Navigating the Low Inflation Mystery

November 2017: Issue Twenty Two

Meketa Investment Group
Global Macroeconomic Research Series

Keeping inflation under control used to be a major economic concern. Today, however, the worry is low inflation, and the struggle to revive it. The issue is especially acute in the United States, where the persistent inflation weakness is difficult to explain at this stage of the economic cycle. Is inflation gone forever? What are the main factors behind this low inflation mystery? What do they imply for monetary policy?

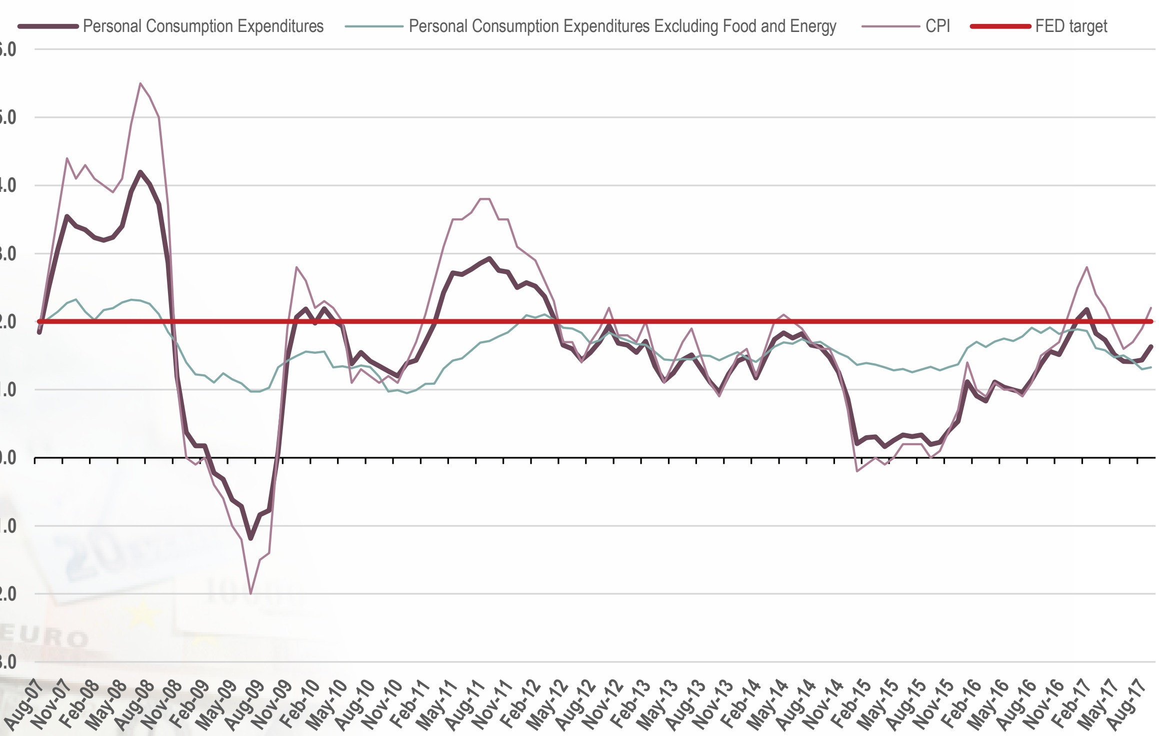
The Missing Inflation Puzzle

Inflation has been consistently below the Fed target of 2%, as measured by the annual change in the price index for Personal Consumption Expenditures (PCE), since the Great Recession (Figure 1). Inflation picked-up slightly in September 2017, driven by the increase in gasoline prices following hurricane Harvey, with PCE inflation at only 1.6% year-on-year. Core PCE, excluding food and energy prices, remained stable at 1.3%.

The US is not the only country experiencing subdued inflation: Japan is still close to deflation despite an unemployment rate below 3%, the lowest since the mid-90's, while inflation remains stuck close to 1.5% in the Euro area with core inflation closer to 1%, despite an ongoing economic recovery in most countries.

At this stage of the economic cycle, over 8 years into one of the longest economic expansions in U.S. history, with no output gap[1] and unemployment below its pre-crisis level, the absence of inflation is

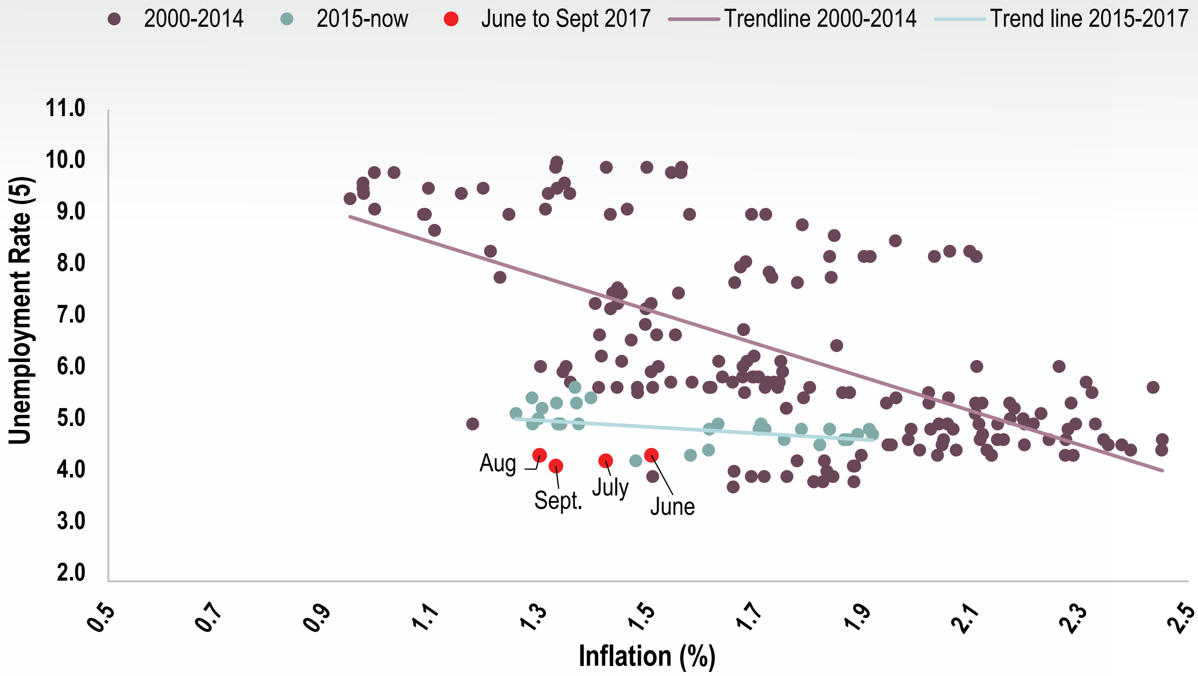
Figure 1: U.S. CPI and Core Headline PCE Over the Past Decade



Source: U.S. Bureau of Economic Analysis and U.S. Bureau of Labor Retrieved from FRED, Federal Reserve Bank od St. Louis

1 The output gap measures the difference between actual GDP and potential GDP (i.e., between what an economy produces and its production capacity).According to both the CBO data and the IMF latest World Economic Outlook (Oct 2017) the US output gap is now close to zero.

Figure 2: Has the Phillips Curve Vanished?

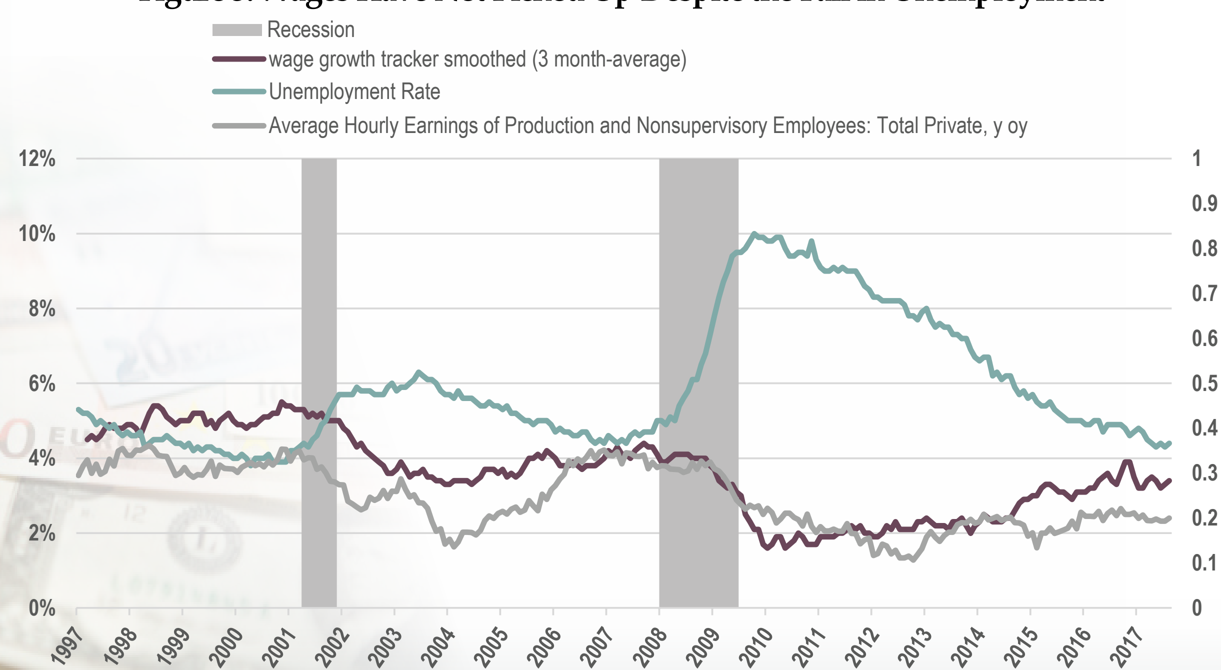


Source: U.S. Bureau of Economic Analysis and U.S. Bureau of Labor Statistics retrieved from FRED, Federal Reserve Bank of St. Louis.

surprising to many observers. Typically, there is an inverse relationship between the degree of slack in the economy (measured by the output gap or the level of unemployment) and inflation. In particular, when unemployment is low, prospective employees in short supply, and current ones at low risk of unemployment, are able to negotiate wage increases. As these increases are passed into costs and then prices, they result in higher inflation. This relationship, known as the Phillips curve, has worked reasonably well in past cycles but seems to have vanished (Figure 2).

Wage formation seems to play an important role in this puzzle. Hourly wages have not picked up despite the low level of unemployment and are growing much slower than in previous episodes of equally low unemployment (Figure 3).

Figure 3: Wages Have Not Picked Up Despite the Fall in Unemployment



Source: U.S. Bureau of Labor Statistics. Federal Reserve Bank of Atlanta.

Why is Low Inflation an Issue?

After the "inflation monster" scared policy makers and financial markets in the 70s and early 80s (Figure 4), and the concerns that the exceptional monetary expansion that followed the Global Financial Crisis would wake up that monster, shouldn't low inflation be good news? Looking at the long-term series of inflation (Figure 4), the recent period looks like a period of exceptional stability.

However, besides being a major embarrassment for the economics profession, which has systematically failed to accurately forecast inflation in the past few years, persistently low inflation has some real potential negative impacts.

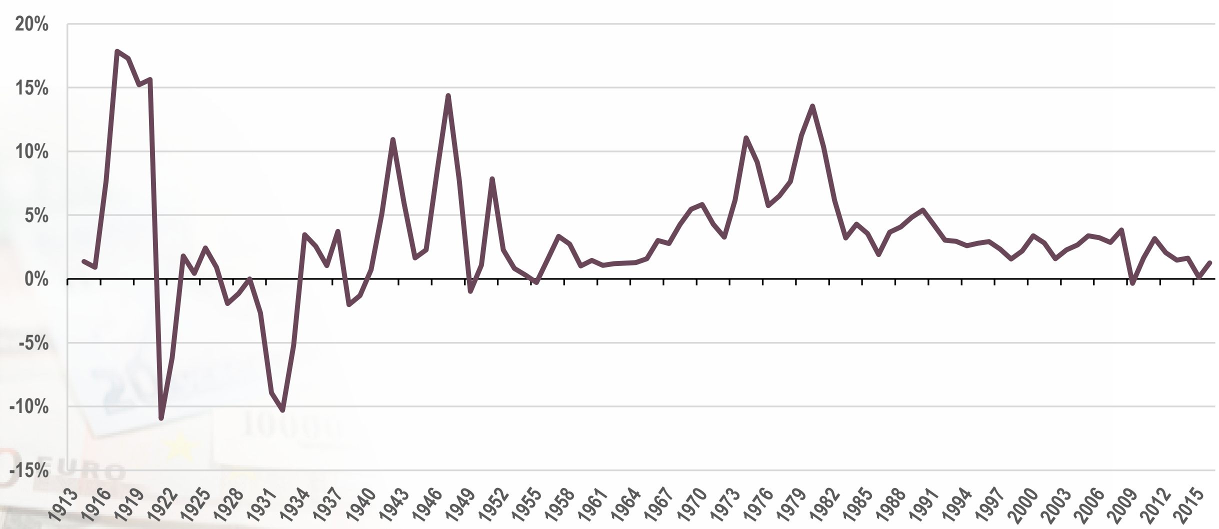
First, inflation below 2% for too long is considered by major central banks, including the Fed, to be too close to deflation and its associated negative impacts. Falling prices may lead to excessively high real interest rates when nominal rates are constrained by the zero lower bound, increasing the debt burden for borrowers, and triggering spending postponement.[1] Falling prices, or even slow inflation, also limit relative price and real wage movements, thereby slowing adjustments on the product and labor markets.

Second, below-target inflation for too long may also harm the Fed's credibility. It could dampen inflation expectations and lead to a negative feedback loop that places the economy in deflation.[2]

Third, by constraining the increase in policy interest rates, below-target inflation may prevent the Fed from building sufficient ammunition to deal with the next economic crisis, while fueling financial market bubbles.

Fourth, low inflation at this stage of the cycle is a major source of uncertainty regarding the future stance of US monetary policy, as the Fed's dual mandate requires that it conducts monetary policy to achieve both stable prices and maximum sustainable employment. Depending on the factors that are keeping prices low, inflation prospects are quite different, as is the future of monetary policy.

Figure 4: Inflation (annual CPI) Has Never Been So Stable and Low for So Long
Consumer Price Index (CPI) Annual Percent Change



Source: U.S. Bureau of Labor Statistics retrieved from FRED, Federal Reserve Bank of St. Louis.

1 For more details on the potential costs of persistently low inflation and deflation see "Europe's deflation risk" OECD Observer No 300, Q3 2014 as well as IMF (2016) "Global Disinflation in an Era of Constrained Monetary Policy" World Economic Outlook October 2016, Chapter 3.

2 See IMF 2016 *op cit.*

Global Macroeconomic Investment Committee
Richard O'Neill, Chair
David Hetzer
Mika Malone
Stephen P. McCourt
Ed Omata
Edmund Walsh
Timur Yontar
Rafi Zaman

Meketa Investment Group
Global Macroeconomic Research Series

UNVEILING THE MYSTERY: SEVERAL POSSIBLE SUSPECTS BUT THE JURY IS STILL OUT

There are still major disagreements over why inflation has not yet picked up. As suggested by Fed analysis (Figure 5), the persistence of low inflation can no longer be explained by traditional measures such as economic slack, or external factors such as food and energy prices or relative import prices.

What makes the low level of inflation at this stage of the cycle a real mystery is the lack of consensus on the identity of the "other" factor. There are three main potential suspects: persisting but hiding slack, temporary factors other than food and energy prices that are delaying the response of inflation, or structural factors that have broken down historical relationships.

Suspect 1: Persisting, but hiding slack.

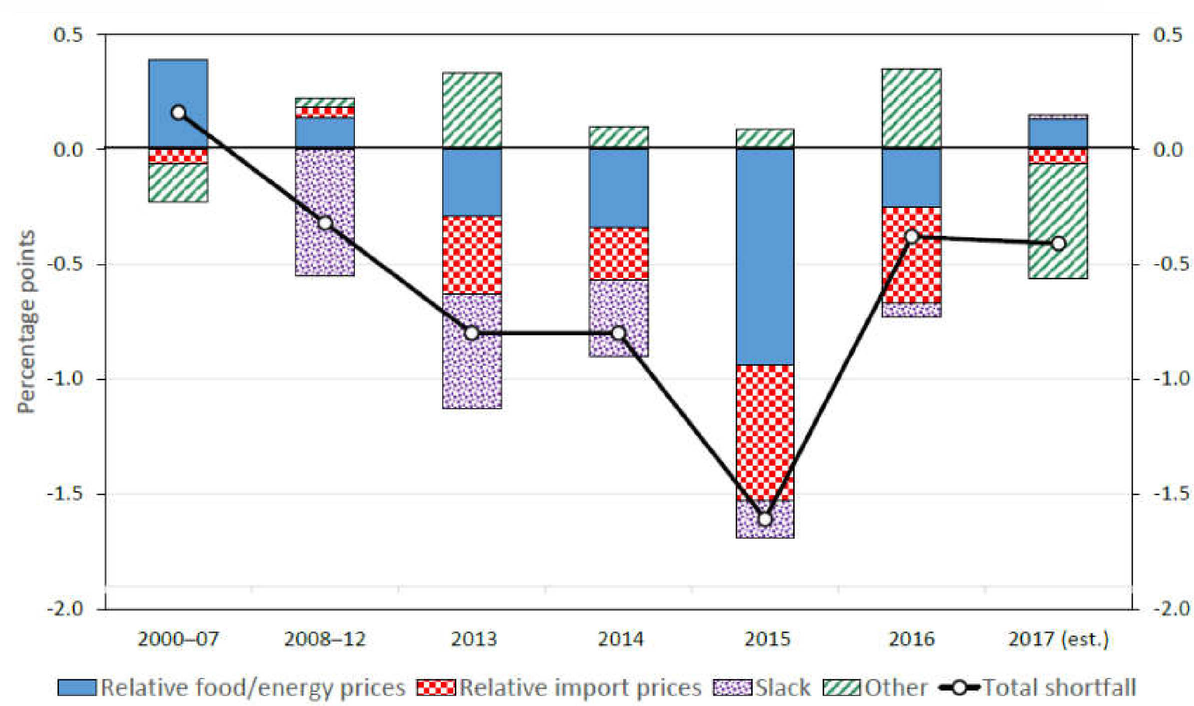
Given the historical relationship between the degree of slack in the economy and inflation, persistant low inflation can be interpreted as a sign that the economy is still operating well below full capacity. In particular, the low level of unemployment may hide unused capacity in the labor market: involuntary part-time employment remains higher than in previous expansions and labor force participation, especially for prime age males, has declined beyond what can be explained by demographics (e.g., baby boomers reaching retirement age). If this is the case, wages and inflation will only pick up when discouraged workers are back in the labor market and those willing to work full time are able to do so.

Suspect 2: Temporary factors.

Another view goes with the role of temporary factors that are blurring the Phillips curve so that prices and wages do not pick up despite the absence of slack. While energy and food prices do not seem to dominate in 2017, cuts in mobile-phone service charges, the stabilization of health costs after fast increases in previous years, cheaper imports, or the impact of new technology on prices may have slowed inflation. Moreover, in a globalized economy, prices are more and more driven by global factors and may be slowed by unused capacity outside the US.

Temporary factors may also affect wages and delay their response to low unemployment. First, highly paid baby

Figure 5: Accounting for Lower-than-expected Inflation: The Role of Yet-to-be Identified Factors



Source: Federal Reserve, https://www.federalreserve.gov/newsevents/speech/yellen20170926a.htm boomers are retiring and being replaced by cheaper workers. Second, firms may not have been able to reduce wages as much as needed during the Great Recession and are hence more reluctant to increase them now than in past cycles.[1] Third, slower productivity growth than in previous recoveries is limiting wage growth.[2] To the extent that productivity is expected to catch up as innovation diffuses in the economy, wages will accelerate.

Suspect 3: A new normal.

Deep changes in the functioning of the US and global economy may have permanently lowered inflation and killed the "inflation monster." This would explain why low inflation is affecting most advanced economies, independent of where they are in the economic cycle.

Some of the factors seen as transitory may reflect permanent supply shocks. [3]Innovative disruptions that affect price formation together with globalization - which brings cheap imports from China and more generally a greater influence of conditions abroad on both labor and product markets - may have permanently dampened inflation in advanced economies. Deep changes in the labor market, with weaker unions and reduced workers' bargaining power associated with great uncertainty and lower mobility, have driven down the labor share in the US and have broken the Phillips curve.[4]

These permanent shocks mean that the economy is operating under a new normal under which the low wage and low inflation puzzles are set to persist.

What Are the Monetary Policy Implications of the Inflation Mystery?

Unfortunately, there is still no convincing clear cut story that can fully account for recent developments, and it may be that the 3 suspects have been working together. However, each potential suspect has different implications for monetary policy and carries different risks. Because of uncertainty on the causes of low inflation, the Fed is navigating those risks in the fog.

If low inflation is a symptom of persisting slack in the economy, then the Fed should not tighten. A tighter monetary stance could weaken economic activity and trigger deflationary pressures. Should inflation weaken further, faced with the risk of deflation, the Fed should even reduce its policy rate and/or reverse the unwinding of QE.

If low inflation is the result of transitory factors blurring traditional relationships, then the Fed should look through the recent low inflation readings and stick to a gradual tightening as inflation picks up. The tightening path needs to be very carefully traced: inflation could bounce back quickly once the transitory factors disappear and a too slow tightening could wake up the "inflation monster"; but a too fast tightening could revive the deflation one.

If the low inflation is the result of structural changes, the best strategy for the Fed depends on the attainability of its inflation target. The debate is still open. On the one hand, as argued by the BIS[5], structural changes may imply that the "inflation monster" is dead and that the Fed target has become unreachable in the new normal. Monetary expansion instead of bringing inflation to target would fuel financial bubbles, as it did during the "Great Moderation"[6] before the global financial crisis. Once a bubble has formed, it will become more difficult to raise rates without damaging activity, so the best strategy would be a preventative tightening.

1 See for instance Daly, Mary, and Bart Hobijn (2015) "Why Is Wage Growth So Slow?" Federal Reserve Bank of San Francisco Economic Letter 2015–01, January 5.

2 IMF (2017a) "Recent Wage Dynamics in Advanced Economies: Drivers and Implications", World Economic Outlook October 2017, Chapter 3.

3 BIS (2017) Annual Report.

4 Y. Abdih and S. Danninger (2017) "What Explains the Decline of the U.S. Labor Share of Income?", IMF working paper WP/17/167

5 "Through the looking glass" Lecture by C. Borio, Head of the Monetary and Economic Department of the BIS, at the OMFIF City Lecture, London, 22 September 2017. "Strong outlook with low inflation spurs risk-taking" BIS Quarterly Review, September 2017

6 "The Great Moderation" Remarks by Governor Ben S. Bernanke At the meetings of the Eastern Economic Association, Washington, DC. February 20, 2004

Moreover, central banks need to adjust their monetary frameworks to this new normal. On the other hand, others, including for instance Nouriel Roubini[1], argue that monetary expansion is the only way to reach the target which is still reachable.

How is the Fed Navigating the Mystery?

While the Fed recognizes the current uncertainties of the forces driving inflation[2], and despite internal debates[3], so far it has stuck with the view that low inflation is due to temporary/transitory factors. Inflation is hence expected to move towards target once these factors dissipate and rates will be raised as planned. This view is supported by the inflation forecasts of professional forecasters who expect headline PCE inflation to move towards target in the next two years, reaching 1.9 percent for 2018, and 2.0 percent for 2019.[4]

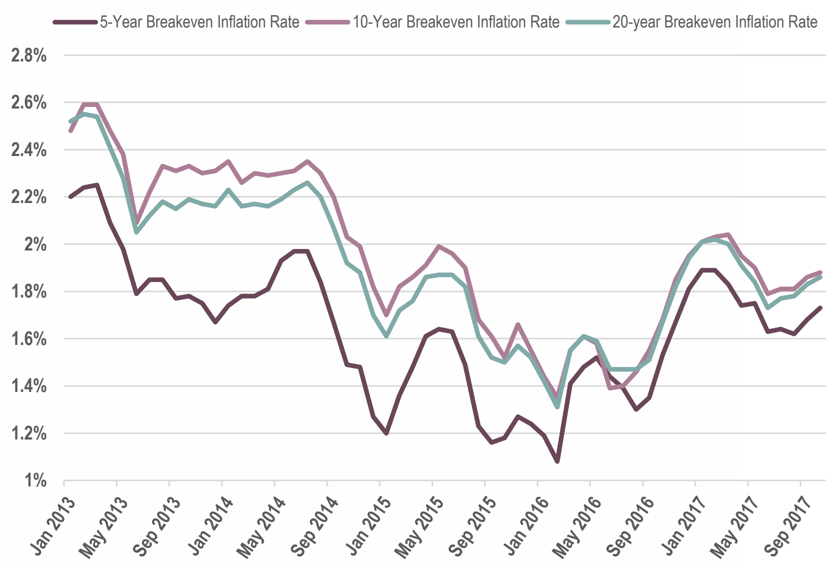
The Fed has nonetheless admitted that this view could be challenged by the evolution of inflation going forward. In particular, it seems open to the possibility of structural factors affecting traditional relationships.[5]

How Should Investors Navigate the Mystery?

For now, the market seems to be on the same line as the Fed. Inflation expectations do not seem to be de-anchoring, even though implied inflation through TIPS has eased somewhat since the beginning of the year. But the realization of the Fed inflation projections remains key to sustain them.

In the meantime, it is way too early to call the "inflation monster" dead. Given the uncertainty surrounding the current low inflation, one cannot rule out a quick pick up in inflation as activity continues to strengthen. Hence the inflation risk remains relevant even if it may take longer to materialize and investors should protect against it.

Figure 6: Financial Market Expectations Have Held Up Breakeven Inflation Rates



Source: Federal Reserve Bank of St. Louis.

1 N. Roubini Bloomberg interview 10/13/2017.

2 Janet L. Yellen (2017) "Inflation, Uncertainty, and Monetary Policy" Speech At the "Prospects for Growth: Reassessing the Fundamentals" 59th Annual Meeting of the National Association for Business Economics, Cleveland, Ohio September 26, 2017.

3 https://www.federalreserve.gov/monetarypolicy/fomcminutes20170920.htm.

4 https://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters.

5 See Yellen (2017) op cit: "My colleagues and I may have misjudged the strength of the labor market, the degree to which longer-run inflation expectations are consistent with our inflation objective, or even the fundamental forces driving inflation [.....] our understanding of the forces driving inflation is imperfect, and we recognize that something more persistent may be responsible for the current undershooting of our longer-run objective."

BOSTON
100 Lowder Brook Drive,
Suite 1100
Westwood, MA 02090
781.471.3500

CHICAGO
One E Wacker Drive,
Suite 1210
Chicago, IL 60601
312.474.0900

LONDON
41-43 Brook Street
London W1K 4HJ,
United Kingdom
+44 (0)20 37098485

MIAMI
5200 Blue Lagoon Drive,
Suite 120
Miami, FL 33126
305.341.2900

PORTLAND
205 SE Spokane Street,
Suite 300
Portland, OR 97202
503.444.3434

SAN DIEGO
5796 Armada Drive,
Suite 110
Carlsbad, CA 92008
760.795.3450