downside, the immediate concerns about a sharp slowdown appear to have receded in light of recent economic data. This has supported a modest recovery in global commodity prices.

Forecasts for global growth and inflation have been revised successively lower over the past two years (figure 3.1, and see box B for details of developments in New Zealand's biggest trading partners). Reflecting this, further monetary policy stimulus has been provided this year in Japan, Europe, China, and most recently, Australia. The United States Federal Reserve, which is the only advanced economy central bank withdrawing monetary policy stimulus, has acknowledged the fragile outlook for the

Figure 3.3
Financial market volatility



Source: Bloomberg.

Note: The VIX index shows the market's expectation of 30-day volatility in the S&P500 index. The MOVE (Merrill Lynch Option Volatility Estimate) index shows implied one-month volatility for United States Treasury bonds.

United States recovery by proceeding very gradually. Over the first few months of 2016, financial markets pulled back expectations of further tightening in the United States. Since May, however, improvements in economic data have seen market pricing recover but remain lower than at the end of 2015.

The clearest evidence of the weaker global growth outlook has been in global bond markets. Expectations that monetary policy will be easier for longer across many economies have contributed to government bond yields trending lower since the March *Statement* (figure 3.2). The yields on 10-year bonds are around record lows in many countries. Chapter 4 discusses the implications for domestic interest rates faced by households and firms.

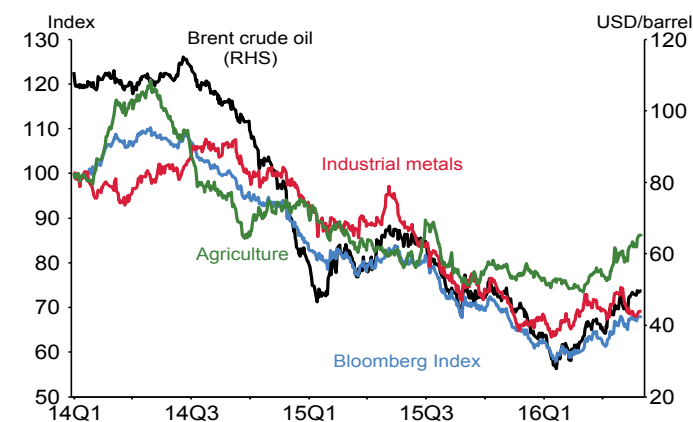
These developments have resulted in a widening of interest rate differentials between New Zealand and the rest of the world, despite the reduction in the OCR in March, and have contributed to the strengthening in the New Zealand dollar TWI. As discussed below, the recent appreciation in the New Zealand dollar exchange rate also reflects the improvement in risk appetite in financial markets since the time of the March *Statement*. Chapter 5 discusses the outlook for the TWI, its implications for the Bank's projections of economic activity and inflation, and the risk of a higher TWI path.

Risks to the global outlook remain to the downside. In this environment, financial markets are prone to periodic bouts of volatility. At the time of the March *Statement*, there was heightened concern about the global growth outlook (in particular, Chinese growth) and weakness in the European banking sector. The effects of these concerns were amplified by reduced liquidity in financial markets. Since March, financial market volatility has reduced as major central banks have responded with increased policy accommodation, and as economic data have improved (figure 3.3). This has improved risk appetite in financial markets and increased demand for higher-yielding sovereign bonds, including yields offered in Australia and New Zealand. This has supported the strength in the New Zealand dollar exchange rate.

Global commodity prices fell more than 50 percent between mid-2014 and January 2016 – oil prices fell by about 75 percent – and this has greatly depressed global headline inflation. In many commodity markets, the lower prices reflect subdued global demand and excess supply capacity.

Commodity prices have recovered from their January lows, with the Bloomberg Commodity Index up about 17 percent (figure 3.4). This has largely been driven by a recovery in oil prices, with the Brent crude

Figure 3.4
Commodity prices



Source: Bloomberg.

Note: The Bloomberg Index and sub-components have been indexed to 1 January 2014.

oil price up about 20 percent over this time. Oil markets are gradually being brought back into balance, aided by the renewed stimulus in China supporting demand. Unanticipated and temporary supply disruptions in Canada, Nigeria, and Venezuela have also played a part.

Box B

Trading-partner developments

China

Annual growth in China was 6.7 percent in the March 2016 quarter. The Chinese government has increased planned spending and introduced other measures to achieve the GDP growth target – of 6.5 to 7 percent – that was announced in March. The increased stimulus is evident in higher growth in state fixed asset investment, total social financing, and increased activity in the property market. Significant spare capacity remains in industrial sectors, which helps explain subdued inflationary pressure. There are risks that the increases in investment and credit will add to existing imbalances, which have increased the risk of a sharp slowdown in growth over the medium-to-long term.

Australia

The Australian economy grew at an annual rate of 3.1 percent in the March quarter. Increasing net export volumes and solid consumption spending contributed to growth, while weak business investment has been a drag for some time. Annual inflation declined to 1.3 percent in the March quarter, with the weakness broad based across components. Wage inflation remains low, despite a steady improvement in the labour market. The Reserve Bank of Australia cut its cash rate by 25 basis points to 1.75 percent in early May.

United States

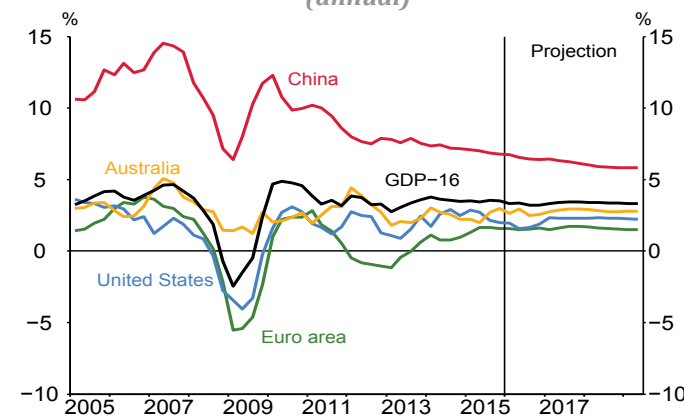
In the United States, growth slowed over the December 2015 and March 2016 quarters to an annual rate of 2 percent, but is expected to pick up

over the remainder of 2016. Inflationary pressures have been increasing recently, but inflation remains below target. Annual core inflation, as measured by the core personal consumption expenditure deflator, increased to 1.6 percent in April. The Federal Reserve raised the federal funds target rate by 25 basis points in December, but has not adjusted the rate since then, in part due to fragile global conditions.

Euro area

In the euro area, growth has been stronger than expected, at an annual rate of 1.5 percent in the March quarter. Growth has been driven primarily by improving domestic demand, while net exports have been a drag on growth. Underlying inflationary pressure remains low, with annual core inflation at 0.8 percent. Consequently, the European Central Bank announced a range of policy measures in March, including lowering its deposit rate to -0.4 percent and increasing the size of its asset purchase programme from EUR 60 billion to EUR 80 billion per month.

Figure B.1
Trading-partner growth
(annual)



Source: Haver Analytics, Statistics New Zealand, RBNZ estimates.

Chapter 4

Current domestic conditions

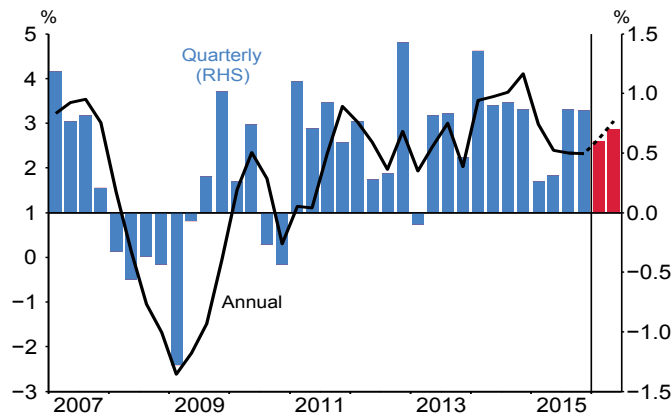


- Despite GDP growth being around average, CPI inflation is low relative to the 1 to 3 percent target band, and relative to its average of 2.2 percent since 2002.
- Growth is supported by low interest rates, high net immigration, and the associated strength in house prices and residential construction.
- Weak global conditions continue to weigh on inflation, both directly, through falling prices for imported goods, and indirectly, through their dampening impact on domestic demand.
- Strong population growth has led to a significant increase in the economy's productive capacity, moderating inflationary pressure.

Domestic Activity

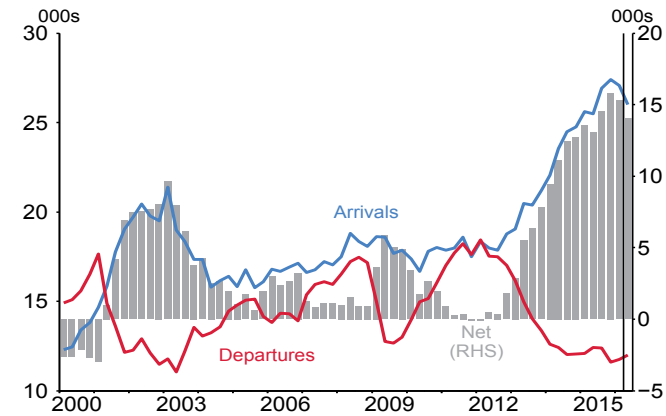
So far over 2016, GDP growth is estimated to have been close to its historical average (figure 4.1). Growth is concentrated in the services and construction sectors, supported by strong tourism, low interest rates, and high net immigration. At the same time, the high exchange rate and low prices for New Zealand's export commodities are dampening activity in the agricultural sector, and this is contributing to weak business investment.

Figure 4.1
GDP growth
(s.a.)



Source: Statistics New Zealand, RBNZ estimates.

Figure 4.2
Migration
(quarterly, s.a.)



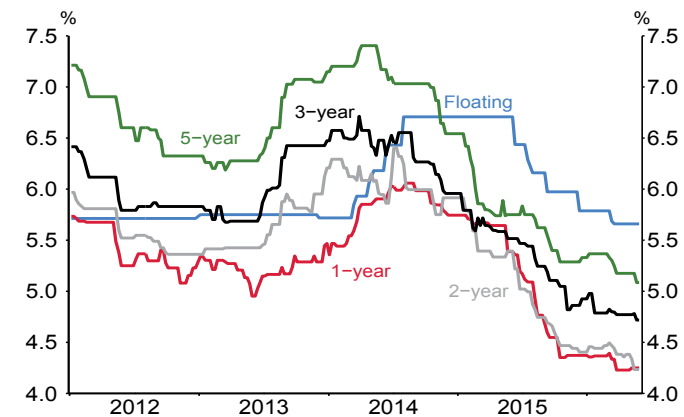
Source: Statistics New Zealand, RBNZ estimates.

Note: The data shown are for permanent and long-term working-age migration.

Domestic activity is supported by strong population growth through net immigration. Global weakness and relatively favourable labour market conditions in New Zealand have supported high rates of net immigration. Net permanent and long-term immigration of working-age people was 59,000 people in the year to April, a 1.6 percent boost to the working-age population (figure 4.2). These new migrants contribute to the productive capacity of the economy by participating in the labour force, and support domestic activity through consumption and demand for housing.

Growth is also supported by low interest rates. Domestic interest rates fell as the Bank reduced the OCR by 125 basis points over the past year and as lower international interest rates flowed through to New Zealand. New Zealand mortgage rates subsequently declined, and are at record lows despite some offset from rising bank funding costs (see figure 4.3 and box C).

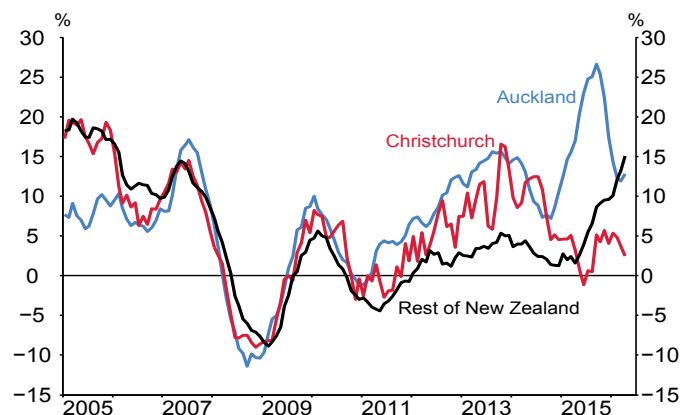
Figure 4.3
Mortgage interest rates



Source: interest.co.nz, RBNZ estimates.

Note: Each rate shown is the average rate on offer from four banks: ANZ, ASB, BNZ, and Westpac.

Figure 4.4
House price inflation
(annual)



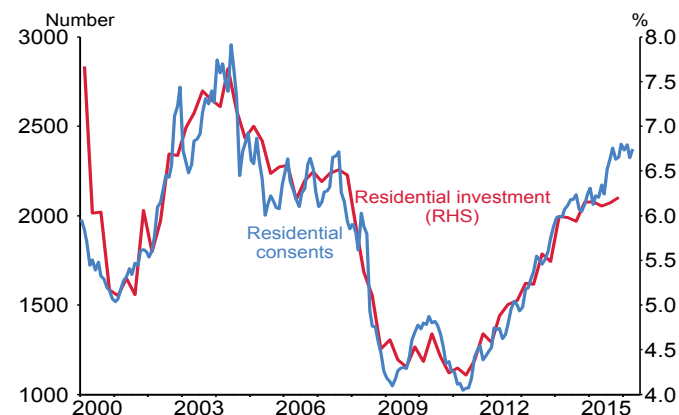
Source: REINZ, RBNZ estimates.

Note: The data shown are in three-month moving-average terms.

Low mortgage rates, high net immigration, and the shortage of housing in Auckland have contributed to high house price inflation (figure 4.4). The changes to restrictions on loan-to-value ratios for investors, and government tax measures implemented late last year saw Auckland house price inflation slow through late 2015. However, the impact of these policy changes on house price inflation is expected to be temporary, and Auckland house prices have rebounded in recent months. Outside Auckland, house price inflation has continued to increase, and nationwide annual house price inflation reached 13 percent in April.

Strong demand for housing is encouraging residential construction. Residential investment grew by 3.5 percent in 2015, and strong consent issuance suggests further growth this year (figure 4.5). Strong activity in Auckland and other parts of the country has been partially offset by slower residential construction in Canterbury. Residential construction

Figure 4.5
Residential investment and building consents
(investment as a share of potential output)



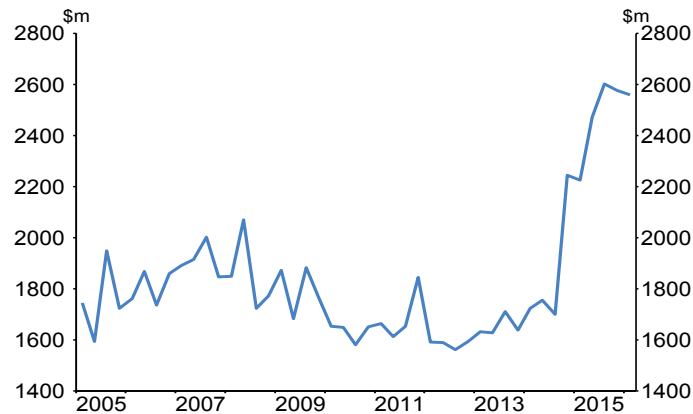
Source: Statistics New Zealand, RBNZ estimates.

in Canterbury softened in the December quarter, and generally declined over 2015. Non-residential construction in Canterbury continues to increase, although the rate of growth slowed over the second half of 2015.

High tourist numbers are also supporting growth. Overseas visitor numbers continue to increase strongly, with visitor arrivals in April 2016 11 percent higher than a year earlier. Lower expenditure per visitor has seen total tourist spending stabilise in recent quarters. However, tourist spending remains elevated (figure 4.6), and exports of services are estimated to have increased by more than 18 percent over the past two years.

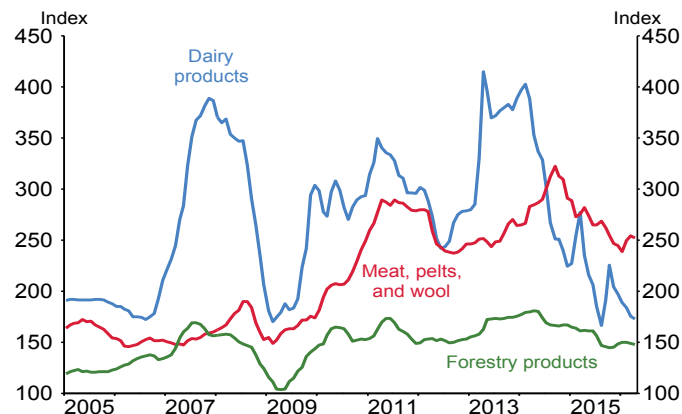
Growth in retail trade has moderated from high levels, with volumes increasing by 0.8 percent in the March quarter. This reflects the stabilisation in tourist spending and modest consumption growth. Annual

Figure 4.6
Expenditure by overseas visitors
(quarterly, s.a.)



Source: Ministry of Business, Innovation, and Employment, RBNZ estimates.

Figure 4.7
Commodity prices
(SDR, s.a.)



Source: ANZ Bank, RBNZ estimates.

consumption growth appears to be close to average, despite high house prices, low interest rates, and relatively strong growth in real labour incomes. In per capita terms, consumption growth has been weak.

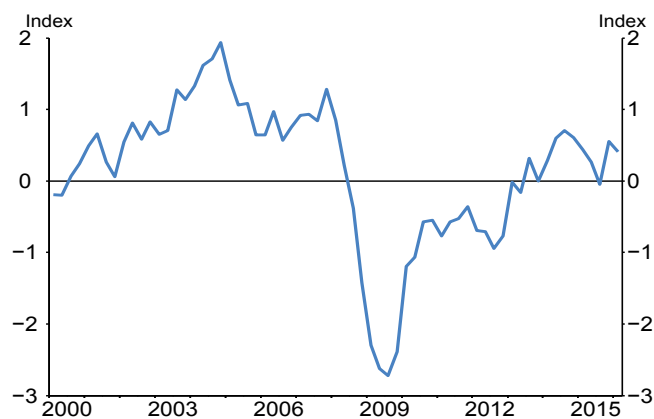
Weak global demand and commodity-specific supply factors mean that prices for a range of New Zealand's commodity exports remain low (figure 4.7). Despite some signs of stabilisation in recent months, dairy prices are more than 55 percent lower than their 2014 peak, due to slow growth in global dairy demand and increasing supply out of Europe. With Fonterra's forecast for milk prices for the upcoming season below estimated average break-even level, it is likely that many dairy farmers are under significant stress. Meat and forestry prices have stabilised this year after declining through 2015.

Low export prices constrain activity and investment in dairy-dependent sectors of the economy, and weigh on business confidence throughout the wider economy. Business investment declined by 1.2 percent in the December quarter and is estimated to have declined further in the March quarter.

Capacity pressure

Labour market conditions are gradually tightening according to a broad range of indicators (figure 4.8). Employment growth in the March quarter was 1.2 percent, having recovered from weakness through the middle of 2015. However, strong growth in the labour force due to high net immigration and labour force participation has moderated any associated increase in capacity pressure.

Figure 4.8
Labour utilisation composite index (LUCI)¹



Source: RBNZ estimates.

Note: A high index value indicates a greater degree of tightness.

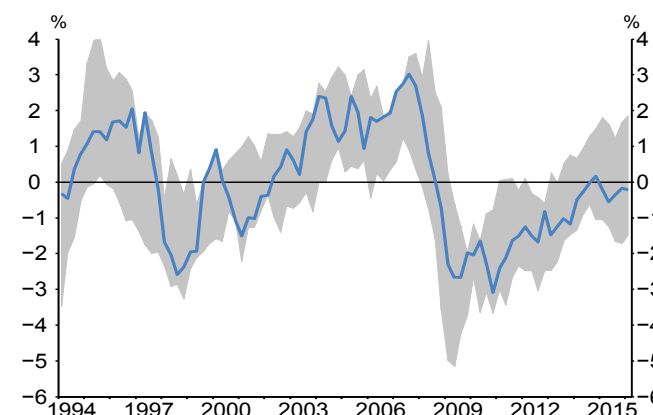
The output gap is currently estimated to be near zero, meaning that output is broadly in line with the economy's supply potential. This estimate is within the range suggested by a suite of indicators, although estimates of the output gap are always subject to considerable uncertainty (figure 4.9).

Pricing and inflation

Despite GDP growth being around average, CPI inflation is low relative to the 1 to 3 percent target band, and relative to its average of 2.2 percent since 2002 (figure 4.10). In the March 2016 quarter, annual CPI inflation

¹ See Jed Armstrong, Güneş Kamber and Özer Karagedikli, 'Developing a labour utilisation composite index for New Zealand', Reserve Bank of New Zealand *Analytical Notes*, AN2016/04. This series differs slightly from that published in Armstrong, *et. al.*, in that it is constructed with 16 rather than 17 input series. This is because the WINZ registered jobseekers series has been discontinued.

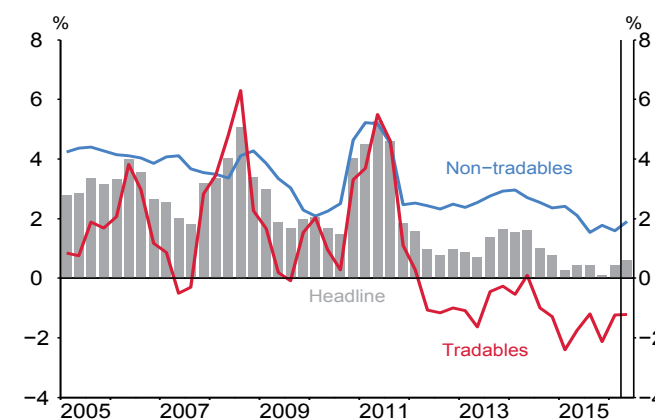
Figure 4.9
Output gap and indicator range
(share of potential output)



Source: RBNZ estimates.

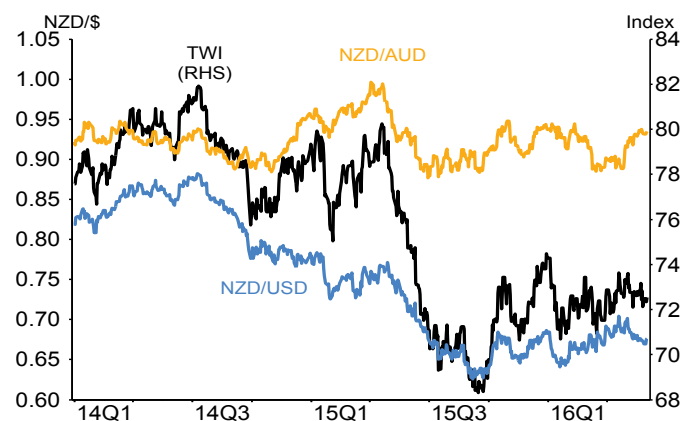
Note: Shaded area indicates range between maximum and minimum values from a suite of indicators of the output gap.

Figure 4.10
CPI inflation
(annual)



Source: Statistics New Zealand, RBNZ estimates.

Figure 4.11
New Zealand dollar exchange rates



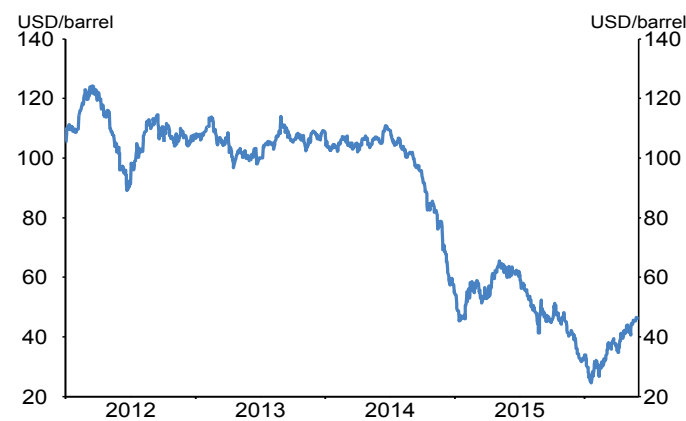
Source: Reuters, RBNZ.

was 0.4 percent, with both tradables and non-tradables inflation below their relative historical averages.

Tradables inflation has been dampened by weak global commodity prices and the high exchange rate. After depreciating by 8 percent in 2015, the New Zealand dollar TWI is currently at a similar level to that at the start of 2016, and about 6 percent higher than its 2015 low (figure 4.11). This is despite lower New Zealand interest rates and the continued downward trend in New Zealand's terms of trade. Much of the strength seen in the TWI this year has been due to global factors, such as market expectations for a more gradual monetary policy tightening in the United States, further monetary policy easing in Australia, and an improvement in market risk sentiment.

The high exchange rate lowers inflation directly, by lowering the New Zealand dollar cost of imported goods. It also has a dampening influence

Figure 4.12
Dubai oil price



Source: Reuters.

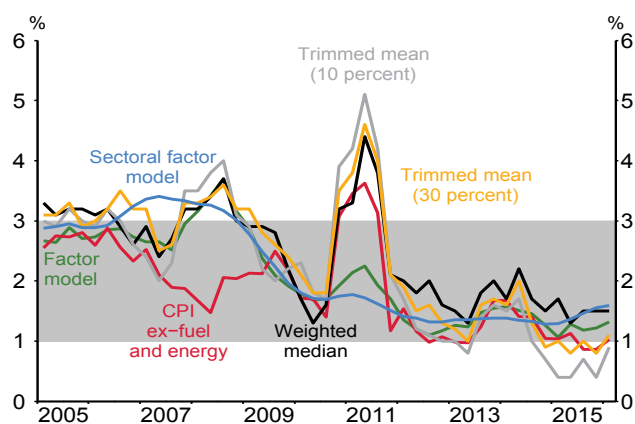
on capacity pressure, as a less competitive export sector and more favourable prices for imported goods discourage domestic production.

Oil prices have recovered so far in 2016, but remain about 30 percent below levels a year ago (figure 4.12). In the March 2016 quarter, low fuel prices detracted 0.6 percentage points from annual tradables inflation.

Tradables inflation, excluding the impact of low fuel prices is also below average. World prices for a range of goods that New Zealand imports have been stable or falling, due to the impact of low oil prices on the costs of these goods and the weak outlook for global inflation. In the March 2016 quarter, annual tradables inflation was -1.2 percent.

Looking through the transitory impact of sharp falls in import prices, core inflation remains stable near the lower part of the target range. Core

Figure 4.13
Core inflation measures
(annual)



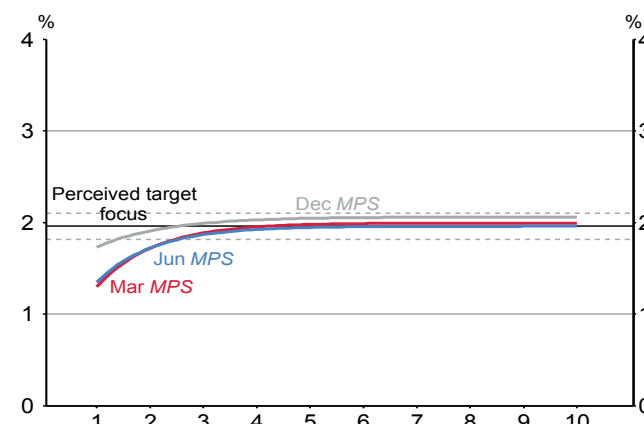
Source: Statistics New Zealand, RBNZ estimates.

inflation measures monitored by the Bank currently range from 0.9 to 1.6 percent (figure 4.13).

Non-tradables inflation remains moderate, with spare capacity in the domestic economy being absorbed only gradually, and low inflation expectations. In the March 2016 quarter, annual non-tradables inflation was 1.6 percent.

Low inflation outturns have been feeding through to lower inflation expectations. Short-term inflation expectations stabilised at low levels in the June quarter (figure 4.14). Lower short-term inflation expectations are directly affecting price- and wage-setting behaviour, putting downward pressure on inflation. Longer term inflation expectations remain anchored near the 2 percent target mid point.

Figure 4.14
Inflation expectations curve
(annual, by number of years ahead)



Source: ANZ Bank, Aon Consulting, Consensus Economics, RBNZ estimates.

Note: The perceived target focus is where the inflation expectations curve trends towards in the long run. The dotted grey lines reflect a band that is close to the perceived target focus (calculated as ± 1 standard deviation of the perceived target focus since the 2012 PTA).

Nominal wage inflation has remained modest, as labour market tightening has been gradual and inflation expectations remain low. Annual growth in the (private sector) Labour Cost Index, which excludes productivity-driven wage increases, was 1.8 percent in the March 2016 quarter.

Annual non-tradables inflation is dampened further by the reduction of ACC vehicle licensing levies in the September 2015 quarter – this currently detracts 0.6 percent from annual non-tradables inflation. At the same time, non-tradables inflation has been supported by increases in construction and housing-related costs.

Box C

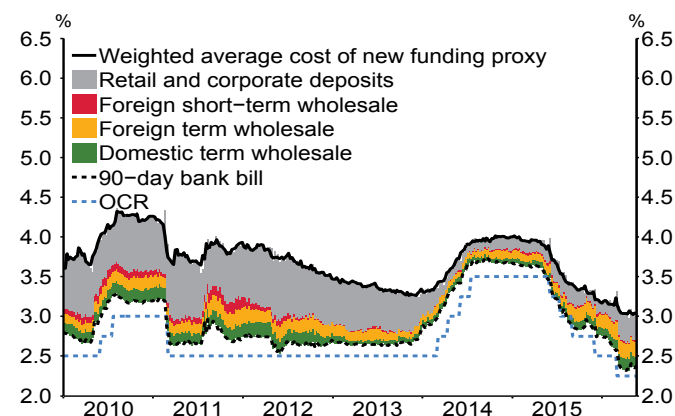
Bank funding costs and margins

Recent OCR cuts have not been fully matched by falls in mortgage rates because of rising bank funding costs. Longer-term wholesale funding costs increased in early 2016 as financial market volatility increased and investors grew concerned about the profitability of banks globally. Banks have increasingly turned to term deposits as a substitute, and competition for deposits has pushed up the cost of this funding as well. As a result, the cost of new bank funding appears to have fallen by less than the 90-day interest rate (figure C.1).

Another reason that mortgage rates have fallen less than wholesale rates has been a partial recovery in bank margins. Banks typically set mortgage rates in accordance with the cost of funding those mortgages plus a margin (figure C.2). This margin will vary over time as banks smooth through fluctuations in borrowing costs. Heightened competition in mortgage markets late last year saw implied bank margins contract. More recently, banks appear to be recouping some of this margin, which has slowed the decline in fixed mortgage rates.

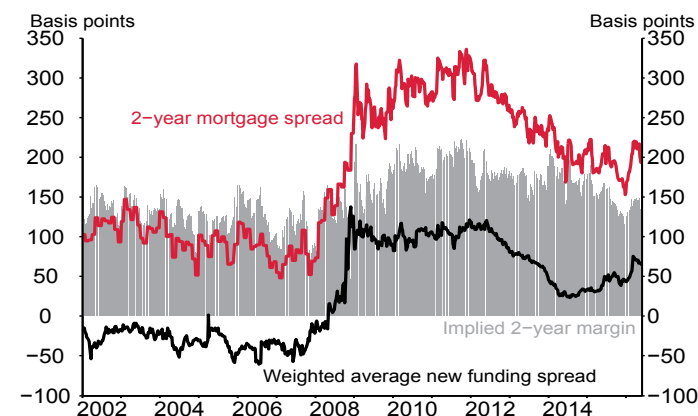
Despite higher funding costs and the recouping of margins, mortgage rates have fallen to record lows. The extent to which any future OCR movements are matched by mortgage rates will continue to be influenced by these two factors. The immediate risk of a more significant increase in funding costs has receded since the March *Statement*, as financial market volatility has subsided.

Figure C.1
Bank marginal funding costs



Source: Bloomberg, RBNZ estimates.

Figure C.2
Bank funding and mortgage spreads



Source: interest.co.nz, RBNZ estimates.

Note: The two-year mortgage spread is the two-year mortgage rate less the two-year swap rate. The marginal funding spread is the marginal funding cost estimate less the 90-day interest rate.

Table 4.1
Measures of inflation, inflation expectations, and asset prices

	2014 Sep	Dec	Mar	2015 Jun	Sep	Dec	2016 Mar	Jun
Inflation (annual rates)								
CPI	1.0	0.8	0.3	0.4	0.4	0.1	0.4	
CPI non-tradables	2.5	2.4	2.4	2.1	1.5	1.8	1.6	
CPI tradables	-1.0	-1.3	-2.4	-1.8	-1.2	-2.1	-1.2	
Sectoral factor model estimate of core inflation	1.3	1.3	1.3	1.4	1.5	1.6	1.6	
CPI trimmed mean (10 percent)	1.0	0.7	0.4	0.4	0.7	0.4	0.9	
CPI weighted median	1.7	1.5	1.7	1.3	1.5	1.5	1.5	
GDP deflator (expenditure)	1.1	-2.2	-0.9	0.2	0.4	-0.2		
Inflation expectations								
ANZ Business Outlook - inflation one year ahead (quarterly average to date)	2.5	2.3	1.7	1.7	1.7	1.7	1.4	1.4
RBNZ Survey of Expectations - inflation two years ahead	2.2	2.1	1.8	1.9	1.9	1.9	1.6	1.6
AON Hewitt Economist Survey - inflation four years ahead	2.2	2.2	2.1	2.1	2.2	2.1	2.0	1.9
AON Hewitt Economist Survey - inflation seven years ahead	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0
Long-run inflation expectations ¹	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0
Asset prices (annual percent changes)								
Quarterly house price index (CoreLogic)	4.8	6.4	9.0	11.1	14.9	10.7		
REINZ Farm Price Index (quarterly average to date)	3.7	1.2	2.0	2.1	-0.4	-2.5	4.2	-0.9
NZX 50 (quarterly average to date)	12.7	12.6	16.5	12.6	11.4	10.8	9.1	18.1

¹ Long-run expectations are extracted from a range of surveys using a Nelson-Siegel model. Source: ANZ Bank, Aon Consulting, Consensus Economics, RBNZ estimates.

Chapter 5

The macroeconomic outlook



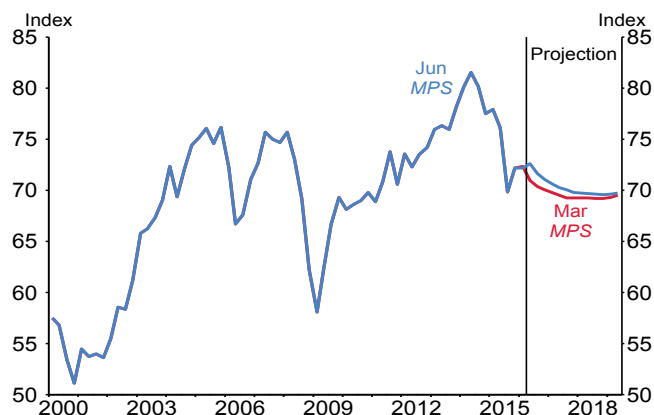
- The outlook for inflationary pressure is similar to that at the time of the March *Statement*.
- Annual CPI inflation is projected to return to the 1 to 3 percent target range by the end of 2016, and increase steadily towards 2 percent in the second half of the projection.
- Global conditions continue to weigh on the outlook, but are expected to drag less on inflation and activity as global conditions begin to improve and commodity prices recover.
- Low interest rates, strong population growth, and an existing shortage of houses underpin house price inflation, which should support strong residential investment.
- Continued stimulatory interest rates are necessary to support domestic demand and generate higher non-tradables inflation.

Global market conditions have stabilised since March, but the outlook for trading-partner growth remains subdued. While commodity prices are expected to gradually improve over the medium term, they remain low relative to history. This outlook for global growth and commodity prices affects the outlook for inflationary pressure in New Zealand in a number of ways.

Low international interest rates, and New Zealand's positive interest differential, have contributed to continued strength in the New Zealand dollar TWI despite the weakness in New Zealand's terms of trade. Most major central banks are expected to maintain low policy interest rates for a prolonged period (figure 5.1). Nonetheless, a gradual tightening in policy in the United States means the TWI is assumed to depreciate gradually over the projection period.

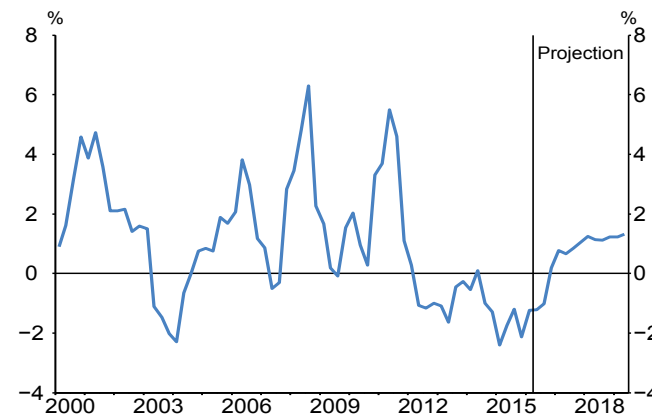
Low commodity prices and global inflation are dampening the outlook for the prices of goods and services that New Zealand imports (figure 5.2). The high exchange rate and low import prices weigh on tradables inflation (figure 5.3). In the near term, tradables inflation rises as the previous falls in fuel prices drop out of the annual figure, and this is reinforced by recent increases in global oil prices. Over the medium term, the modest TWI depreciation and gradually increasing import prices support tradables inflation.

Figure 5.1
New Zealand dollar TWI



Source: RBNZ estimates.

Figure 5.3
Tradables inflation
(annual)



Source: Statistics New Zealand, RBNZ estimates.

Figure 5.2
Real import prices
(world terms, s.a.)

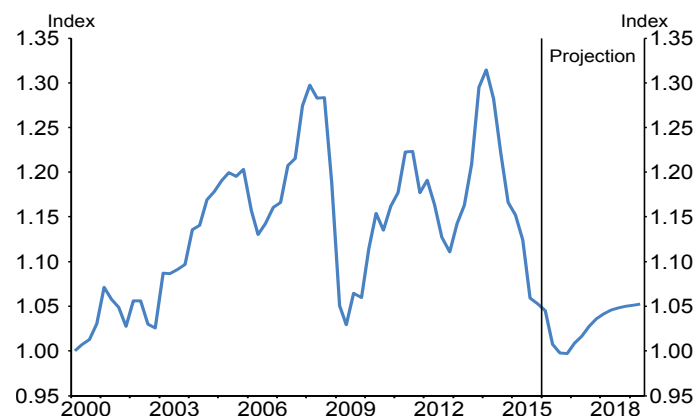


Source: Statistics New Zealand, RBNZ estimates.

Modest global demand growth and strong global supply have led to declines in the prices of New Zealand's commodity exports. Prices are expected to remain subdued in the near term, but gradually increase over the projection horizon (figure 5.4). Nonetheless, export prices in real terms are projected to remain low relative to history, and weigh on growth in incomes and spending. The outlook for net export volumes remains weak, reflecting the outlook for external demand and continued strength in the exchange rate.

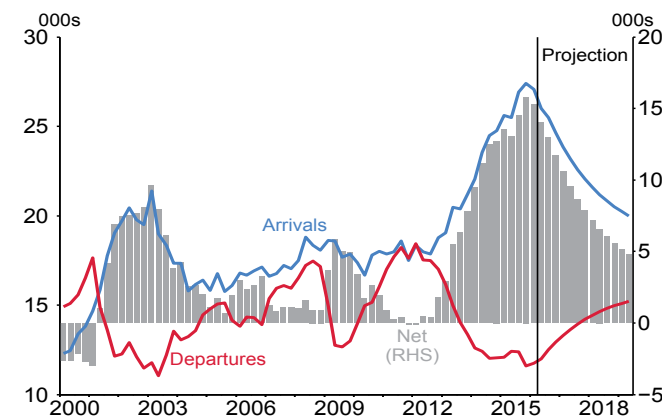
Business investment is projected to remain weak in the near term. This reflects the dampening effect of low export prices on spending and confidence, and limited capacity pressure in the economy. As export prices recover, interest rates remain low, and demand in the economy strengthens, business investment is assumed to grow at a moderate pace.

Figure 5.4
Real export prices
(world terms, s.a.)



Source: Statistics New Zealand, RBNZ estimates.

Figure 5.5
Migration
(quarterly, s.a.)



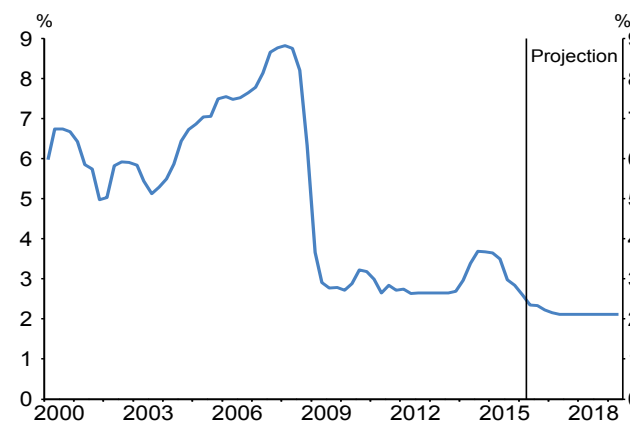
Source: Statistics New Zealand, RBNZ estimates.

Note: The data shown are for permanent and long-term working-age migration.

Net immigration is expected to decline over coming years as foreign labour markets improve (figure 5.5). Even as net immigration moderates, it is expected to remain historically high and to contribute to strong labour force growth, demand for goods and services, and demand for housing. However, the soft global environment underlying the migration flow also dampens aggregate demand through other channels.

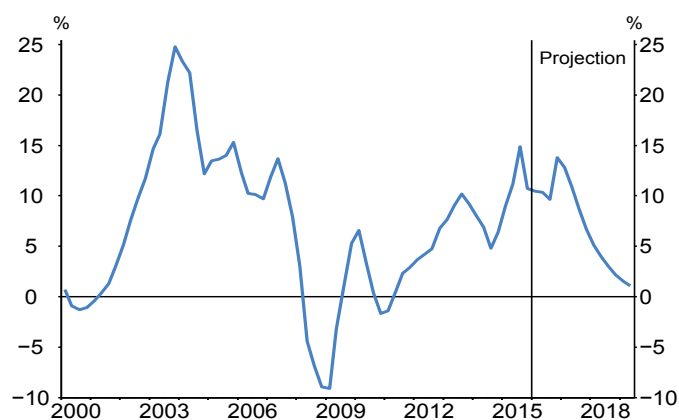
As weak global conditions weigh on the outlook for domestic activity and inflation, monetary stimulus is required to support domestic demand and generate an increase in inflation over the medium term. The 90-day interest rate has declined by more than 100 basis points over the past 12 months, and is projected to ease slightly further over the first half of the projection (figure 5.6). A gradual reduction in the spread between the floating mortgage rate and the 90-day interest rate, and some increase in inflation expectations see real interest rates decline over the projection.

Figure 5.6
90-day interest rate



Source: RBNZ estimates.

Figure 5.7
House price inflation
(annual)

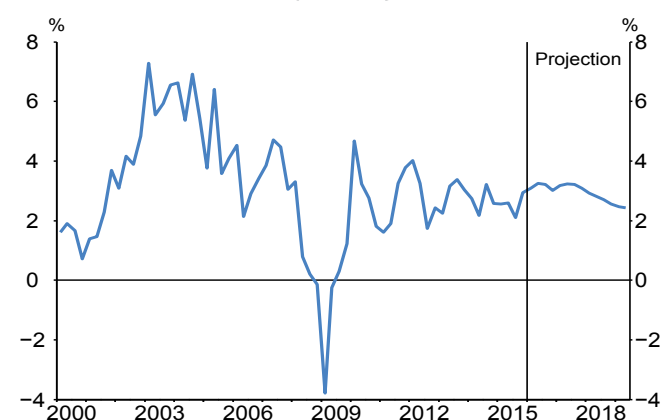


Source: CoreLogic, RBNZ estimates.

We project house price inflation will remain high over the next 18 months, underpinned by low interest rates, strong population growth, and a shortage of housing in Auckland (figure 5.7). House price inflation then moderates as increasing residential construction begins to address housing shortages, net immigration moderates, and affordability constraints begin to bind.

Consumption growth is expected to improve over the coming two years to around its five-year average rate, supported by stimulatory interest rates, high house prices, and growth in real wages (figure 5.8). The projected strengthening in the terms of trade from the end of 2016 is also expected to lift consumption through stronger income growth and improved consumer confidence. However, projected growth in consumption is moderate compared to history, particularly in the context of strong population growth and high house price inflation.

Figure 5.8
Consumption growth
(annual)



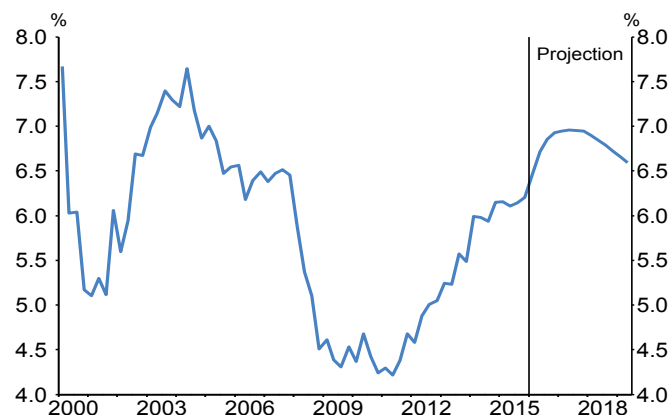
Source: Statistics New Zealand, RBNZ estimates.

Construction activity is an important driver of output growth and capacity pressure over the projection horizon. Residential investment is projected to increase by around 20 percent over the next two years and remain at a high level (figure 5.9). This pick-up is in response to existing housing shortages, strong population growth, and consequent high house prices, supported by low interest rates.

Budget 2016 projections showed a broadly balanced budget over the next two fiscal years, with surpluses growing over subsequent years. Government investment provides support to GDP growth over the next 12 months, before declining. Government consumption declines as a share of the economy through the projection.

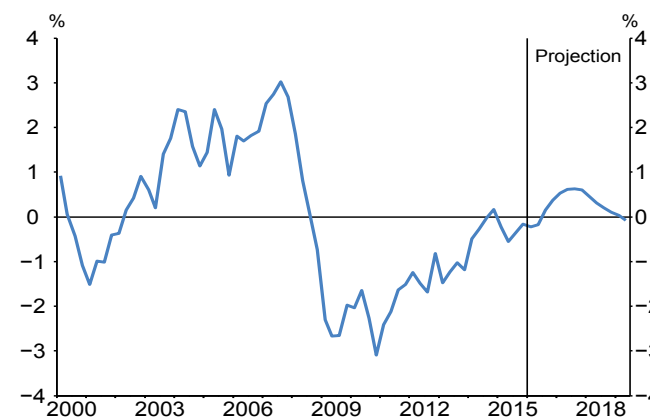
Annual GDP growth is expected to average around 3 percent over the next two years, exceeding potential growth of around 2.5 percent.

Figure 5.9
Residential investment
(share of potential output)



Source: Statistics New Zealand, RBNZ estimates.

Figure 5.10
Output gap
(share of potential output)



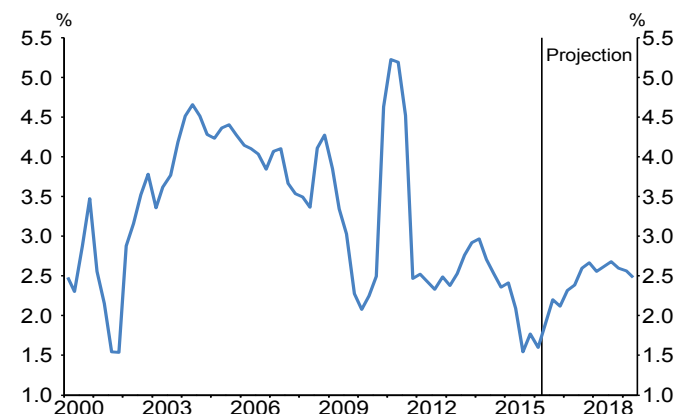
Source: RBNZ estimates.

Consequently, capacity pressure is projected to increase steadily (figure 5.10), contributing to a gradual rise in non-tradables inflation (figure 5.11).

Inflation expectations are broadly unchanged since the March *Statement*. These low inflation expectations reduce the outlook for inflationary pressure through two channels: a dampening impact on price- and wage-setting behaviour; and a reduction in the degree of stimulus provided to the economy for a given level of nominal interest rates.

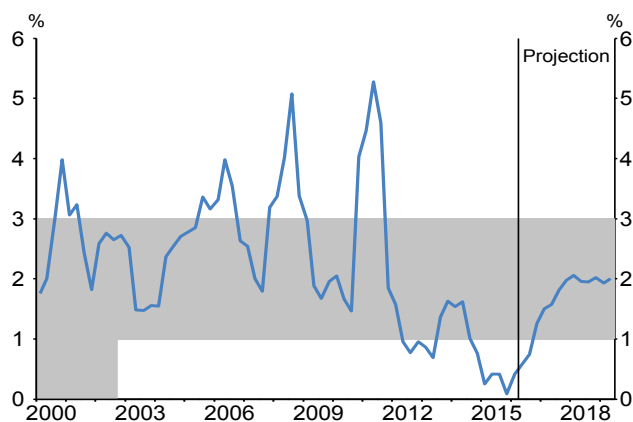
Annual CPI inflation is projected to return to the target range at the end of 2016, driven by a sharp increase in tradables inflation when previous falls in fuel prices drop out of the annual calculation. An ongoing recovery in global commodity prices and the depreciation of the exchange rate contribute to tradables inflation. Rising pressures on productive capacity, supported by low interest rates, cause non-tradables inflation to increase

Figure 5.11
Non-tradables inflation
(annual)



Source: Statistics New Zealand, RBNZ estimates.

Figure 5.12
CPI inflation
(annual)



Source: Statistics New Zealand, RBNZ estimates.

gradually over the projection. These factors see CPI inflation settle near 2 percent in the second half of the projection horizon (figure 5.12).

Analysis of risks

The projection represents the Bank's central view of how global and domestic conditions could develop. As discussed in chapter 2, it is based on judgements about how key variables might evolve, and on historical relationships. However, the paths key variables ultimately take may differ from the projection because of changes in economic relationships, the wide range of uncertainty around key assumptions, and unforeseen developments.

The following two scenarios illustrate key risks to the projection. The risks considered are that:

- the New Zealand dollar TWI remains at its current level rather than depreciating over coming years; and
- house price inflation remains elevated for a longer period than assumed, and translates into stronger domestic demand.

Higher New Zealand dollar TWI

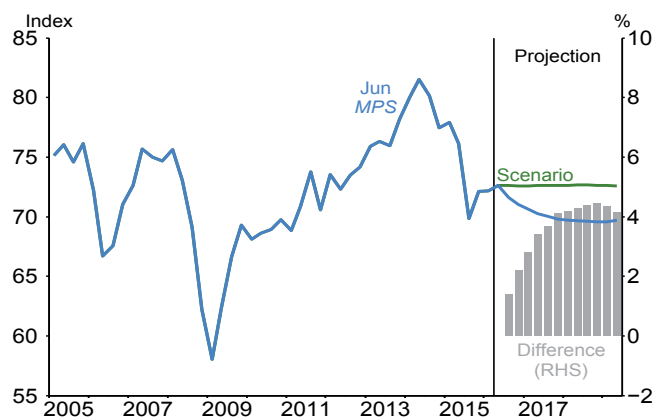
In the central projection we assume the New Zealand dollar TWI depreciates gradually. However, if investors increase their appetite for New Zealand dollar assets despite a declining interest rate differential, the exchange rate could remain higher than assumed in the projection.

In this scenario, the New Zealand dollar TWI remains at its current level through the projection horizon (figure 5.13). The TWI is about 4 percent higher than in the central projection by 2019. We assume the TWI remains at this level despite any endogenous response in interest rates, negating one channel of monetary policy transmission to the economy.

The higher exchange rate reduces prices of imported goods and services, which directly translates into lower tradables inflation (figure 5.14). The higher exchange rate weighs on exports, while lower import prices encourage some expenditure switching from domestic goods and services towards imports.

A policy response is required to generate stronger domestic demand and an increase in non-tradables inflation. Absent any other policy changes, interest rates would need to be lower than in the central projection for inflation to settle around 2 percent in the medium term.

Figure 5.13
New Zealand dollar TWI



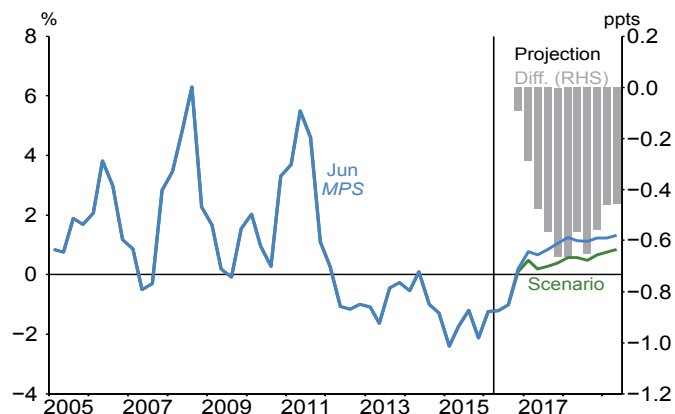
Source: RBNZ estimates.

Higher house price inflation and domestic demand

Another risk to the central projection is that house price inflation remains elevated for a longer period than currently assumed. In this scenario, house price inflation increases further and persists at this higher rate before easing (figure 5.15). If this higher house price inflation translated into stronger growth in household consumption – in keeping with historical relationships – domestic demand would also be stronger than in the central projection (figure 5.16).

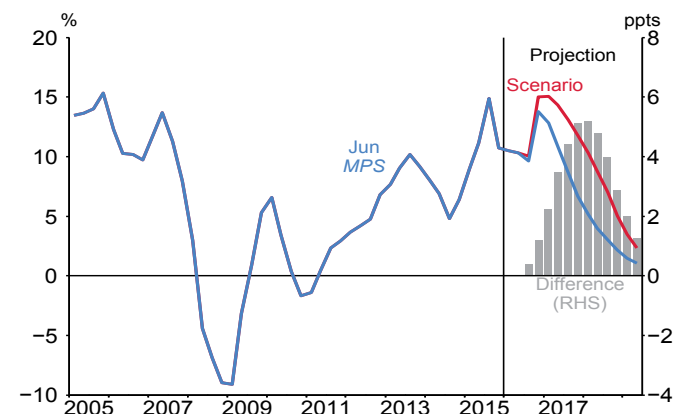
As a result, the output gap peaks at a higher level than in the central projection (figure 5.17). Stronger capacity pressures would generate higher non-tradables inflation. In this scenario, interest rates would need to be higher than in the central projection to see CPI inflation settle near 2 percent in the medium term.

Figure 5.14
Tradables inflation
(annual)



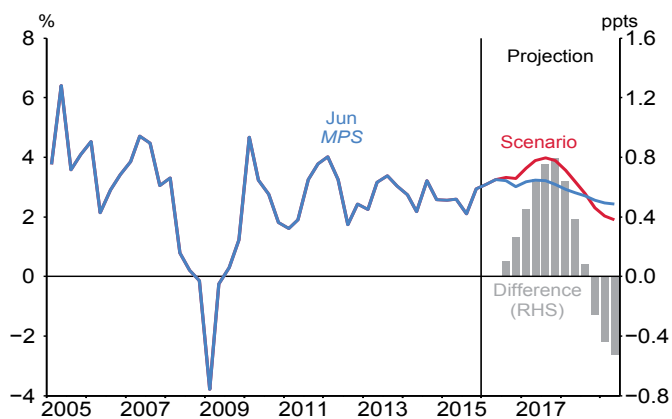
Source: Statistics New Zealand, RBNZ estimates.

Figure 5.15
House price inflation
(annual)



Source: CoreLogic, RBNZ estimates.

Figure 5.16
Household consumption
(annual)



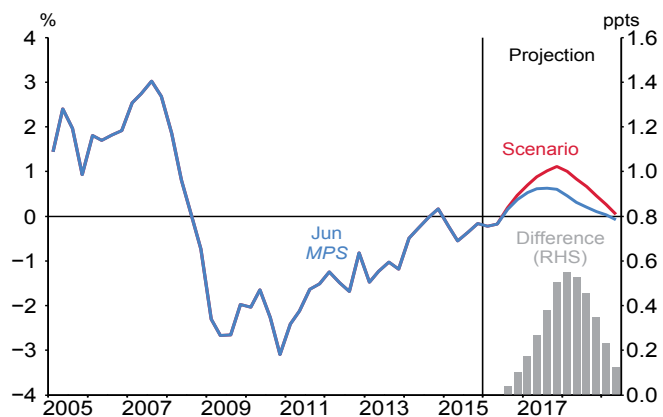
Source: Statistics New Zealand, RBNZ estimates.

Summarising the policy implications

In each of these scenarios, the Bank's policy outlook would differ from that presented in the central projection (figure 5.18). Depending on economic developments, more or less monetary stimulus may be required for inflation to settle near 2 percent in the medium term. As always, other policies, including fiscal policy, may have a useful role to play.

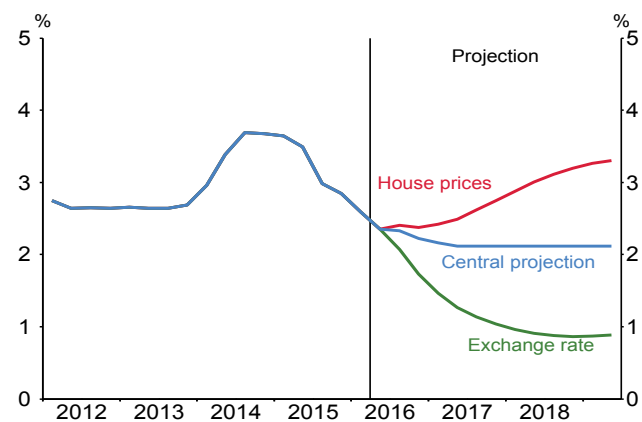
It is important to note that the scenarios shown in this chapter represent small deviations from the central projection compared to the range of historical experiences. In addition, combinations of unforeseen economic developments can impact the economy at the same time, increasing the likelihood of a larger deviation from the central projection.

Figure 5.17
Output gap
(share of potential output)



Source: RBNZ estimates.

Figure 5.18
Scenario 90-day interest rate paths



Source: RBNZ estimates.

Table 5.1
Composition of real GDP growth
(annual average percent change, seasonally adjusted, unless specified otherwise)

March year	Actuals							Projections			
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Final consumption expenditure											
Private	-0.8	1.5	2.3	3.2	2.4	3.1	2.6	2.7	3.2	3.1	2.6
Public authority	3.9	-0.5	1.9	1.7	-0.1	2.3	2.3	2.3	1.8	1.6	0.7
Total	0.4	1.0	2.2	2.9	1.8	2.9	2.6	2.6	2.8	2.8	2.2
Gross fixed capital formation											
Residential	-21.2	-9.0	1.6	3.0	15.3	13.0	11.6	5.6	13.0	3.8	-0.2
Other	-2.3	-10.5	4.3	6.8	3.0	5.5	9.0	1.6	3.1	6.7	2.5
Total	-7.3	-10.2	3.7	6.0	5.7	7.2	9.6	2.6	5.6	5.9	1.8
Final domestic expenditure	-1.4	-1.5	2.5	3.5	2.6	3.8	4.1	2.6	3.5	3.5	2.1
Stockbuilding ¹	-0.3	-0.7	0.7	0.3	-0.3	0.2	0.0	-0.3	0.0	0.1	0.0
Gross national expenditure	-1.8	-1.9	3.3	4.0	2.2	4.0	4.2	2.4	3.3	3.6	2.1
Exports of goods and services	-2.8	4.1	2.8	2.2	3.1	-0.1	4.2	5.8	0.7	2.0	2.8
Imports of goods and services	-3.6	-9.2	11.4	6.7	1.3	8.1	7.4	1.9	1.1	4.4	2.8
Expenditure on GDP	-1.5	1.9	1.0	2.7	2.7	1.6	3.2	3.6	3.3	2.9	2.1
GDP (production)	-1.3	-0.5	1.4	2.5	2.3	2.8	3.6	2.4	3.2	3.0	2.1
GDP (production, March qtr to March qtr)	-2.6	1.5	1.1	3.0	1.9	3.5	3.0	2.7	3.4	2.5	2.0

¹ Percentage point contribution to the growth rate of GDP.

Table 5.2
Summary of economic projections
(annual percent change, unless specified otherwise)

March year	Actuals								Projections		
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Price measures											
CPI	3.0	2.0	4.5	1.6	0.9	1.5	0.3	0.4	1.5	2.1	1.9
Labour costs	3.1	1.3	2.0	2.1	1.8	1.7	1.8	1.8	1.8	1.9	2.0
Export prices (in New Zealand dollars)	7.2	-7.7	7.8	-2.7	-4.9	11.6	-9.0	-0.8	0.5	7.0	3.5
Import prices (in New Zealand dollars)	17.4	-11.1	3.4	-1.7	-4.1	-3.2	-3.5	1.6	5.5	2.9	1.9
Monetary conditions											
90-day rate (year average)	6.7	2.8	3.1	2.7	2.6	2.7	3.6	3.0	2.3	2.1	2.1
TWI (year average)	65.6	66.6	69.0	72.2	74.0	77.6	79.3	72.6	71.5	69.9	69.6
Output											
GDP (production, annual average % change)	-1.3	-0.5	1.4	2.5	2.3	2.8	3.6	2.4	3.2	3.0	2.1
Potential output (annual average % change)	1.8	1.3	1.4	1.7	2.1	2.4	2.7	2.7	2.7	2.6	2.5
Output gap (% of potential GDP, year average)	-0.5	-2.3	-2.4	-1.6	-1.4	-1.0	-0.1	-0.3	0.2	0.6	0.2
Labour market											
Total employment (seasonally adjusted)	-1.2	-0.4	1.6	0.6	0.1	3.7	3.2	2.0	2.4	1.8	1.1
Unemployment rate (March qtr, seasonally adjusted)	5.2	6.2	6.5	6.8	6.2	6.0	5.8	5.7	5.2	5.0	5.2
Trend labour productivity	1.1	1.0	1.0	1.0	0.8	0.7	0.6	0.5	0.6	0.7	0.7
Key balances											
Government operating balance (% of GDP, year to June)	-2.1	-3.3	-9.0	-4.3	-2.0	-1.2	0.2	0.0	0.1	0.7	1.4
Current account balance (% of GDP)	-7.0	-1.5	-2.8	-3.2	-3.6	-2.5	-3.4	-2.9	-4.3	-4.2	-3.6
Terms of trade (SNA measure, annual average % change)	-1.9	-4.5	7.9	1.6	-4.3	11.7	-0.3	-3.6	-4.7	3.0	2.4
Household saving rate (% of disposable income)	-2.1	1.3	2.2	2.4	2.0	1.8	-0.7	-0.4	-0.6	0.0	0.5
World economy											
Trading partner GDP (annual average % change)	0.4	1.2	4.5	3.5	3.2	3.4	3.5	3.5	3.3	3.4	3.4
Trading partner CPI (TWI weighted)	1.6	2.2	3.2	2.7	2.3	2.3	1.0	1.3	1.9	2.3	2.3