

Inflationary Expectations

Although statistically significant, the correlation between INFLWPI and the three measures of expectations remain low, approximately around 0.6 and for INFLCPIIW that is 0.5.

THE SPECTRE OF inflation continues to haunt India. After the global financial recession in 2008, headline year-on-year (yoy) inflation as measured by the Wholesale Price Index (INFLWPI, Base Year 2004–05) has averaged 7.2 per cent between 2009–10:Q1 and 2013–14:Q3. During the same period, yoy retail inflation as measured by the Consumer Price Index Industrial Worker (INFLCPIIW, Base Year 2001=100) has averaged 10.5 per cent. The average WPI inflation between 1952–53 and 2012–13 was 6.3 per cent. Retail inflation averaged 8.1 per cent between 1970–71 and 2012–13. Clearly, the recent few years have been a period of heightened inflation.

Has this period of high and persistent inflation since 2009–10 changed our expectations about the “normal” inflation rate? It is important to track inflationary expectations because they ‘affect people’s behaviour in ways that have a long-term economic impact’, whereas ‘inflation is what affects the purchasing power of the money in one’s wallet’¹. The Reserve Bank of India

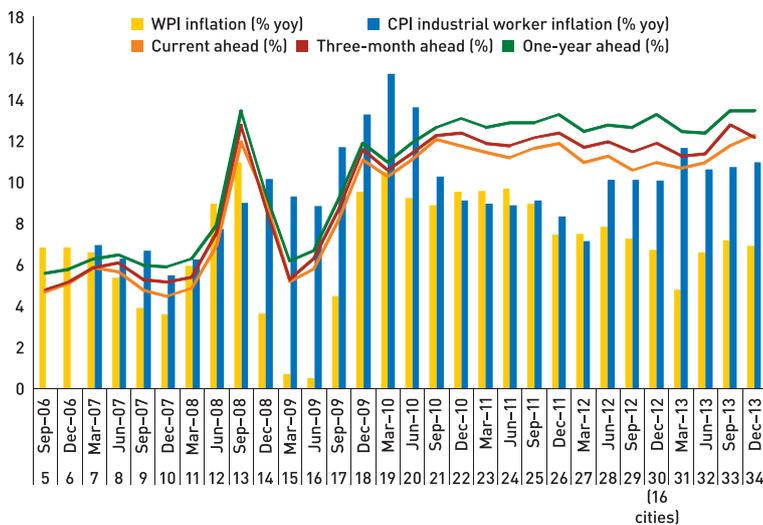
(RBI) started tracking inflationary expectations since September 2006. It collects (surveys) current expectations, one month ahead and three years ahead on a quarterly basis. The focus of this analysis is from September 2006 (2006–07:Q2) to December 2013 (2013–14:Q3). In this article we examine three questions: (i) accuracy of expectations, (ii) influence of actuals on expectations, and (iii) influence of expectations on actuals.

ACCURACY OF EXPECTATIONS

Figure P.1 plots the three measures of inflationary expectations against both the current inflation measures of INFLWPI and INFLCPIIW. All the three measures of inflationary expectations jumped to double digits and have stayed in double digits since December 2009 (time after the drought). The standard deviations of these three measures are actually lower than the inflation indicators, which show entrenchment of expectations.

Although it is statistically significant, the correlation between INFLWPI and the three measures of expectations remain low, approximately around 0.6 and for INFLCPIIW that is 0.5. Expectations of current inflation has always been higher than the INFLWPI except for five quarters – 2006–07:Q2, 2006–07:Q3, 2006–07: Q4, 2007–08:Q4, and 2008–09:Q1. However, inflationary expectations, after remaining below INFLCPIIW until September 2010 (2010–11:Q2), reversed. The gap between INFLCPIIW and current inflationary expectations has been getting smaller over time, especially since June 2012 or 2012–13:Q1. In contrast, the gap is increasing for INFLWPI. Similar dynamics hold true for the other measures of inflationary expectations and the indicators of inflation.

Figure P.1: Inflation Expectations, WPI and CPI Industrial Workers Inflation Rate, September 2006 to December 2013



Notes: 1. Base Year of CPI is 2001 and WPI is 2004–05.
 2. In December 2012, the 30th round was conducted with both 12 and 16 cities and thereafter only the larger sample was used.
 3. The average inflation expectations is used in the analysis here instead of the median.
Sources: Reserve Bank of India, Office of Economic Advisor and Labour Bureau.

INFLUENCE OF ACTUALS ON EXPECTATIONS OR INFLUENCE OF EXPECTATIONS ON ACTUALS

By carrying out dynamic cross-correlations, one can assess lead-lag features of two series.

Figure P.2 shows the lead-lag relationship between various measures of inflation and current inflationary expectations using 12 lags, which translates into three years. Essentially, we are testing whether past inflation lags current expectations or backward-looking expectations. Or, do we have forward-looking expectations, past inflation leads current expectations?

INFLWPI and INFLCPIIW behave in different ways. While the former is forward looking or INFLWPI leads expectations, INFLCPIIW is backward looking with it leading expectations. However, the relationship of the WPI with expectations dies after three quarters and is relatively weak. In contrast, INFLCPIIW has a strong relationship with expectations and takes nine quarters to dissipate. For sensitivity analysis, CPI Agricultural Labour was also used (base year 1986–87=100) to test the lead and lag relationship with current expectations. This is also backward looking (Figure P.2).

Using four lags, bivariate Granger causality tests were carried out. They show that INFLWPI Granger causes all the three indicators of inflationary expectations in a statistically significant manner.

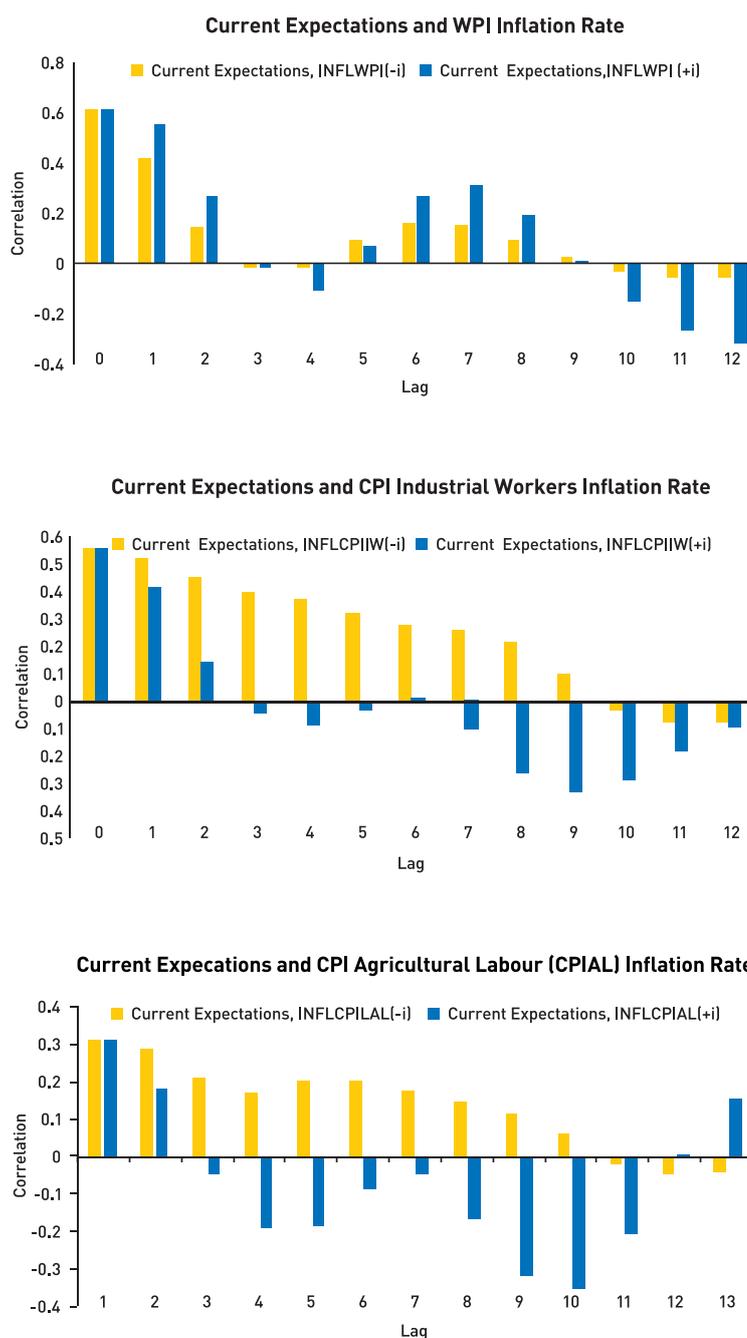
These analyses show us a couple of things. First, inflationary expectations have become entrenched and exhibit a stickiness that has a significant but low correlation with actual inflation. Second, the limited sample suggests that there has been a change in the economy on how inflationary expectations are being formed. It used to be closer to the WPI but the gap between expectations and retail inflation seems to be diminishing since 2012. Third, expectations about the two different indicators are being formed in different ways. While WPI inflation is forward looking, retail inflation is backward looking. The latter effect is very strong. Given this, there is a strong possibility or perhaps we are already in that cycle of a self-fulfilling tendency to retail inflation.

What is the way out? In the short run, inflation expectations have to be brought down. Since expectations are being formed based on past trends of retail inflation, retail inflation itself needs to be brought down. Tight monetary policy aimed at reducing retail inflation is the recommended answer. In the long run, of course, structural issues have to be addressed. One thing that is fairly clear is that double-digit inflationary expectations are leading people to make economic decisions that have a worsening impact on the domestic economy such as investing in gold and houses instead of buying

infrastructure bonds. This affects the short to medium term growth of the country. Decisive action is needed for expectations to weaken. Unfortunately, it is easier said than done in an election year.

INFLWPI and INFLCPIIW behave in different ways.

Figure P.2: Inflation Measures and Inflation Expectations, Lead-Lag, 2006–07:Q4 to 2012–13:Q3



Notes: 1. Base Year of CPI Industrial Worker is 2001 and WPI is 2004–05 and CPI Agricultural Labour is 1986–87.
2. In December 2012, the 30th round was conducted with both 12 and 16 cities and thereafter only the larger sample was used.
3. The average inflation expectations is used in the analysis here instead of the median.
4. Vertical axis is correlations and horizontal axis shows lags.

Sources: Reserve Bank of India, Office of Economic Advisor and Labour Bureau.