Why has inflation in New Zealand been low?

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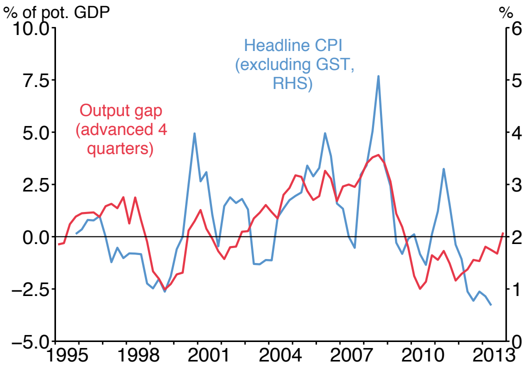
Over the past 18 months, inflation in New Zealand has been surprisingly low, even as GDP has strengthened and many measures of excess capacity in the economy have tightened largely as expected. Unexpected strength in the New Zealand dollar, which has reinforced strong domestic and international competitive pressures, has been a key part of the story. Falls in inflation expectations and softness in wage inflation have also contributed.

1 Introduction

Monetary policy is focused on maintaining price stability. The specific goal in the Policy Targets Agreement (PTA) between the Minister of Finance and Governor of the Reserve Bank defines this as "future CPI inflation outcomes between 1 percent and 3 percent on average over the medium term, with a focus on keeping future average inflation near the 2 per cent target midpoint." However, over the past 18 months, and contrary to forecasts, inflation has fallen to low levels, with annual Consumers Price Index (CPI) inflation below the bottom of the target band over the past four quarters. These low levels of inflation occurred even though gross domestic product (GDP) strengthened largely as projected, and excess capacity in the economy appears to have been dissipating (figure 1).

Figure 1

Annual inflation and the output gap



Source: Statistics New Zealand, RBNZ estimates.

Understanding why inflation has been so low is important. Without being sure how or why economic conditions have evolved as they have, it is difficult to be confident about what will happen in future. This article examines recent inflation in New Zealand.

2 How do we think about inflation?

The target inflation measure for New Zealand monetary policy, as defined by the PTA, is the All Groups CPI. This measure aims to capture changes in prices for a basket of goods and services that reflect the broad spending patterns of households.

The CPI can be split into two broad groups: tradables (which account for around 44 percent of the CPI) and non-tradables (which account for around 56 percent).

Tradables (which are mainly goods, but includes some services) are those that are imported or that are produced domestically but compete against imports, such as household furnishings. Prices for tradables can be quite volatile. The biggest single influence on the level of these prices is the international price of those goods. However, fluctuations in exchange rates and in economic activity, both domestically and abroad, can also affect tradables inflation. When modelling tradables inflation, the Reserve Bank looks at movements in the New Zealand dollar, as well as the prices of internationally traded goods, and the strength of economic activity domestically and abroad.

Non-tradables prices mainly relate to the provision of services (though these services may be associated with the provision of a physical good, such as the preparation of take-away foods). In aggregate, prices for these items are strongly influenced by the strength of domestic demand and resource pressures, as well as expectations about the prevailing rate of inflation. In the Reserve Bank's modelling framework, resource pressures are summarised using the "output gap", which is an estimate of how an economy's current level of output compares to a trend or potential level of output. The modelling of non-tradables prices also accounts for the strength of domestic pricing conditions using a range of measures, including surveys of inflation expectations, businesses' pricing intentions and wage costs.

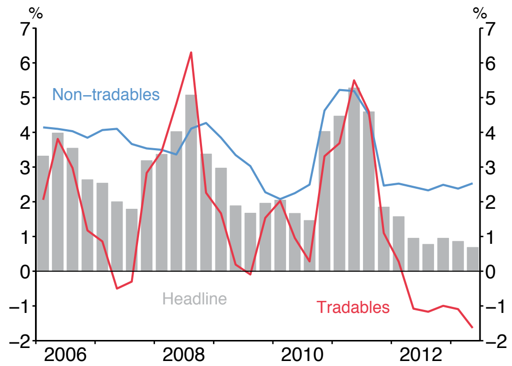
While items in the CPI are classified as either tradables or non-tradables, the final goods or services will often involve elements of both tradables and non-tradables.[1] For instance, courier services are a non-tradables service, but petrol, which is tradable, is an important cost of production. Analogously, the domestic price of goods produced offshore may be affected by the cost of domestic services, such as wages for sales staff in New Zealand retail stores. But despite such overlaps, in aggregate, tradables and non-tradables prices still tend to behave quite differently and hence it is useful to think about them separately.

3 Recent inflation trends

In the year to June 2013, the CPI rose by only 0.7 percent (figure 2). This was the fourth consecutive quarter that annual inflation was below the Bank's 1 to 3 percent target band, and the lowest rate of annual inflation since 1999 when the target band itself was lower. The largest contributor to the very low inflation in recent years has been tradables prices, which fell 1.6 percent in the year to June 2013. Over this same period, non-tradables inflation, which tends to be more stable, did not fall further, but has been considerably lower than average.

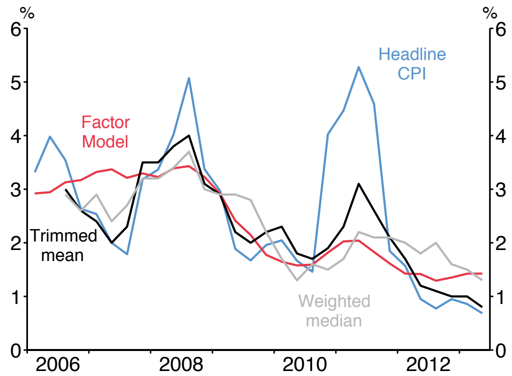
The CPI is affected by a range of factors. At times, temporary or idiosyncratic influences affect prices in ways that are unrelated to the underlying strength of domestic demand. One example of this is the sharp decline in the prices of imported fruit and vegetables in late-2011 in response to climatic conditions in Australia. However, even adjusting for such influences, underlying inflationary pressures in the economy have been subdued. Over the past year, measures of core inflation, which attempt to examine underlying trends, have lingered close to the bottom of the Bank's target inflation band (figure 3).

Figure 2
Headline, tradables, and non-tradables inflation
(annual)



Source: Statistics New Zealand.

Figure 3
Headline and core inflation
(annual)



Source: Statistics New Zealand, RBNZ.
Note: Core inflation measures exclude the effects of the increase in GST in 2010.

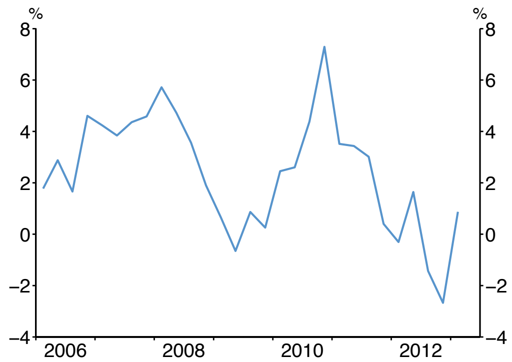
This picture of low inflation is not solely confined to consumer prices. The GDP deflator measures the prices for all goods and services produced in New Zealand and, while it is more volatile than the CPI, it has recently also fallen to low levels. In addition, businesses have reported that cost pressures have been moderate, and wage inflation has been surprisingly subdued (figures 4 a to c).

Survey measures of household and businesses' inflation expectations have also fallen (figure 4 d). This is of particular interest for monetary policy as expectations play an important role in wage and price setting behaviour. Taken together, inflation expectations are now more in line

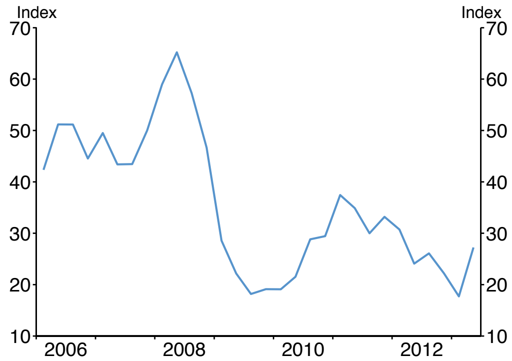
1 While non-tradables prices relate mainly to services, some physical goods are also classified as non-tradables, such as cigarettes and tobacco. In this example, retail prices are heavily influenced by government regulation (taxes currently make up just under 70 percent of the price of cigarettes). Other examples of goods that are classified as non-tradables include chicken, bread and eggs, for which there is little or no cross-border trade.

Figure 4
Measures of inflationary pressure

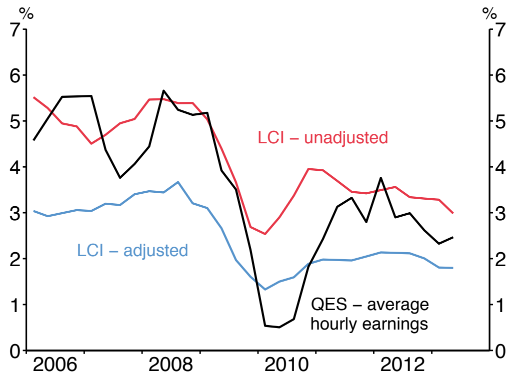
a) GDP deflator (annual)



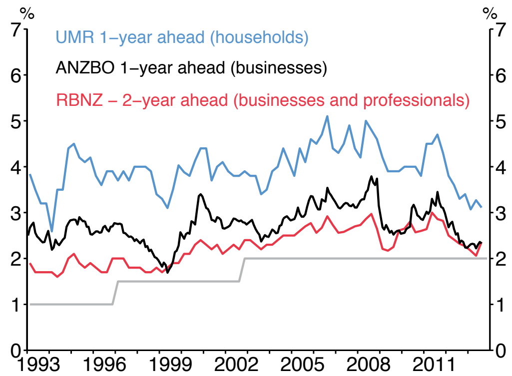
b) QSBO average costs, past 3 months (seasonally adjusted)



c) LCI wage inflation (annual)



d) Inflation expectations (annual)



Source: ANZ Banking Group, NZIER, Statistics New Zealand, RBNZ/UMR Research.

with the mid-point of the target range than at any other time in the inflation targeting era.

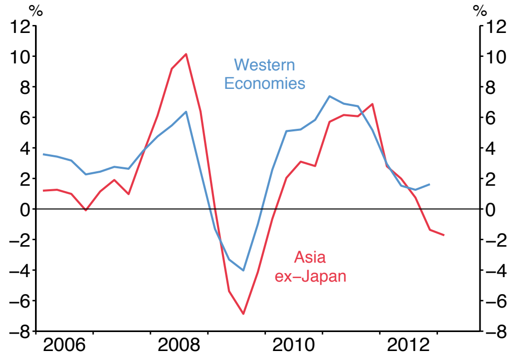
While general wage and price inflation is low, there have been strong increases in some asset prices. In particular, nationwide house prices rose by 9 percent over the past year, with particularly strong gains in Auckland and Canterbury (comparing the three months to July to the same period last year). There have also been strong gains in some financial asset prices. For instance, the NZX 50 has risen by around 40 percent since the start of 2012.

4 What has contributed to recent low levels of inflation?

Since the financial crisis in 2008/09, advanced economies (including the United States and the euro area) have been experiencing only gradual recoveries in GDP and employment. In most of these economies, there still appears to be significant excess capacity (i.e. negative output gaps).

Advanced economies still account for the majority of global demand, especially for consumer goods. The slow recovery in these economies has been associated with subdued growth in global trade and, over the past 18 months or so, falling export price inflation in many countries. Prices of exports from Asia (from where 40 percent of New Zealand merchandise imports are sourced) declined by around 1.4 percent over the past year (figure 5). Prices of durable consumer goods such as appliances and furnishings have been particularly soft, which has been reflected in low rates of inflation in the related components of New Zealand's CPI (figure 6a, opposite).

Figure 5
Export prices in overseas economies
(annual, local currencies)



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

The direct impact of weak global activity on prices has been reinforced by strength in the New Zealand dollar. The exchange rate appreciated strongly in recent years, reaching a post-float high in trade-weighted terms in early 2013. This appreciation reduced inflation in New Zealand by lowering the domestic prices of imported consumer goods and productive inputs. Strength in the exchange rate also dampened the inflation rate of some domestically produced goods, due to the subsequent increase in domestic competitive pressures.

New Zealand has also been experiencing a rather gradual recovery following the 2008/09 recession. Excess capacity that developed during the recession, reflected in a negative output gap in recent years, has been eroded only gradually. This excess capacity resulted in subdued pressures on the price of productive resources, dampening non-tradables inflation. These subdued pressures have been particularly evident in the labour market, with subdued labour demand resulting in below-average employment growth and unemployment lingering around 6.4 percent (up substantially from levels below 4 percent before the financial crisis). Partly as a result, nominal and real wage growth has been weak.

Households and firms also appear to have been more cautious about spending and investing decisions in recent years. In our regular discussions with businesses, there have been frequent comments that low demand has contributed to increased price competition, and that businesses ability to pass on cost increases has been curtailed, particularly in the retail sector. Businesses have also indicated that the increasing movement towards online purchasing has added to competitive pressures in many parts of the retail sector.

For monetary policy, underlying trends in inflation are of primary interest. However, in a given period there can be a wide range of price changes, both up and down. For instance, there have been particularly sharp declines in the communication component of the CPI, which has fallen by 15 percent since mid-2011 (figure 6b). This pattern is markedly different to previous years, contributed to by regulatory changes and industry-specific competitive pressures.[2] Over this same period, there have also been particularly sharp increases in the cost of dwelling insurance following the Canterbury earthquakes and in tobacco prices (figures 6 c and d).

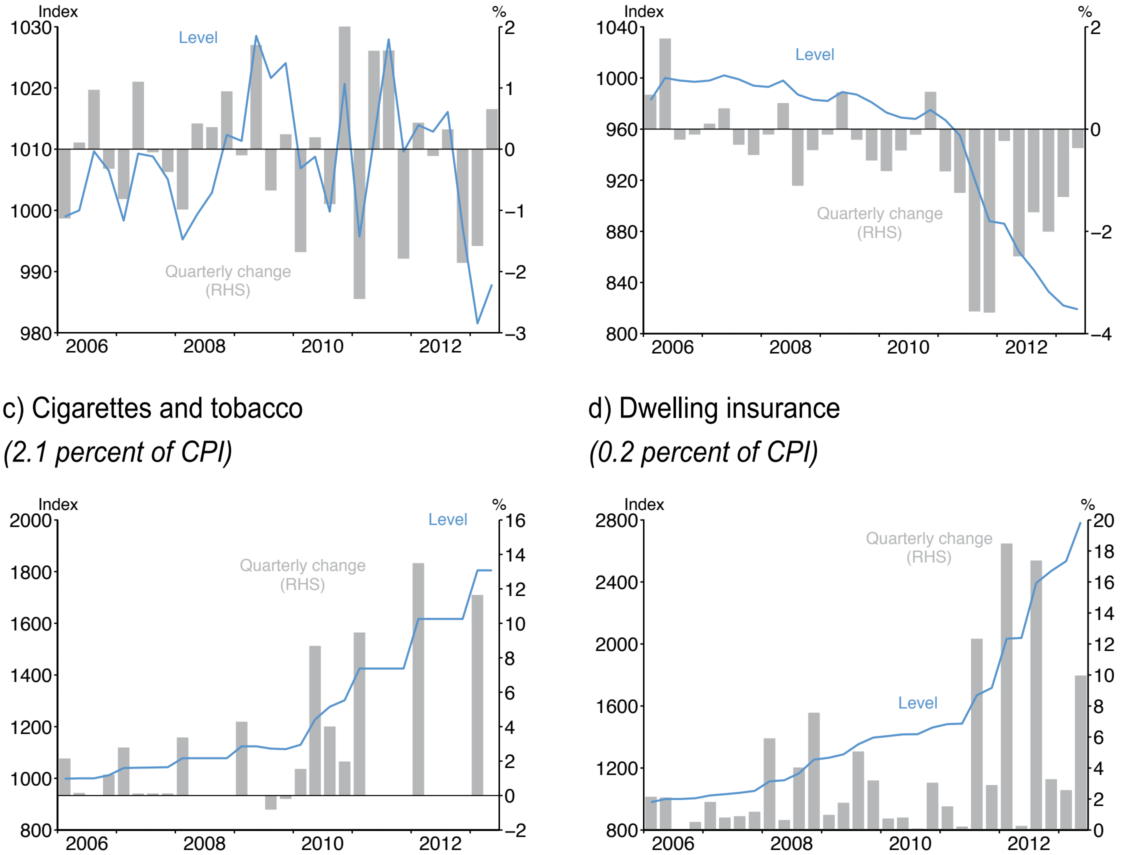
5 Recent inflation trends and the Bank's forecasts

Inflation has also been lower than the Bank and other forecasters expected. Figure 7, opposite, provides a summary breakdown of the sources of the inflation forecast errors for the year to June 2013.

[2] Part of the declines in the communications component of the CPI is due to regulatory changes that have affected telecommunications pricing in recent years, which includes changes to wholesale termination rates for mobile calls, and the unbundling of networks. In addition, although the pricing for some communications services may not have changed greatly, the amount of services received has also increased which results in an effective price decrease, (for instance, the cost of some broadband plans may not change, but the associated data limits may have increased).

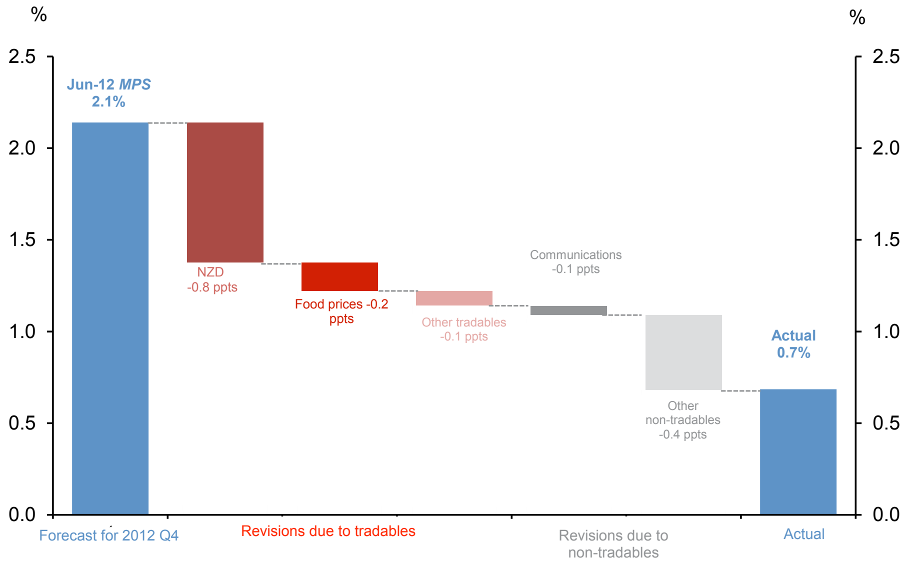
Figure 6
Selected CPI components

a) Furnishings and appliances *(3.6 percent of CPI)*; b) Communications group *(3.5 percent of CPI)*; c) Cigarettes and tobacco *(2.1 percent of CPI)*; d) Dwelling insurance *(0.2 percent of CPI)*



Source: Statistics New Zealand.

Figure 7
Contribution to inflation forecast errors
(annual, to June 2013)

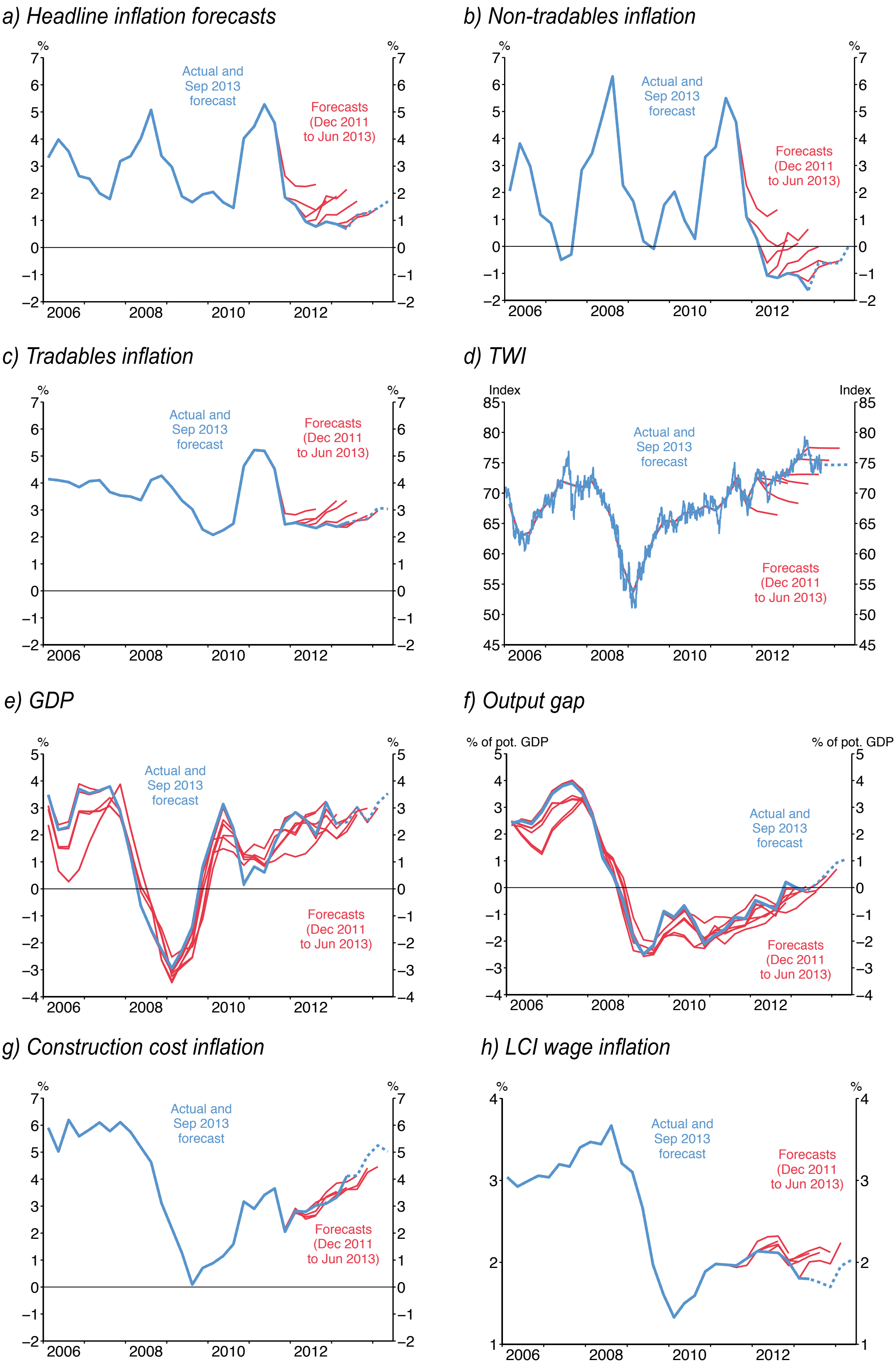


Source: Statistics New Zealand, RBNZ estimates.
Note: Due to rounding, figures may not add exactly.

Figure 8

Forecast revisions

(all variables expressed as annual percent change, except for the output gap)

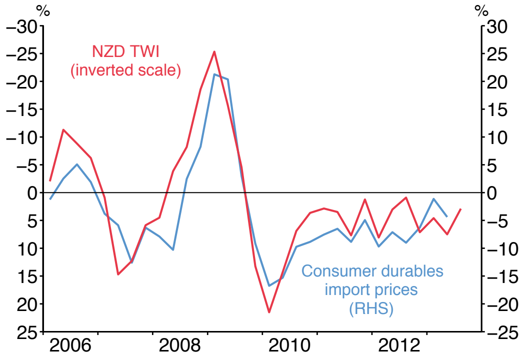


Source: Statistics New Zealand, RBNZ estimates.

Figure 8, opposite, illustrates the successive forecasts (and forecast surprises) for several key elements in our forecasting framework. Over the past 12 months, surprises have been centred on tradables prices (figure 8 c), but non-tradables inflation has also been surprisingly low (figure 8 b).

Lower-than-expected tradables inflation was in large part a result of the stronger-than-expected New Zealand dollar (figure 8 d) that dampened the landed domestic cost of many imported goods (figure 9).[3] However, even accounting for movements in the New Zealand dollar and the international price of imported goods, the retail price of some tradables goods has been softer than expected.

Figure 9
Import prices (annual) and the New Zealand dollar

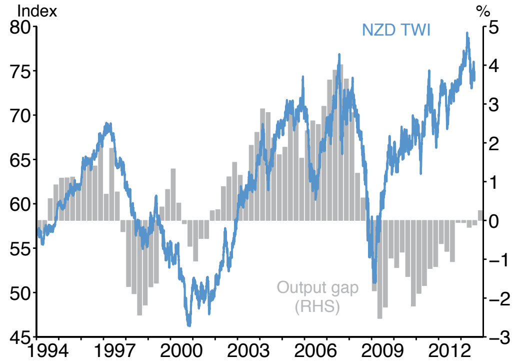


Source:Statistics New Zealand, RBNZ.

Typically in New Zealand, the exchange rate is strong when the economy is buoyant. However, that has not been the case in the past few years, with the economy recovering only gradually from the 2008/09 recession (figure 10). The exchange rate is a relative price between New Zealand and other countries, and economic activity in many other economies has been even more subdued. As a consequence, monetary policy settings in many other economies have been very accommodative.

3 Weather related declines in vegetable prices also contributed to weaker tradables inflation over some of this period.

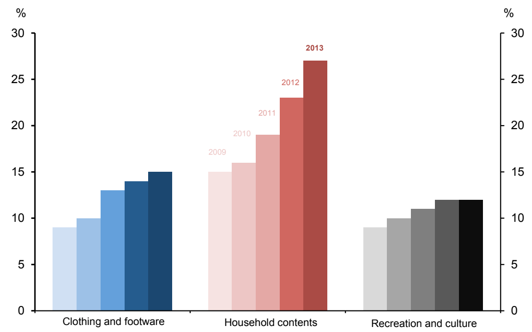
Figure 10
New Zealand dollar TWI and the output gap



Source: RBNZ estimates.

The elevated level of the New Zealand dollar (not just the change in the exchange rate) has had a dampening impact on tradables inflation. The unusual combination of relatively subdued domestic demand and a persistently high exchange rate has resulted in strong price competition, with greater-than-usual levels of price discounting (figure 11) and many retailers reporting pressure on profit margins. Persistent strength in the exchange rate results in imported input costs staying low for a prolonged period. As a result, retailers are likely to be more confident about passing reductions in wholesale costs though to selling prices.

Figure 11
Proportion of prices on special
(June quarters)

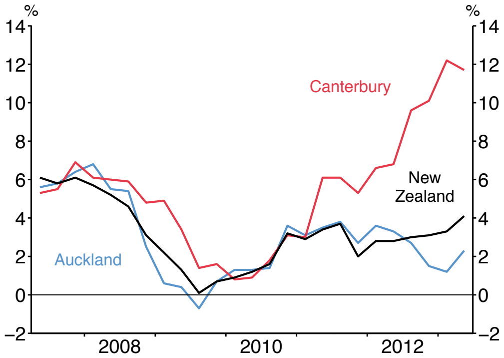


Source: Statistics New Zealand.

While annual non-tradables inflation has not fallen further in recent quarters, it has been softer than expected, remaining well below average since mid-2011 (figure 8 b). This is particularly surprising as over this period, GDP growth and resource pressures have been increasing in line with or slightly above the Bank's forecasts (figure 8 e and f). While downside non-tradables surprises have been less pronounced than tradables surprises, they are arguably of more concern for monetary policy. Non-tradables prices are typically less volatile and have tended to be the key elements in cycles in inflation.

While non-tradables inflation has been surprisingly low in aggregate, this masks some differing trends in the underlying components of non-tradables inflation. Notably, there has been a build-up of pressure in the housing sector. Housing construction cost inflation has been increasing (although no faster than forecast) and is currently around historical averages (figure 8 g). Similarly, there have been increases in the cost of housing rents and dwelling insurance. Increases in rents and construction costs have been centred in Canterbury, with modest increases in other regions (figure 12).

Figure 12
Construction costs
(annual)

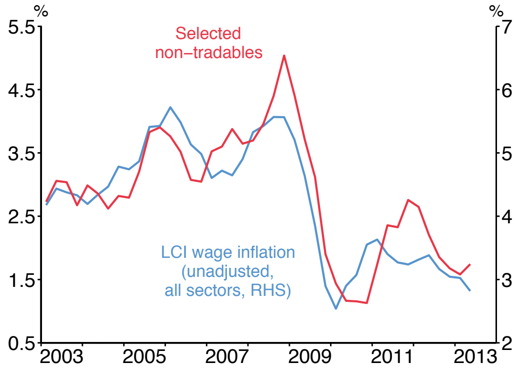


Source: Statistics New Zealand.

In contrast, inflation in other non-tradables components have tended to be softer than expected. Much of this unexpected softness was a result of the declines in communication group prices in late 2011 described above. However, there has also been more general softness in non-tradables inflation recently.

An important contributor appears to have been a decline in inflation expectations (which in turn has been influenced by recent declines in inflation). Compared to history, measures of inflation expectations over short- to medium-term horizons have fallen to low levels relative to the mid-point of the target band (figure 4d on page 5). These declines in inflation expectations have probably had a dampening impact on price setting behaviour, especially in the case of wages. Low wage inflation is of particular importance for non-tradables inflation as it mainly relates to the prices for services, and wages account for a large proportion of service provision costs. Combined with the gradual pace of recovery in economic activity, declines in inflation expectations appear to have resulted in low rates of nominal wage growth, and are likely to have restrained increases in output prices for many services (figure 13).

Figure 13
Non-tradables inflation and wage inflation
(annual)



Source: Statistics New Zealand.
Note: The non-tradables inflation measure shown here excludes prices for construction, communications and government charges.

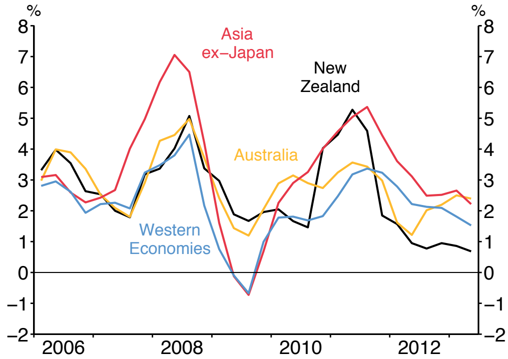
Low imported inflationary pressures resulting from the high New Zealand dollar may also have dampened some non-tradables prices. Even for items classified as non-tradables, inputs into their production may be imported (for instance, imported coffee beans and disposable cups may be used in the production of takeaway coffee). Consequently, low levels of inflation in the price of imported intermediate goods may have dampened input cost inflation for many firms throughout the economy.

6 International comparison

Inflation in many of our trading partner economies has also been low. In part, such similarities reflect the impact of common global factors. Lingering softness in global economic conditions has dampened pressure on resources and, consequently, the prices of many internationally traded goods.

However, while global inflationary pressures have softened, inflation experiences in our trading partner economies have still been varied, reflecting regional and country specific factors. Prices have tended to increase more strongly in emerging market economies, such as those in Asia (figure 14). In contrast, in advanced economies such as the euro area and the United States, inflation has tended to be very low. Recoveries in advanced economies have been more gradual, with lingering spare capacity and softness in labour markets.

Figure 14
Inflation in New Zealand and other selected economies
(annual)



Source: Statistics New Zealand, Haver Analytics.
Note: Asia ex-Japan includes China, Hong Kong, India, Indonesia, Malaysia, Singapore, South Korea, Taiwan, Thailand and the Philippines. Western economies include the United Kingdom, the United States, Canada, and the euro area.

7 Conclusion

Understanding why inflation has persisted at low levels is a vital part of understanding the outlook for inflation and appropriate stance of monetary policy. However, doing so can be a challenging task. In real time it is often not possible to distinguish structural changes in economic activity from the normal volatility in prices, with the former often only identifiable with the benefit of hindsight. To assist in this process, the Bank considers a wide range of economic information and regularly reviews its forecasting processes.

Over the past 18 months, the continuing strength in the exchange rate, the fairly gradual pace of the domestic recovery, and strong competitive pressures have contributed to annual inflation falling to low levels. In addition, the combination of soft demand and persistent strength in the New Zealand dollar has had a more pronounced dampening impact on tradables inflation than has historically been the case, and has probably contributed to lower-than-expected non-tradables inflation also. There have also been encouraging declines in inflation expectations, which are currently closer to the mid-point of the target than has historically been the case. These relatively low inflation expectations have contributed to soft nominal wage growth (despite increases in real wages), as well as more general softness in non-tradables prices.

There have been signs in recent quarters of a levelling out in underlying inflationary pressures and some, perhaps short-term, increases in tradable price pressures. In addition, as is noted in the September *Monetary Policy Statement*, there is reason to expect that price and wage inflation will begin to lift soon, rising gradually towards the midpoint of the target band.