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Fed to raise its inflation game?

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The Federal Reserve is reviewing its monetary policy strategy amid concerns that the current policy toolkit won't be powerful enough to counter a future economic downturn. The Fed is considering options to steer inflation expectations that could have important economic and market implications. Highlights:

- The Fed is thinking about ways to counter the challenge of subdued current inflation and falling inflation expectations. The monetary policy options include "make-up" strategies that would allow the economy to run hot for a while to compensate for a previous inflation shortfall. Average inflation targeting (AIT) is one possible option.
- Economic models suggest that a shift towards a make-up strategy would have considerable repercussions for financial markets. But much would depend on whether short-term inflation expectations – which have been falling over the past decade – can move decisively above target when recent inflation has been below target (and vice versa).
- Make-up strategies require markets to believe central banks can create inflation. Without this, it is unlikely that central banks could engineer sizeable swings in short-term inflation expectations – needed in the models for a swift economic recovery.
- If the Fed and other central banks implement make-up strategies, Fed and academic models suggest the economy returns more quickly to a steady state following a downturn. Interest rates would likely stay lower for longer than under the present policy framework. Macroeconomic volatility could decrease as the chances of a severe economic downturn diminish. But the risk of asset bubbles could increase.
- Our bottom line: A new strategy may lead to higher inflation expectations and lower-for-longer policy rates supporting risk assets. But we believe implementation of AIT by the Fed could be sold as a tweak or an "evolution," diluting the impact. Policymakers may only introduce a new strategy during the next downturn. And the Fed's ability to boost inflation could still be questioned.

Economic snapshot

BlackRock Growth GPS vs. US consensus, 2015-2019

Sources: BlackRock Investment Institute, with data from Bloomberg and Consensus Economics, May 2019. Notes: The GPS in green shows where the 12-month consensus forecast may stand in three months' time for the US economy. The blue line shows the current 12-month economic consensus forecast as measured by Consensus Economics. Forward-looking estimates may not come to pass.

The Fed faces challenges

The Federal Reserve could announce significant changes to its monetary policy approach early next year. An in-depth review is in full swing. A conference at the Federal Reserve Bank of Chicago in early June will see further discussions of the topic. The policy review aims to address the challenges faced by central banks in the aftermath of the global financial crisis. These challenges are rooted in falling neutral interest rates – rates that would neither stimulate nor hold back economic growth – and declining inflation expectations. Both of these could limit the ability of monetary policy to counter future downturns.

These two factors reduce the distance between the actual interest rate and the effective lower bound (ELB) – the minimum level of interest rates that the central bank can feasibly set. The negative policy rates in Japan and the eurozone, for example, show that this level can be below zero. Interest rates below zero could harm the profit model of the banking sector and even lead to depositors – who may have to pay the bank to hold their money – withdrawing their money from the system.

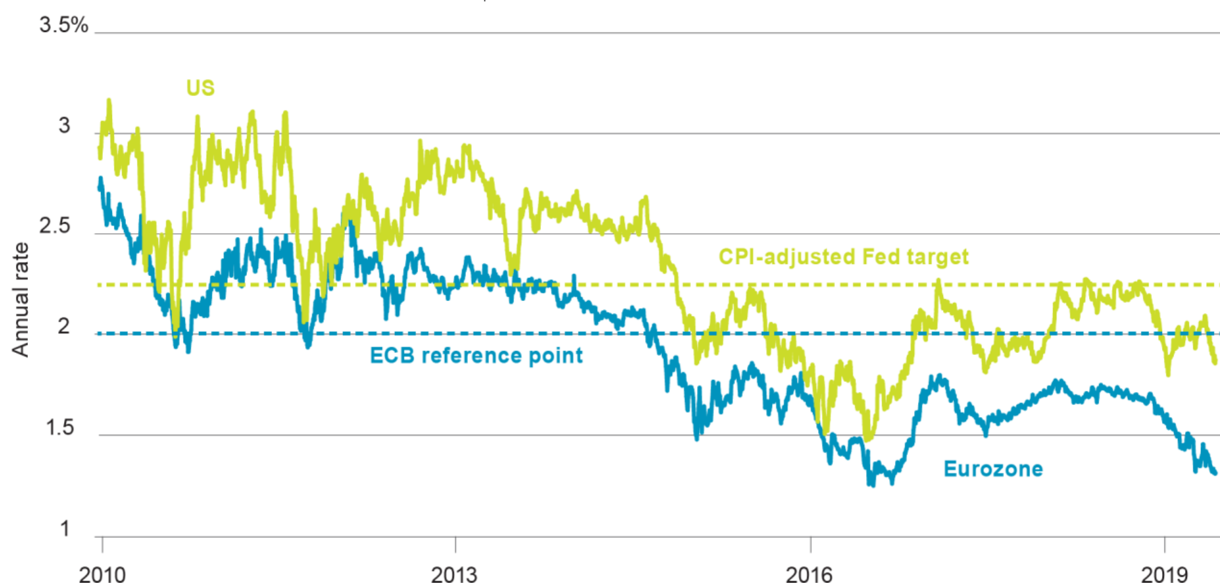
We assess the implications of any shift from the flexible inflation forecast targeting that the Fed and other developed market central banks currently follow towards strategies that explicitly require central banks to make up for past misses of their inflation target – "make-up" strategies. These options are being discussed by the Fed, and other central banks – the Band of Canada and Sweden's Riksbank – have pondered similar changes in the past. The European Central Bank (ECB) may also re-assess its strategy after a leadership transition later this year.

The debate in central bank circles – with the Fed leading the way – reflects two factors that could potentially limit the effectiveness of monetary policy in any future downturn. First, a decline in the neutral rate of interest implies that average policy rates are gravitating lower. Second, after an extended period where inflation has been below central bank targets, inflation expectations are becoming untethered and shifting below inflation targets on a sustained basis. This is especially true for the eurozone and Japan. See the *Lying low* chart.

Projections by the Fed (Roberts and Kiley 2017) suggest that the ELB could become a constraint for US monetary policy for around one third of the time – a risk that had been very small prior to the Great Recession. Once the ELB is reached, the Fed cannot reduce interest rates any further in a recession. This means unconventional policies – such as quantitative easing (QE) – would again become the second-best instruments of choice. Then, the inability to cut rates further could lower inflation expectations again, potentially shrinking monetary manoeuvring room even more. There is an obvious desire to avoid the deflation spiral and liquidity trap problems seen in the Great Depression – or in Japan.

Lying low

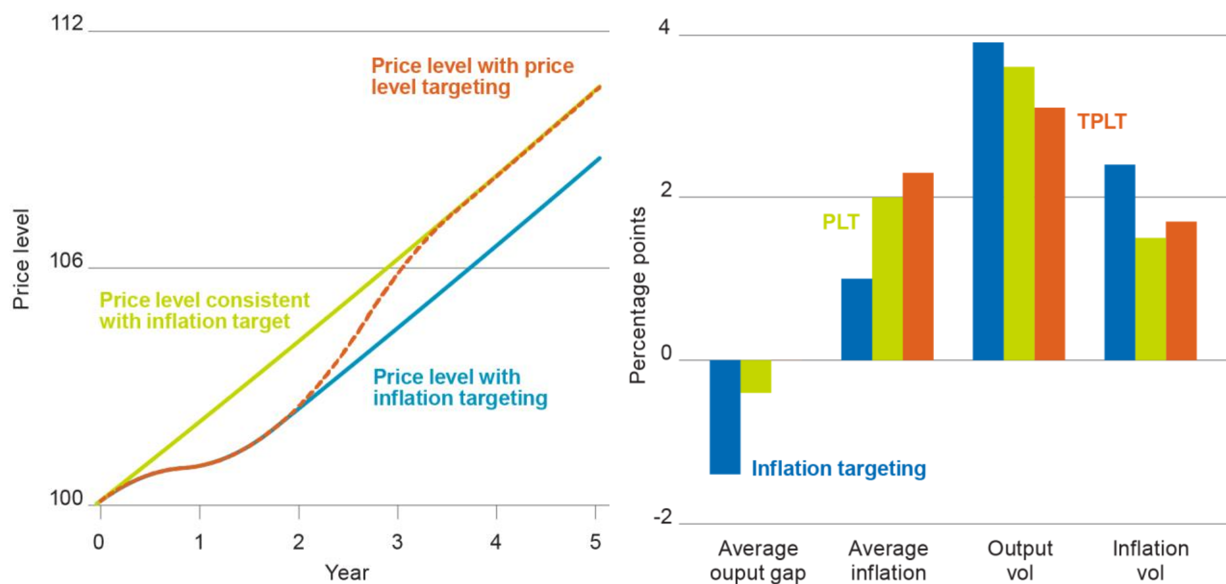
US and eurozone market-based inflation expectations, 2010-2019



Sources: BlackRock Investment Institute, with data from Bloomberg, May 2019. Notes: The chart shows the market pricing of inflation based on five-year forward inflation in five years' time. The Fed target is adjusted 25 basis points higher to account for the difference in market pricing of the CPI index in inflation swaps relative to the PCE inflation index, the Fed's target. The ECB targets inflation just below a 2% reference point.

Policy paths

Hypothetical price level moves and estimated level of macroeconomic variables under different monetary policies



Sources: BlackRock Investment Institute and Bernanke et al (2019), May 2019. Notes: The left chart shows our illustrative demonstration of the hypothetical behaviour of price levels under the current inflation targeting policy and price level targeting (PLT) as time passes. The right chart shows the simulation results from Ben Bernanke's paper showing the expected average levels of various macroeconomic variables of under different monetary policy rules over the an entire business cycle. The estimates are generated by simulating the Federal Reserve's FRB/US large-scale macroeconomic model. Forward-looking estimates may not come to pass.

Assessing the available options

A shift towards a "make-up" strategy could have considerable repercussions for financial markets, provided that the new strategy is credible and well understood. The Fed has never deliberately forecasted a material inflation overshoot. Market participants would have to change their understanding of how the Fed would use monetary policy in any given situation. Much would depend on whether short-term inflation expectations can move decisively above target when recent inflation has been below target (and vice versa). Additional ramifications could result from markets changing their expectations of the range of long-term macroeconomic outcomes and the near-term policy path of the Fed.

Different monetary policy ideas have been proposed on the central bank conference circuit. These can mainly be divided between price level targeting (PLT), average inflation targeting (AIT) and temporary price level targeting (TPLT). PLT commits to make up any deviation from the inflation target by leaning in the opposite direction in the future. AIT commits to achieving an average inflation level over a set period of time. As the period over which inflation is averaged gets longer, the monetary policy strategy converges from inflation targeting to PLT. Both PLT and AIT include past inflation outcomes in monetary policy decisions of the present policy stance.

Under temporary price level targeting, the central bank temporarily switch towards PLT when interest rates reach their floor (when the ELB is reached), and reverts back to its standard flexible inflation targeting once it has made up for the temporary inflation shortfall. The strategy – put forward by former Fed Chair Ben Bernanke in a 2017 blog – essentially introduces a temporary change to the central bank's monetary policy norms. It aims to balance the pros and cons of PLT versus traditional inflation targeting. According to economic models, TPLT can provide sufficient stimulus at the ELB while avoiding excessively loose monetary policy and an overheating economy later. See the *Policy paths* charts above.

In theory, both AIT and PLT ensure that inflation expectations remain rooted near the target when the ELB is binding. The question is whether they materially improve the health of the economy over the course of a full business cycle. One crucial factor is the extent to which the process of price and wage setting in the economy – summarized by the Phillips curve (the traditional inverse relationship between the rate of inflation and the unemployment rate) – is based on the forward-looking considerations of people and businesses. If the central bank's claim that it can boost inflation is believed, then higher inflation may follow. But if people and businesses only consider past inflation in setting prices, the shift away from inflation targeting would be less effective.

The Fed's credibility

Make-up strategies require markets to believe central banks can create inflation. The Fed uses the personal consumption expenditures (PCE) price index for its inflation target, but the committee focuses on the core PCE index to remove the distraction of short-term volatility in food and energy prices. Both measures have consistently fallen below the 2% target since the global financial crisis. See the left chart below.

One way to ease the restrictions of the ELB would be for central banks to commit to overshooting the inflation target to make up for previous shortfalls – instead of letting bygones be bygones. They could do this by keeping interest rates lower for longer if needed.

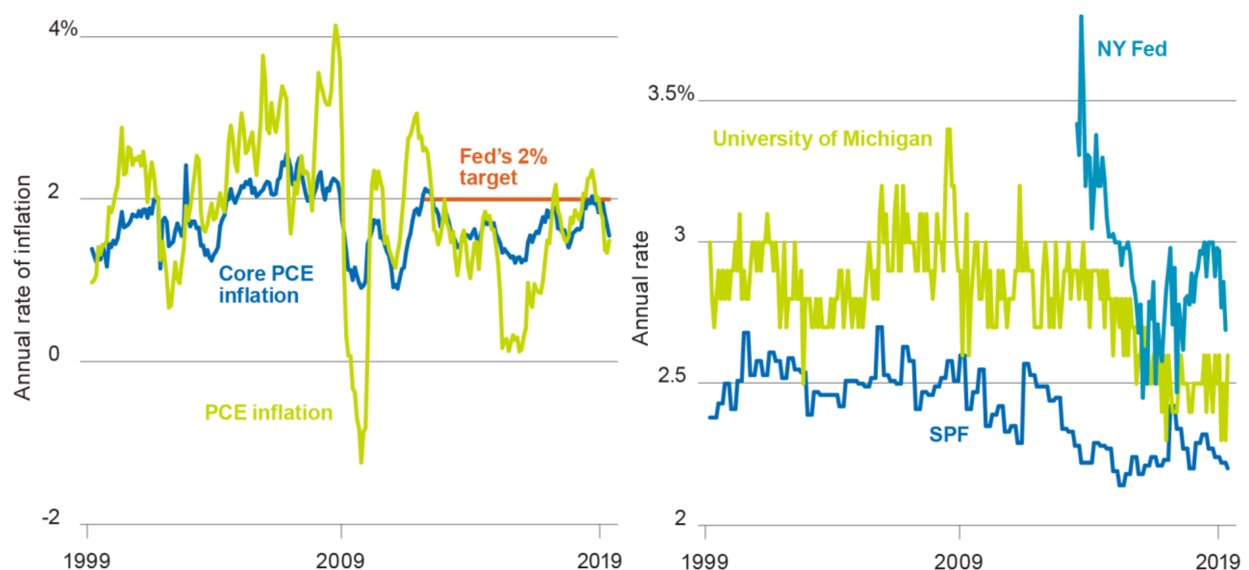
Central bank credibility is threatened by the problem of "time inconsistency" – a situation whereby a central bank has an incentive to promise inflation overshoots, but then possibly breaks this promise due to concerns over the welfare costs to the economy or the political backlash. Without credibility, it is unlikely the Fed could engineer sizeable swings in short-term inflation expectations, which have been falling over the past decade. See the right chart below. If central banks can cause a big enough rise in short-term inflation expectations and so pull down real interest rates, they are less likely to be limited by the ELB in future. This then stabilises longer-term inflation expectations. Bottom line: wider swings in short-term inflation expectations are needed to anchor long-term inflation expectations.

Whether a shift in the central bank strategy would work in practice comes down to how inflation expectations are formed and whether the central bank can really influence them as much as the models require. In the ideal scenario for make-up strategies, private sector expectations are formed in a rational fashion, the Phillips curve is based on forward-looking considerations and the central bank has a high level of credibility.

These conditions are unlikely to be fully met in the real world. The private sector may only have an incomplete understanding of how the economy functions and could exhibit behavioural biases in forming expectations. Academic studies of the Phillips curve relationship show that past conditions – such as past inflation outcomes – play a crucial role in the process. The more that inflation expectations are formed by forward-looking considerations (and less driven by past experience), the more effective these make-up strategies are in theory. But since the global financial crisis, central banks have been struggling to keep inflation expectations well-anchored in the light of persistent inflation undershoots. The Fed has probably done a better job in anchoring longer-term inflation expectations than the Bank of Japan (BoJ) or the ECB – until recently.

A subdued situation

US PCE inflation and different survey measures of US inflation expectations, 1999-2019



Sources: BlackRock Investment Institute, with data from the US Bureau of Labor Statistics, Thomson Reuters and Bloomberg, May 2019. Notes: The left chart shows the annual rate of inflation in the US personal consumption expenditures (PCE) price index, the core index excluding energy and food items and the Fed's inflation target. The chart on the right shows measures of long-run inflation expectations from the New York Fed survey of consumers, the University of Michigan survey of consumers and the Survey of Professional Forecasters.

Potential market implications

Potential market responses under different Fed monetary policy options being considered

	Inflation expectations	Risk free rates	Risk assets	Volatility
Fed moves to PLT	Break-even inflation could rise noticeably, inflation-protected yields fall	Treasury yield curve steepens with long-term yields visibly higher	Rally slightly	Declining after transition to new Fed regime
Fed moves to modest form of AIT	Break-even inflation rises slightly, inflation-protected yields fall moderately	Treasury yield curve steepens with long-term yields slightly higher	Broadly unchanged	Unchanged
Fed does nothing for now	Break-even inflation could ease slightly, inflation-protected yields might sell off slightly	Treasury yield curve slightly flatter with long-term yields slightly lower	Pull back a little	Rising

Sources: BlackRock Investment Institute, May 2019. Notes: This table shows our assessment of how financial markets may respond to the implementation of a new Fed policy framework if the framework is perceived to be credible. Forward-looking estimates may not come to pass.

Economic implications

The economic impact of make-up strategies depends on the specifics of the strategy shift the Fed may announce. But a few common themes emerge when comparing policy interest rates under the current system with the alternatives under consideration. Thousands of model outcomes can be summarized in four main features of make-up strategies: First, the economy returns more quickly to a steady state (where inflation is at target and the output gap is closed) after a downturn. Second, interest rates would likely stay lower for longer. If the Fed had adopted any one of a number of make-up strategies after the global financial crisis, it would probably not have started to raise rates from post-crisis lows – even by now. Third, macroeconomic volatility could decrease. See the table above. Lastly, asset bubbles could become more common – unless macro prudential rules are tightened when make-up strategies are in place.

When looking at these model results, we should acknowledge that it is challenging to estimate the impact of different monetary policy frameworks, especially in a world facing rapid structural changes such as technological disruptions and ageing societies.

There are some subtle nuances between the different types of make-up strategies. Yet these are small when compared with the key factors of central bank credibility, the formation of inflation expectations and the gradient of the Phillips curve. All strategies work essentially through the same mechanism: raising short-term inflation expectations above the target. PLT does not require exact knowledge of key economic parameters – the economy is allowed to run as hot as necessary to snap the level of prices back to target. But AIT and TPLT require the central bank to have more detailed knowledge of the economy – to understand how much inflation "overshoot" is required to make up for previous shortfalls – to work even in the model setting. This means the risk of policy errors could be higher.

Make-up strategies such as the AIT favoured by New York Fed President John Williams and San Francisco Fed President Mary Daly would allow the Fed to let the US economy – and its financial sector – run hot. Rather than repeatedly stressing its patient policy attitude, the Fed would begin to openly welcome inflation overshoots – reinforcing its dovish tilt. The Fed would stop trying to move interest rates up towards neutral for an extended period of time. Such a strategy shift could mean that the Fed's commitment to lower-for-longer rates becomes more credible than it was during previous episodes of forward guidance or QE.

Shifting expectations

A number of conclusions on the market impact of make-up strategies emerge. First, the current US expansion could have years more to run. This is because the willingness to consider make-up strategies suggests lower-for-longer interest rates and therefore a bias towards easier rather than tighter monetary policy – and a lower chance that a policy mistake could cut short the expansion. But other potential risks to the recovery would need be monitored closely because financial vulnerabilities would likely build up faster. One way we do this is through our financial vulnerability indicator (FVI). This maps out the increase in potential recession risks stemming from a build-up of financial instability. The one-year ahead probability of recession is only around 20%, according to our FVI.

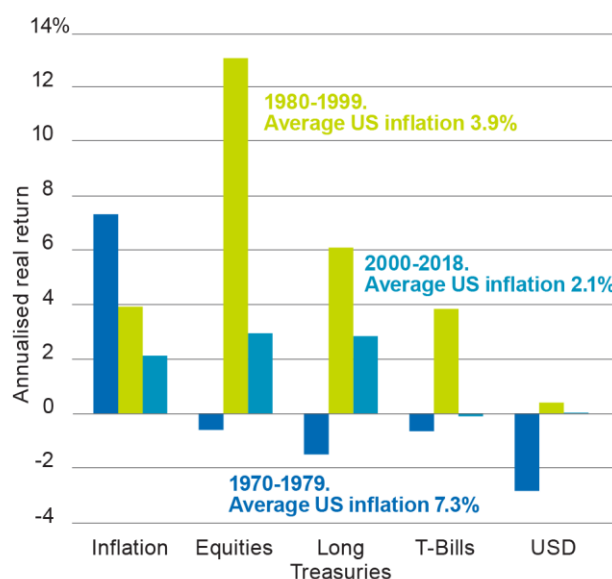
Second, longer term inflation expectations could shift upwards. History suggests that the expectations of professional forecasters gradually converge to the new target over a couple of years. Private sector expectations, such as household inflation expectations, gradually catch up with professional forecasts. The convergence tends to be partial over the first two years. For, say, a 50 basis point increase in average US inflation, there would be a 30 basis point move in consensus expectations after two years and a roughly 20 basis point move for household expectations, according to our analysis of historical episodes. Model simulations suggest an increase in the average realised inflation rate under different make-up strategies between 25 basis points and 100 basis points (see Mertens and Williams 2019 and Bernanke, Kiley and Roberts 2019).

In the past, upward shifts in inflation expectations have had significant market implications. First, nominal longer maturity government bonds rates rise to reflect the higher inflation expectations, and real rates fall slightly or stay broadly stable. Combined with a more dovish Fed, this would suggest a steeper Treasury yield curve. Second, rising inflation expectations in the US have been associated with higher nominal but lower real returns across risk assets and a depreciation in the trade-weighted dollar, as we saw in the 1970s. See the *Inflation regimes* chart. Third, Japan's experience in early 2012 – when the BoJ formalised its inflation target at 2% or lower (becoming 2% in 2013) – suggests that merely the announcement of a new target can boost inflation expectations. See the *BoJ inflation boost* chart. But for this to work, the plan must be perceived to be credible.

A number of caveats apply. First, past experience may not be fully applicable to the current situation. Japan aside, inflation targets have previously been introduced during times of high inflation where the ELB was not an issue. Second, the Fed already appears to tolerate overshoots of the target – even though the aim is not to make up for past misses – so inflation expectations may not rise much further if an official shift is announced. Third, market-based inflation expectations such as breakeven inflation (BEI) – the difference between the US Treasury yield and the inflation-indexed Treasury yield of the same maturity – are affected by other factors, notably risk attitudes.

Inflation regimes

Selected US market returns, 1970-2018



Past performance is not a reliable indicator of future results. It is not possible to invest in an index. Sources: BlackRock Investment Institute, JPMorgan and Barclays Bloomberg, with data from Thomson Reuters and Bloomberg, May 2019. Notes: The chart shows the average annualised return to US equities (S&P 500 total return index) , Treasuries (10-year Treasury total return index), Treasury bills (one-year total return index) and the trade-weighted dollar (JPM broad effective exchange rate index) in different inflation regimes. Returns are deflated using headline US CPI.

BoJ inflation boost

Inflation expectations in Japan, 2011-2019

Sources: BlackRock Investment Institute, with data from Bloomberg, May 2019. Notes: The chart shows two measures of market-based inflation expectations: the 10-year inflation swap rate for Japan.

A fudged framework

Fed Chair Jerome Powell has said that the factors currently weighing on core US inflation – such as portfolio management fees and apparel prices – are "transitory." Our Inflation GPS supports this view. See the *Upside surprise* chart.

But if the Fed decides that a make-up strategy should be implemented, we believe that the future chance of extreme macro outcomes – especially a recession deepening into a full-blown depression because of a lack of monetary policy firepower – may be reduced. This is because the ELB may not become a limiting factor as often. The risk of full-blown deflation would also decline, in our view. The lower chance of these negative events – combined with lower-for-longer interest rates and higher long-term inflation expectations – would likely support risk assets.

Volatility – currently low by historical standards – could also change. Medium-term macroeconomic volatility would likely decline under credible make-up strategies. Volatility could also rise in the short term while the market digests any new Fed inflation strategy. Effective Fed communication would be needed to manage this transition.

AIT and PLT are powerful tools in theory and address a deep concern that central banks currently face: how to combat the next downturn given the low interest rate environment, the danger that the ELB may again become a constraint and a monetary policy struggling to provide a big enough boost.

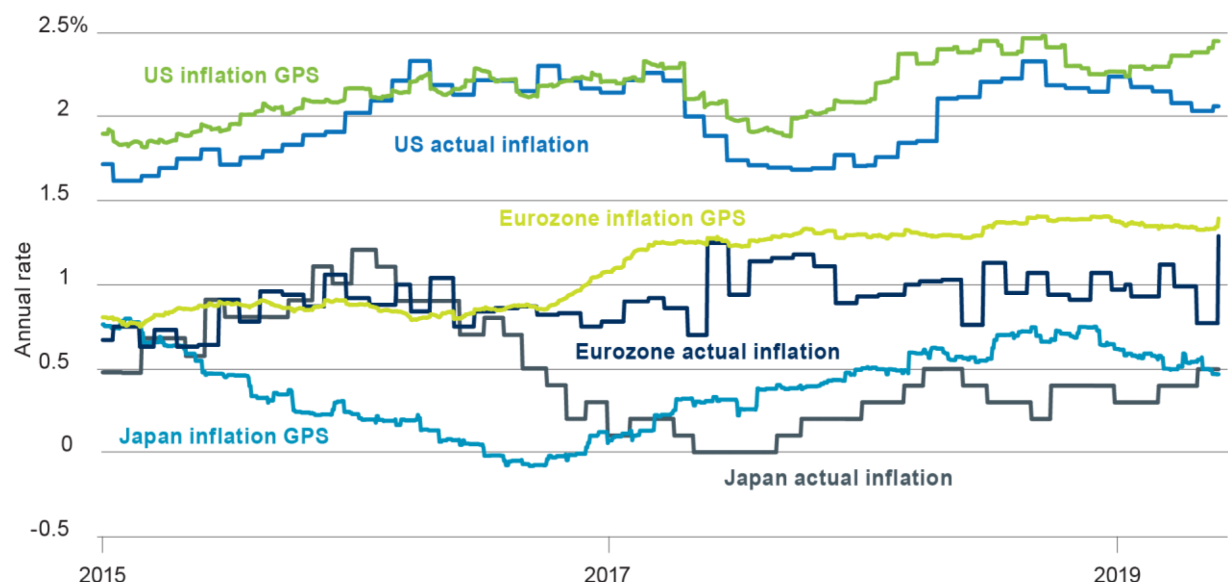
But in reality, any actual implementation of AIT (or other make-up strategies) is likely to be diluted. As the Fed's Richard Clarida said earlier this month, "our review is more likely to produce evolution, not a revolution, in the way we conduct monetary policy." The more central bankers say there won't be a big change, the lesser the likely impact.

Policymakers may only introduce a new strategy during the next downturn. They may also be wary of financial overheating and the resulting risks to financial stability. Importantly, AIT depends on the successful manipulation of inflation expectations, something central bankers have been unable to effectively do during this economic recovery. Some of the make-up strategies being proposed – such as "temporary" or "targeted" price level targeting – could suffer from time inconsistency issues relating to the challenge of central banks to pre-commit to a specific policy promise. A final consideration: AIT would be undermined if it were implemented without specifying the steps that would be taken to bring about inflation overshoots.

Our bottom line: The actual impact of a change in the Fed's monetary policy playbook may only be a shadow of what AIT and other make-up strategies promise on paper – unless the change in the strategy comes with an upward adjustment to the inflation target itself.

Upside surprise

BlackRock Inflation GPS for the G3 vs core inflation, 2015-2019



Sources: BlackRock Investment Institute, the US Bureau of Labor Statistics, Japan's MIC and Eurostat, with data from Thomson Reuters, May 2019. Notes: The inflation GPS lines show where core consumer price inflation may stand in six months' time in each economy. The other lines show actual inflation as represented by the core Consumer Price Index in the US and Japan, and the core Harmonised Index of Consumer Prices in the eurozone. Forward-looking estimates may not come to pass.

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