Westpac Institutional Bank

What's been happening with inflation expectations?

26 May 2015

- The RBNZ's has highlighted the importance of inflation expectations for upcoming interest rate decisions.
- Looking over a range of measures, it appears that inflation expectation have shifted down. Notably, this isn't just a response to the recent softness in oil prices. Inflation expectations shifted down several years ago, and the persistent weakness in actual inflation means that expectations have been under downwards pressure ever since.
- Falling inflation expectations mean that real interest rates have been edging higher for several years now. In other words, even though interest rates have been low, they're providing less of a boost to the economy than they appear to at first blush.

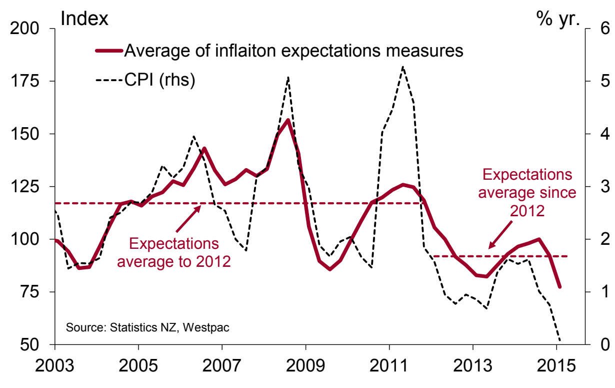
Overview

The RBNZ's recent policy announcements have highlighted the importance of inflation expectations for upcoming interest rate decisions. Expectations are a significant influence on wage and price setting decisions, and as a result play an important role in determining actual inflation. In this article we take a closer look at a range of inflation expectations measures and explain what it all means for the economy.

What have we seen?

Looking at the range of information that's available, it does appear that there has been a downshift in inflation expectations (figure 1). This downshift began in 2012 - well before the recent oil-related weakness in inflation. This corresponds with the tightening in the RBNZ's policy target when Governor Wheeler's tenure began. It also corresponds with an extended period of soft inflation in New Zealand associated with weakness in the global economy and subdued GDP growth domestically.

Figure 1: Consumer price inflation and inflation expectations



Note: The "Average of inflation expectations measures" is a weighted combination of 12 inflation expectations measures.

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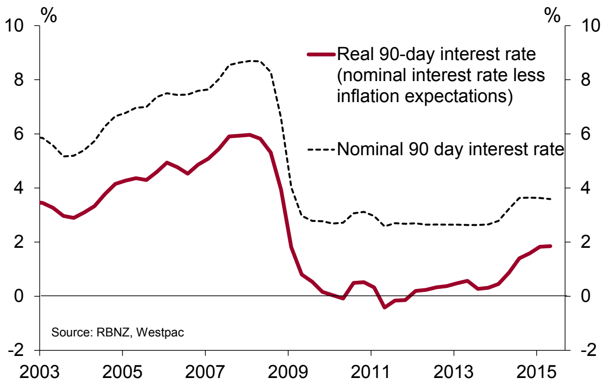
What does this mean?

The downshift in inflation expectations has important implications for the RBNZ's policy stance. In addition to their impact on wage and price setting decisions, inflation expectations affect real interest rates (that is, nominal interest rates adjusted for the expected rate of inflation – shown in figure 2). Real interest rates are a key determinant of spending and investment decisions in the economy. Looking back over the past few years, we've actually seen real interest rates creeping higher as inflation expectations have fallen. In other words, even though interest rates have been low, they're providing less of a boost to the economy than it appears at first blush. This may be one reason why, despite the low level of the OCR and strong GDP growth, domestic inflation has consistently surprised on the downside since 2012.[1]

Figure 2: Real and nominal interest rates



Note: The real interest rate shown is based on the 90-day interest rate and the RBNZ's two year ahead inflation expectations measure.

Looking forward

Inflation expectations have taken another step down in the first half of 2015. In large part this has been in response to the fall in consumer price inflation following last year's rapid decline in oil prices. How long this latest downshift is sustained will depend on what happens with actual inflation. We don't expect inflation will be back inside the RBNZ's target band until 2016, and not back near the 2% target midpoint until 2017.

Taking a look at the data

Unlike most other measures of economic conditions (such as retail spending levels for example), inflation expectations are not directly observable. Instead, they need to be inferred in some way, and there is more than one way of doing this. Below we take a look at some of the main approaches to measuring inflation expectations. But whatever approach we use, two things stand out:

- First, there has been a marked downshift in inflation expectations.
- Second, this downshift is not simply a response to the recent oil related softness in inflation. Most measures of expectations shifted down several years ago (in most case this occurred around 2012).[2]

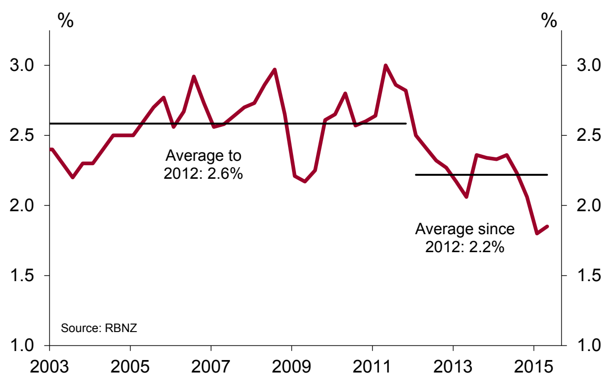
Longer-term expectations

The most common approach to gauging what's happening with inflation expectations is to use surveys of individuals or businesses. Typically in New Zealand, there has been a focus on surveys of longer-term inflation expectations (i.e. expectations of inflation more than one year head). Expectations over such horizons tend to look though temporary fluctuations in prices, such as sharp up and down swings in prices due to movements in global oil prices. As a result, these measures can provide an indication of what the longer-term trend in inflation is expected to be.

Longer-term inflation expectations from both the RBNZ Survey of Expectations and the AON-Hewitt Economist Survey are still close to 2%. However, in recent years there has been a noticeable shift down in what previously tended to be relatively stable measures (figure 3 and 4). Of note has been the fall in the RBNZ's two year ahead inflation expectations measure, which historically has had a close relationship with consumer price inflation and wage growth. Since 2012 this measure has taken a 0.7 percentage point step down, and in 2015 it fell below 2% for the first time since time in 15 years. In fact, the last time this measure was this low was in 1999 when the mid-point of the target inflation band was 1.5%.

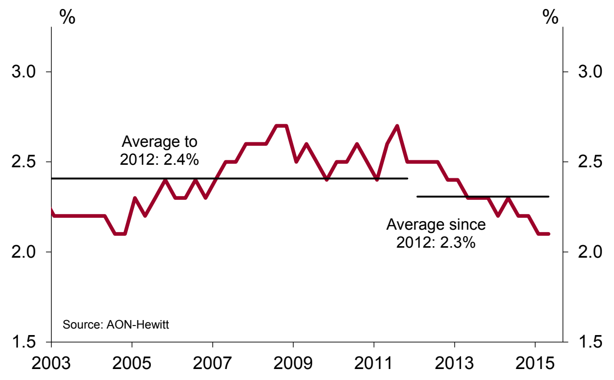
In a similar vein, there has also been a marked and sustained downshift in surveyed wage inflation expectations for longer horizons.

Figure 3: RBNZ Survey of Expectations – inflation 2 years ahead



1 Lower inflation expectations are only one of the factors that may have affected domestic inflation in recent years. Questions also surround the economy's productive capacity and the neutral (or trend) level of interest rates. There have also been a number of one-off surprises that have dampened inflation.
2 To confirm this, we tested expectations measures for signs of a structural break from 2012. We found statistically significant evidence of a downshift in expectations in 11 out of the 14 measures examined.

Figure 4: AON-Hewitt Economist Survey – inflation 4 years ahead



Shorter-term expectations – households and businesses

One problem with longer-term inflation expectations is that they don't necessarily reflect the expectations of those who actually set wages and prices in the economy. Longer-term expectations are based on surveys of a relatively small number of respondents, and are oriented towards the views of financial sector professionals.

To get around this issue we can look at the inflation expectations of households and businesses – the groups who are actually involved in the setting of wages and prices. Inflation expectations measures for these groups are usually only available for short horizons (up to one year ahead), and they tend to follow actual inflation quite closely.[3] But as with the longer-term measures, shorter-term inflation expectations from households and businesses have taken a sizable step down in recent years (figure 5 and 6). They are now at their lowest levels in well over a decade.

Figure 5: ANZBO – inflation 1 year ahead (businesses' expectations)

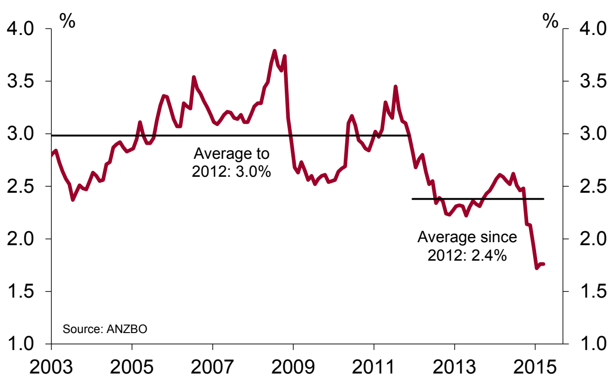
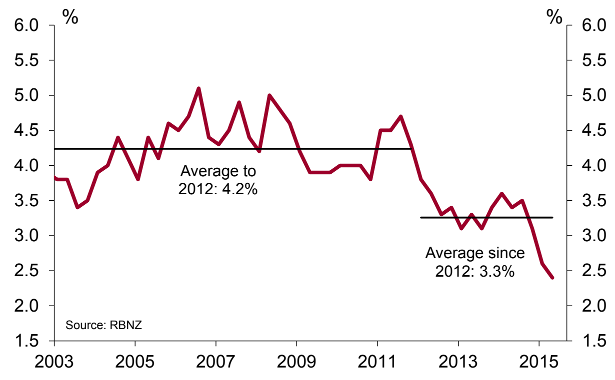


Figure 6: Marketscope survey – inflation 1 year ahead (households' expectations)

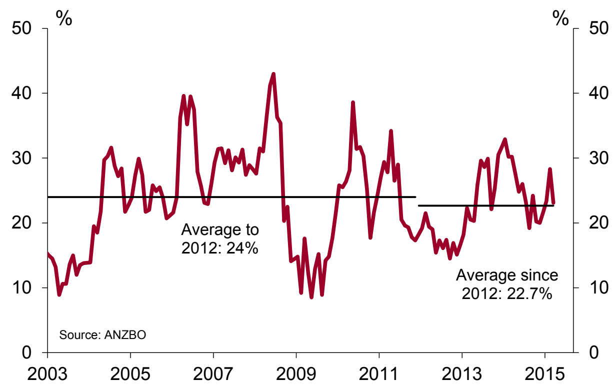


Business behaviour

An alternative approach to gauging what's happening with inflation expectations is to look at business behaviour. Business surveys tell us about the number of firms that have actually increased their prices (or expect to do so), as well the number of businesses that have experienced cost increases.

These measures give us a bit of a mixed picture about what's happening with inflation expectations. Pricing intentions as measured by the ANZ Survey of Business Opinion haven't shown any material shift down in recent years (figure 7). Similarly, pricing gauges from the Quarterly Survey of Business Opinion have softened only modestly (figure 8). However, there has been a pronounced and sustained downshift in measures of cost pressures (figure 9), which have tended to track actual inflation fairly closely.

Figure 7: ANZBO – Net proportion of business intending to raise prices over the next year



3 The RBNZ's Marketscope survey does provide a measure of households' longer-term inflation expectations. We haven't focused on this measure due to its relatively short sample. As with the other measures discussed, it has been easing in recent years.

Figure 8: QSBO– Net proportion of business intending to raise prices over the next 3 months

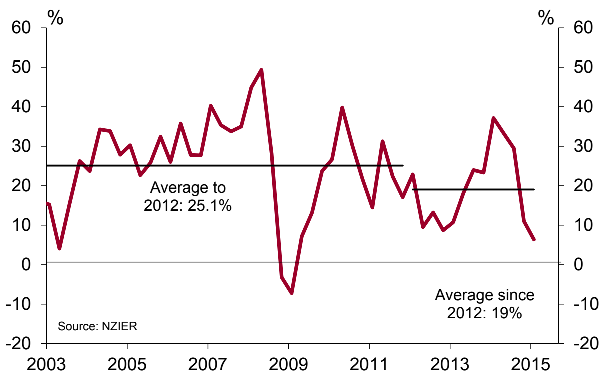
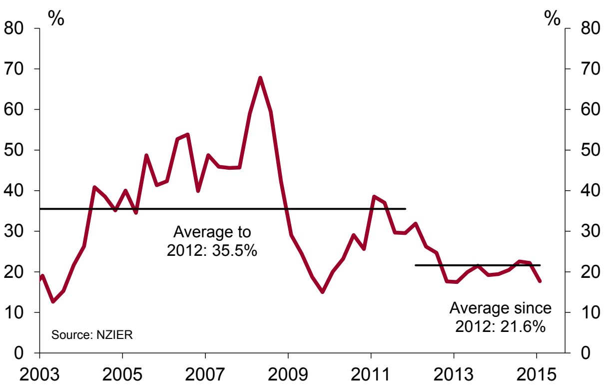


Figure 9: QSBO – Proportion of business reporting cost increases over the past 3 months

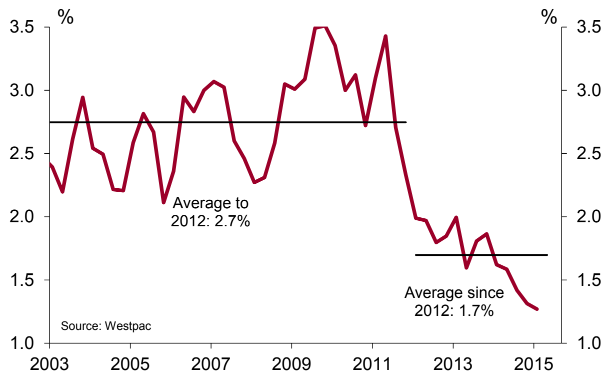


Model implied

As noted earlier, inflation expectations are unobservable. However, we can estimate how they have been evolving based on what's happened to actual inflation and economic activity - a relationship often referred to 'the Phillips curve' (named after its creator, noted New Zealand economist Bill Phillips).[4] We'd caution that this should only be viewed as indicative of what's been happening to inflation expectations. Inflation is affected by a number of factors not captured in our model, and these could push our estimates up or down.

Estimates based on our simple Philips curve indicate that, consistent with the measures discussed above, there has been a downshift in inflation expectations since around-2012 (in other words, inflation has been lower then we would have expected based on economic activity alone). Our estimates also imply that the downshift in inflation expectations has been sizable and that it has been sustained for several years now.

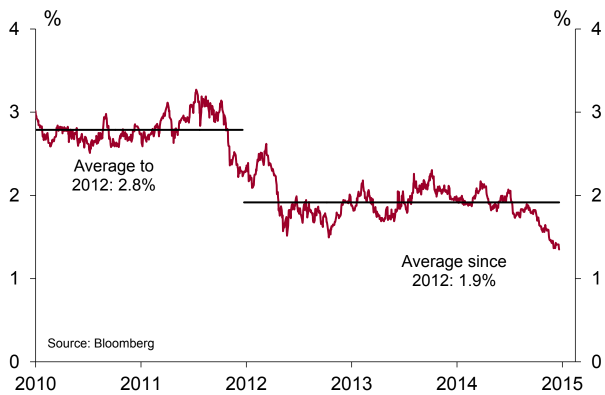
Figure 10: Inflation expectations based on simple Phillips curve



Financial market pricing

As a final check, we looked at what's been happening to financial markets pricing. By looking at the difference between the interest rates on nominal bonds and those that include an adjustment for inflation, we can estimate what financial market participants expect inflation to be. As shown in figure 11, we do see signs of sharp decline in inflation expectations since 2012.

Figure 11: Inflation expectations implied by financial market pricing



Note: The inflation expectations measure shown here is based on the inflation index 2016 bond and the nominal 2017 Government bond.

Inflation expectation and the RBNZ target

The RBNZ has said that if inflation expectations do settle at levels lower than its inflation target and demand weakens, it would be consider lowering the OCR.

Weighing up the range of information that's available, it does appear that there has been a downshift in inflation

4 We based our version of the Phillips curve on the RBNZ's factor model measure of non-tradables inflation. This core inflation measure strips out some of the noisier changes in inflation (such as 2010's change in GST) so we can look at the underlying trend in prices. We compared core inflation to our estimate of the output gap, which measures how economic activity compares to the economy's trend level of output. This combination of factors provides a broad indication of what's been happening with inflation expectations. We experimented with a few different specifications and inflation variables, all of which generated similar results.

expectations. However, even if inflation expectations have shifted down, it is uncertain whether they are now inconsistent with the RBNZ's target. For much of the past decade inflation and inflation expectations were above the inflation target. The downshift since 2012 will have helped to reduce this upside bias. Nevertheless, the risk of inflation expectations settling below RBNZ's inflation target has clearly increased, particularly given the continuing softness in inflation that's likely over the next few years.

Later this week we'll be releasing our preview of the RBNZ's upcoming interest rate decision. In that report, we'll be taking a closer look at what recent developments in the economy, including changes in inflation expectations, mean for monetary policy.

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