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WEEKLY ECONOMIC COMMENTARY

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- **A Testing Time For Inflation Targeting**

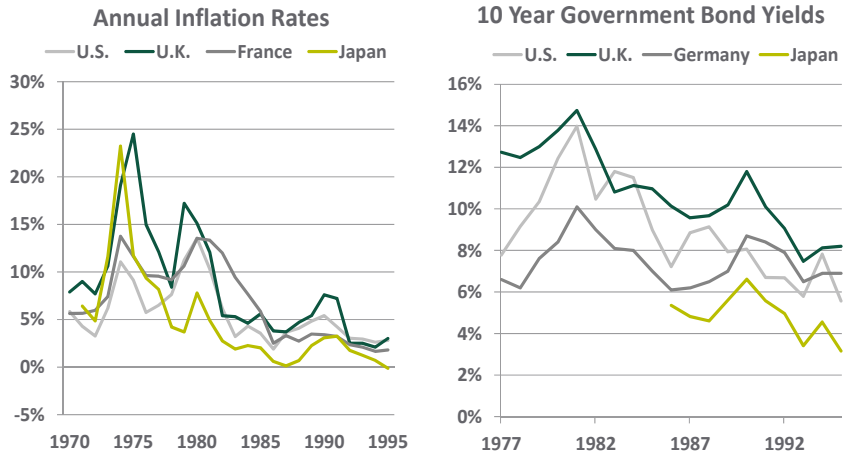
The Federal Reserve recently conducted its annual conference in Jackson Hole, Wyoming. Prominent on the agenda were discussions of inflation, or the lack thereof. Many central banks around the world have inflation targets, and have been frustrated by their inability to reach them.

It has been more than 25 years since inflation targeting first arrived on the scene, and it has grown to dominate monetary frameworks. But it is currently facing a stern test. The outcome of this examination will have direct consequences for the paths of global interest rates and global markets.

Evolution of Modern Monetary Regimes

In the 1970s, inflation in developed markets had reached levels that would be considered excessive in emerging markets today. The year-over-year increase in consumer prices peaked at 15% in the United States and in continental Europe, and at 25% in the United Kingdom and Japan. A succession of oil shocks had a lot to do with this; while the shocks were temporary, their impact on inflation expectations was more lasting.

The common central bank reaction to the surge of inflation during that era was to raise short-term interest rates. But nominal interest rates rose by less than inflation, leading to a steep decline in real interest rates that added fuel to economic activity. As a result, inflation and interest rates reached multi-decade highs.



Sources: Haver Analytics, Inflation.eu, Bloomberg

In the search for a solution, central banks shifted strategy and began to closely monitor and manage the national money supply. Slowly but surely, inflation was tamed. The effort coincided with a series of recessions in developed markets; debate continues as to whether this was the result of restrictive monetary policy or the consequences of industrial damage done by the realignment in energy prices. A steep correction in the price of crude

Global Economic Research
50 South La Salle Street
Chicago, Illinois 60603
northerntrust.com

Carl R. Tannenbaum
Chief Economist
312-557-8820
ct92@ntrs.com

Ryan James Boyle
Senior Economist
312-444-3843
rjb13@ntrs.com

Vaibhav Tandon
Associate Economist
630-276-2498
vt141@ntrs.com

oil (which declined from $37 per barrel in 1979 to less than $15 per barrel in 1986) also helped to bring inflation back under control.

Ultimately, however, money supply targeting ran its course. Defining money became more difficult, and linkages between money, credit and inflation were weakened by globalization and disintermediation. These developments led central banks on a search for a new policy paradigm. And at the beginning of the 1990s, they found one.

Re-Setting Objectives

Price stability is a ubiquitous element of global central bank mandates, and for good reason. A predictable inflation environment provides a favorable foundation for economic growth and employment. Excessive inflation reduces purchasing power and cuts into investment returns. And hyperinflation can destabilize countries and lead to extreme political outcomes.

Formal inflation targeting was first adopted by the Reserve Bank of New Zealand (RBNZ) in 1990. (An interesting RBNZ retrospective on that decision can be found here.) Canada followed the next year, and the United Kingdom the year after that. The U.S. Federal Reserve ultimately adopted a target in early 2012. (Alan Greenspan was not a fan, deeming such a target as poorly founded and as an encroachment on his discretion.)

Inflation targeting has many merits. By providing an anchor, it improves the transparency of central bank decision-making, gives comfort to investors and provides forward guidance on how a central bank might react. It can bolster the credibility of monetary authorities, which can be a decided asset for managing expectations and signaling markets.

Country	Objective
U.S.	Inflation at 2% is most consistent over the longer term with the Federal Reserve's mandate for price stability and maximum employment
Eurozone	Inflation below, but close to, 2% over the medium term
U.K.	2% target; excesses below 1% or above 3% require notification to the Chancellor of the Exchequer
Australia	An inflation rate of 2% to 3%, on average, over the cycle
New Zealand	Inflation within a range of 1% to 3% on average over the medium term
Canada	Inflation at the 2% midpoint of a target range of 1% to 3% over the medium term

Targets may seem rigid, but their phrasing allows for considerable discretion.

Central banks in developed markets have coalesced around a 2% inflation objective. The global symmetry of the 2% objective is interesting. Inflation can evolve differently in different places; this might have warranted some heterogeneity in global target levels. Central banks have, however, used the phrasing of their targets to create room to maneuver. Some give themselves ranges of acceptable outcomes; others give a vague time horizon over which compliance is to be achieved.

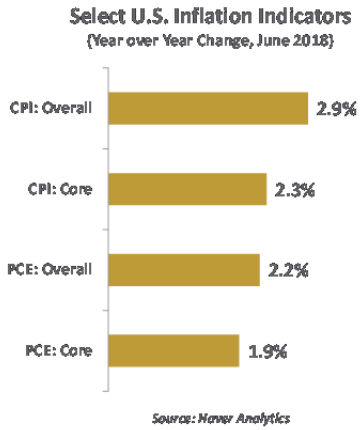
The assessment of inflation is typically forward-looking, relying on a forecast of future price levels. Even if current readings are out of range, no immediate reaction is required if further inflation is expected to reach the desired state. Essentially, while targeting regimes may seem rigid on the surface, they allow for considerable discretion in their application.

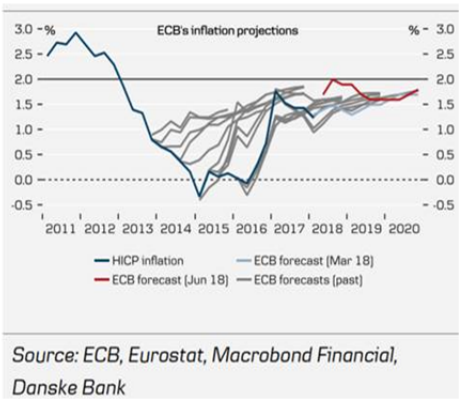
A Moving Target

Challenges in measuring inflation and the secular trends that steer it complicate the establishment and usage of an inflation target.

Inflation is arguably more difficult to measure than ever. While technology now assists in collecting raw price data, translating this data into inflation rates is still challenged by a series of complications. Among them:

- **Changing product features.** A pound of flour may not change much over time (unless you get into a debate over the value of organic sourcing), but televisions do. Analysts try to account for changing features using hedonic modeling, which reduces a product to its component features. But this is not an exact science.





It is hard to measure and forecast inflation with much certainty.

- **Price level shifts.** From time to time, the price of a key product will move abruptly from one level to another. This can result from changes in measurement (like the recent adjustment in the cost of cell phone plans in the U.S.) or from idiosyncratic changes in supply or demand conditions (like OPEC supply controls or a drought).

  Central banks prefer not to overreact to level changes, so they focus attention either on "core" inflation measures or forecasted inflation over an interval long enough to smooth transitory factors. Unfortunately, the track record of central bank inflation forecasts is not a proud one, as shown by the ECB's experience in the chart above.

- **The rise of services.** Services have always presented challenges for inflation calculations. Medical and financial services make significant contributions to gross domestic product (GDP), but assessing prices, features and quality in these two sectors has vexed even the best of public econometricians.

It is always risky to build a tall skyscraper on a thin foundation. The potential error around inflation measures remains large, and yet significant weight has been placed on these measures by central banks.

Underperformance

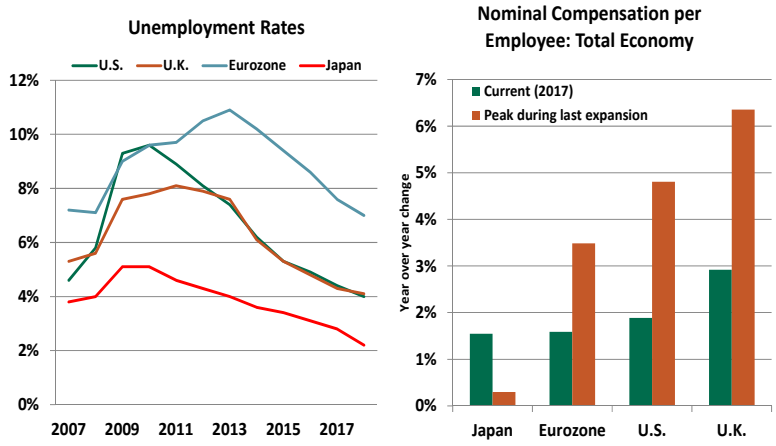
Judged solely by the numbers, the performance of monetary policy over the past several years would be rated substandard. With the exception of the Bank of England (which is coping with the aftermath of Brexit), central banks in major markets have struggled to meet their inflation mandates despite years of low interest rates and massive quantitative easing (QE) programs.

Secular factors have been cited as leading contributors to the decade of disinflation. Several of these were featured on the agenda at Jackson Hole. Among them:

a) **Broken Phillips Curves.** Unemployment rates have hit new lows in a number of countries. Age-adjusted labor force participation is rising. The number of job openings in the United States exceeds the number of jobless persons. Anecdotes of labor shortages are legion. And yet wage gains remain well below the levels seen in past cycles.

There are a range of potential explanations for this apparent disconnect. Automation (present and future) and global sourcing are the primary means used by firms to limit compensation costs. Workers seem to have far less leverage than they used to, as union membership declines and structural labor force reform advances. And worker productivity in many markets has been growing slowly; real wages are closely linked to productivity gains.

b) **The "Amazon Effect."** E-commerce has made consumers more intelligent, providing heightened means to research products and compare offers. As a result, inflation for goods lags well behind inflation for services in almost every developed market.



Sources: Haver Analytics, AMECO Database

Secular governors on inflation have become more powerful.

Services are now being disrupted by new providers and new platforms, suggesting that their prices, too, will begin to face downward pressure. This seems more like a steady paradigm shift than a sudden level change, so policy makers will have to build this into their inflation forecasts, their inflation targets, or both. Our take on the "Amazon Effect" can be found here.

At the time targeting was developed, it was seen as a tool to bring inflation down. Back then, it was difficult to imagine the price level remaining so subdued for so long. But that is where we are today, and the situation is stressing the architecture of monetary policy.

No Good Alternatives

With central banks struggling to meet their existing inflation targets and inflation expectations falling, monetary authorities are faced with three basic options. Each involves delicate tradeoffs between raising expectations, sustaining financial stability and remaining prepared for a range of economic outcomes.

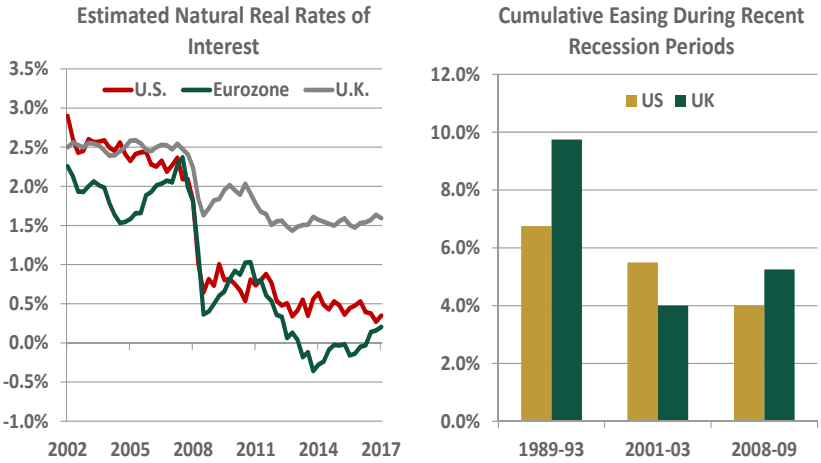
1. Carry on. There are those who feel there should be a high bar to changing central bank targets. Asset prices and economic contracts are anchored by the consistent expression and pursuit of the current objective; changing it risks unmooring expectations.

But keeping rates lower (or in the case of the European Central Bank, negative) for longer to promote higher inflation invites asset price excesses, which can form as investors reach for return in low-interest rate environments. Financial stability is an unstated objective of every central bank, and policy must try to avoid creating unsustainable conditions.

2. Lower the target. This past March, the Norges Bank lowered its inflation objective from 2.5% to 2%. In doing so, it became the first central bank to mark its target to market.

Failing to adjust objectives to reflect underlying realities creates strategic risk. There is growing evidence that the "neutral" interest rate (which neither hinders nor stimulates an economy) has fallen in recent years.

Press on, re-benchmark, or rebase?



Sources: Bloomberg, Haver Analytics

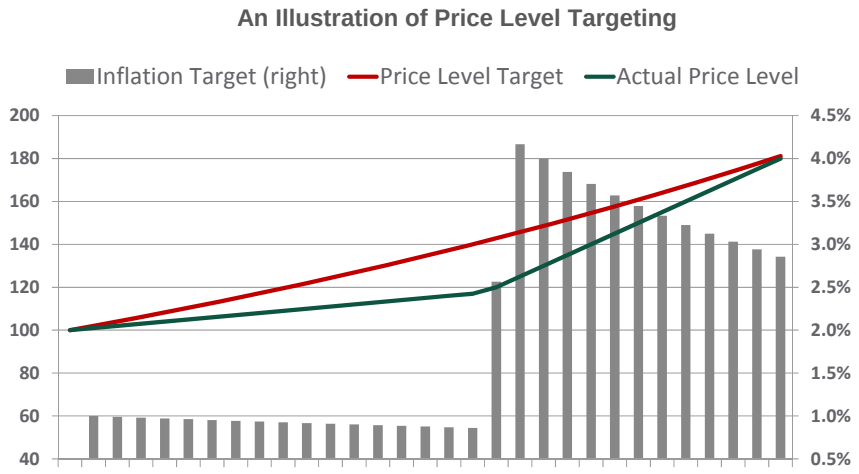
Further, keeping inflation targets too high keeps policy rates too low during expansionary phases. This leaves little room for central banks to react when the next recession comes.

But lowering the target might also have the effect of lowering inflation expectations and long-term interest rates, which could accentuate the reach for yield. It is not clear that financial stability would be enhanced by this strategy.

3. Move to price-level targeting. Targeting the price level (as opposed to an inflation rate) would force central banks to offset low inflation in one interval with higher inflation in others. This would be a significant change of paradigm.

Price level targeting works in the following manner. Let's say a central bank desires 2% inflation over the medium term, which we'll define as three years. If the price level is 100 at the outset, a level of roughly 106 would be the objective at the end of the study period. If actual price level ends the first year at only 101, the central bank would be expected to redouble its efforts. Over the remaining two years, they would be tasked with engineering a five point increase in the price level, equivalent to an inflation target of 2.5%.

Proponents note that such a regime, if credibly followed, would result in higher inflation expectations when inflation is low, the opposite of what prevails at present. This would increase nominal interest rates relative to real interest rates and give central banks more opportunities to build "dry powder." This, in turn, would avoid extended intervals during which rates are close to their lower bounds.



Operationally, price level targeting would present a number of problems. The measurement issues surrounding inflation would remain. Monetary authorities would be tasked with determining the level of the target and the time frame over which it would have to be achieved.

Central banks have struggled to meet existing inflation targets in the current environment. Generating even higher inflation when called for by a price level target may be a bridge too far. (This is also a limitation for those who have suggested raising inflation targets to raise inflation expectations.) And markets could be confused by the new regime.

An imperfect target is better than no target at all.

System migrations carry risk. But so can sticking with the same system for too long. That was the case with money supply targeting, and it may be the case for today's inflation targets. Secular trends are putting downward pressure on prices, making a once-reasonable objective more difficult to achieve.

Since markets have become used to the current system of inflation targeting, the bar for changing regimes is high. But market confidence could be compromised if central banks persistently fail to clear their stated bars for inflation. And that could prompt a search for another new monetary paradigm.

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@NT_CTannenbaum