Analysis

Low inflation and interest rates challenge central banks to review their monetary policy strategies

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AUTHOR



Tomi Kortela
Senior Adviser

Monetary policy strategy specifies the key principles that a central bank adheres to in pursuit of its objective. The primary objective of the ECB is to maintain price stability. Central banks' operating environment has changed on the back of the protracted financial and debt crisis, population ageing and the low level of interest rates. New monetary policy instruments have been introduced. Research on monetary policy tools and the effectiveness of the measures implemented has increased. Changes in the operating environment and increased economic knowledge challenge central banks to review their monetary policy strategies.



A successful monetary policy strategy increases the effectiveness of monetary policy

Monetary policy strategy demonstrates with what kind of monetary policy a central bank aims to achieve its objectives. For example, the objective of the ECB – or more precisely that of the European System of Central Banks – has been laid down in the Treaty on the Functioning of the European Union (Article 127): "The primary objective … shall be to maintain price stability". Without prejudice to the objective of price stability, the ECB shall also "support the general economic policies in the Union", which include, inter alia, balanced economic growth. Deciding on the monetary policy objective is not usually the task of a central bank, but deciding on the monetary policy strategy is.[1]

Monetary policy strategy is an important part of monetary policy because a successful strategy increases the effectiveness of monetary policy in two ways. First, expectations regarding future monetary policy – e.g. the path of the key interest rates – affect consumption and investments, among other things. If a central bank succeeds in steering expectations in the desired direction, the effectiveness of monetary policy increases. However, this requires that monetary policy be predictable and consistent over time.

Second, a central bank's commitment to predictable decision-making in its monetary policy means that unexpected economic changes will have a smaller impact than compared with a situation in which the central bank conducts monetary policy solely on the basis of case-by-case discretion.[2] The risk to a policy without a commitment is that the decisions taken will be inconsistent over time. In such a case, economic agents' expectations may deviate from the monetary policy objectives, weakening the effectiveness of monetary policy. [3]

However, monetary policy that is consistent over time brings about significant benefits only when it is believed that the central bank will actually adhere to the policy. If economic agents do not believe that the central bank is committed to the announced monetary policy, the announcement will not affect expectations as desired. With its monetary policy strategy, the central bank seeks to increase its credibility in the achievement of its objective by, for example, increasing the transparency of its activities.

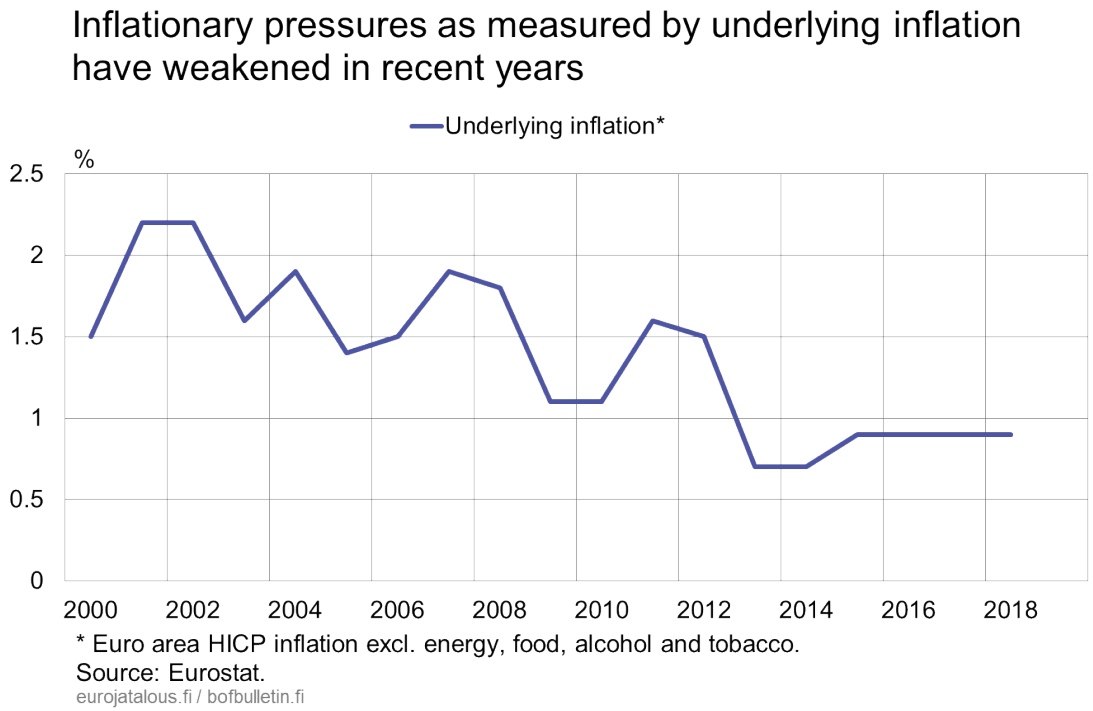
Its monetary policy strategy reflects the optimal course of action for a central bank to achieve its objectives based on the information available at the time the strategy is formulated. This does not mean that the strategy might never be adjusted. If a central bank's view on monetary policy transmission or challenges changes over time, it is natural that it at least reviews – and possibly also adjusts – its strategy. In fact, in the course of history, central banks have substantially adjusted

their monetary policy strategies in pursuit of price stability.

Various strategies applied in the past to achieve price stability

In the mid-1970s, the oil crisis pushed up energy prices and hence also inflation. As a result of the then functioning of monetary policy, high inflation became a persistent phenomenon. It accelerated to over 10% in many countries and was notably faster than in the 1960s (Chart 1).

Chart 1.



As inflation was high, the challenge for monetary policy was to bring it down. There was also a need for a new strategy because the fixed exchange rate regime of Bretton Woods had collapsed in 1971. The objective of fixed exchange rates and the convertibility of the US dollar to gold had determined the framework for monetary policy since the Second World War. Central banks responded to the new conditions by adjusting their monetary policy strategies. Central banks of the major economic regions, such as Germany, the United States and Japan, adopted a monetary policy strategy based on monetary targeting, i.e. controlling the growth rate of a specific monetary aggregate.[4]

The monetary targeting strategies initially led to diverging results. At the beginning of the 1980s, inflation was close to 10% in the United States, while in Japan and Germany it moderated at a

faster pace (Chart 1). This was partly due to the different degrees of commitment among central banks to their policy strategies: the commitment was credible in Japan and Germany, whereas in the United States inflation expectations turned downward only after the introduction of tighter monetary policy following Paul Volcker's nomination as Chairman of the Federal Reserve.

By the turn of the 1980s and 1990s, inflation had already declined. However, it became difficult to commit to monetary targeting strategies because the relationship between inflation and monetary growth became increasingly unstable. There was a need for a new monetary policy regime.

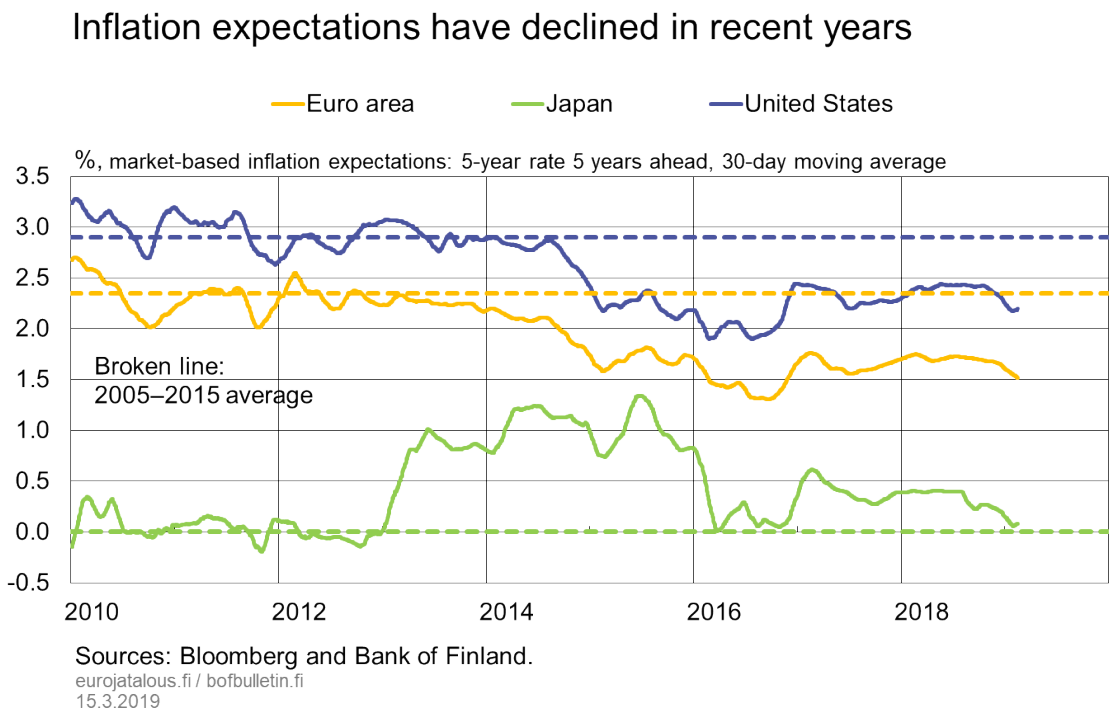
At the beginning of the 1990s, a group of central banks – Finland included in 1993 – adopted as their monetary policy regime a flexible inflation-targeting strategy. Underlying the regime switch was a change in the perception among economic researchers in that the most efficient way to manage inflation was by making a commitment to an inflation target.[5]

The strategy of flexible inflation targeting typically contains three elements: 1) a publicly announced numerical inflation target; 2) pursuit of the inflation target over the medium term; and 3) transparent central bank activities and accountability.[6]

The influence of a flexible inflation-targeting strategy is predominantly based on the central bank's aspiration to steer inflation expectations so they are consistent with the monetary policy objectives. Through its strategy, the central bank shows its commitment to a consistent monetary policy, the objective of which is to stabilise inflation to close to a specific target. This way the central bank can anchor inflation expectations to its inflation target, and this is the fundament on which the strategy and effectiveness of monetary policy are largely based.

With the introduction of a flexible inflation target strategy, central banks by and large achieved their respective price stability objectives. During the 1990s, inflation declined to around 2% and fluctuated only slightly in the major economic regions (Chart 1). However, in the era of a flexible inflation target strategy, monetary policy has been faced with the challenge of inflation being persistently lower than the target. In Japan, inflation has averaged 0% over the past 25 years, while in the euro area and the United States it has been subdued in the past 5 years. The post-crisis period has been particularly characterised by a moderation of underlying inflation in the euro area to around 1% (Chart 2). An analysis of the past 50 years shows that the situation is exceptional, as central banks have previously been tackling the problem of inflation being too high rather than too low.

Chart 2.

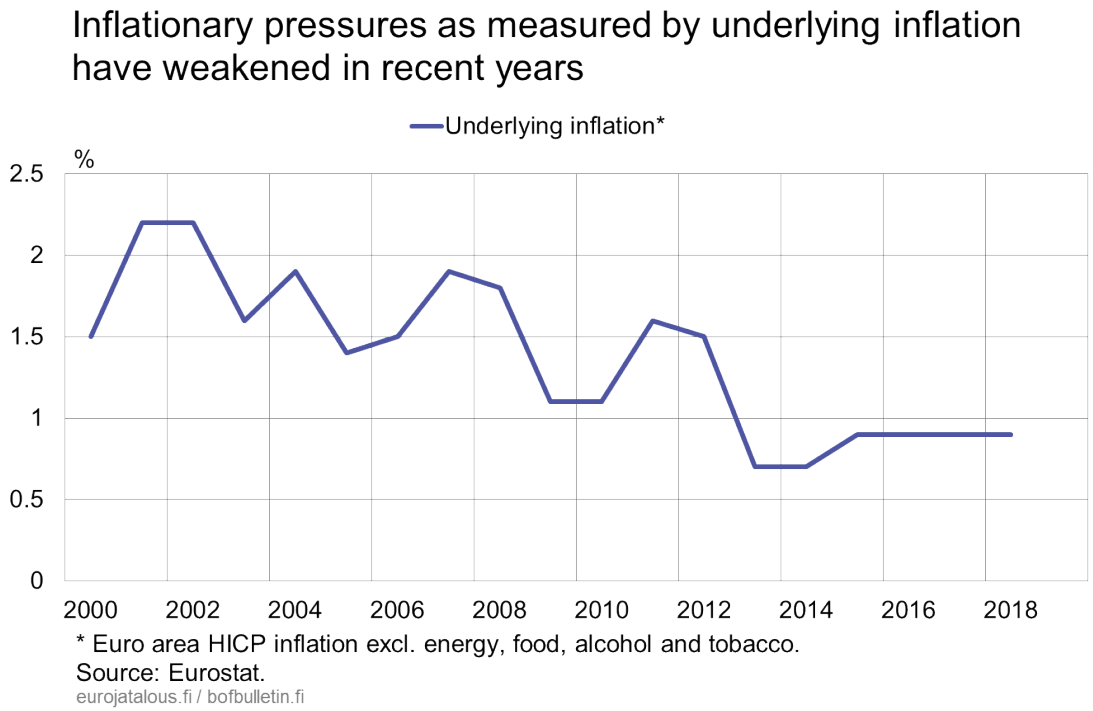


Why should monetary policy strategy be reviewed?

In the flexible inflation-targeting strategy, central banks respond to lower-than-target inflation with accommodative monetary policy – in normal times by lowering the key interest rates. Accommodative monetary policy raises aggregate demand and hence inflation. However, there have been two changes in central banks' current operating environment which have reduced their ability to affect inflation and inflation expectations through this traditional channel.

First, since the financial crisis, short-term nominal interest rates have declined close to zero in all economic areas, and, of advanced economies, only in the United States, the central bank has been able to raise short-term rates significantly from the zero lower bound (Chart 3). One explanation for this may be that there has been a downward level shift in the natural rate of interest, in which case short-term interest rates will remain below their average historical level also over the longer term.[7] Hence, the zero lower bound would also constrain monetary policy in future more than could be concluded based on historical data. In other words, it is likely that cuts in the key interest rates may not stimulate the economy to the same extent as before.

Chart 3.



In the environment of the zero lower bound, central banks have responded to additional stimulation needs with non-standard monetary policy measures, such as extensive asset purchases. These unconventional measures have had a positive impact on GDP growth and inflation.[8] Nevertheless, inflation may still remain below the central bank's target – as has been the case in Japan. At present, it is still unclear whether non-standard monetary policy measures can adequately stimulate the economy in all cases.

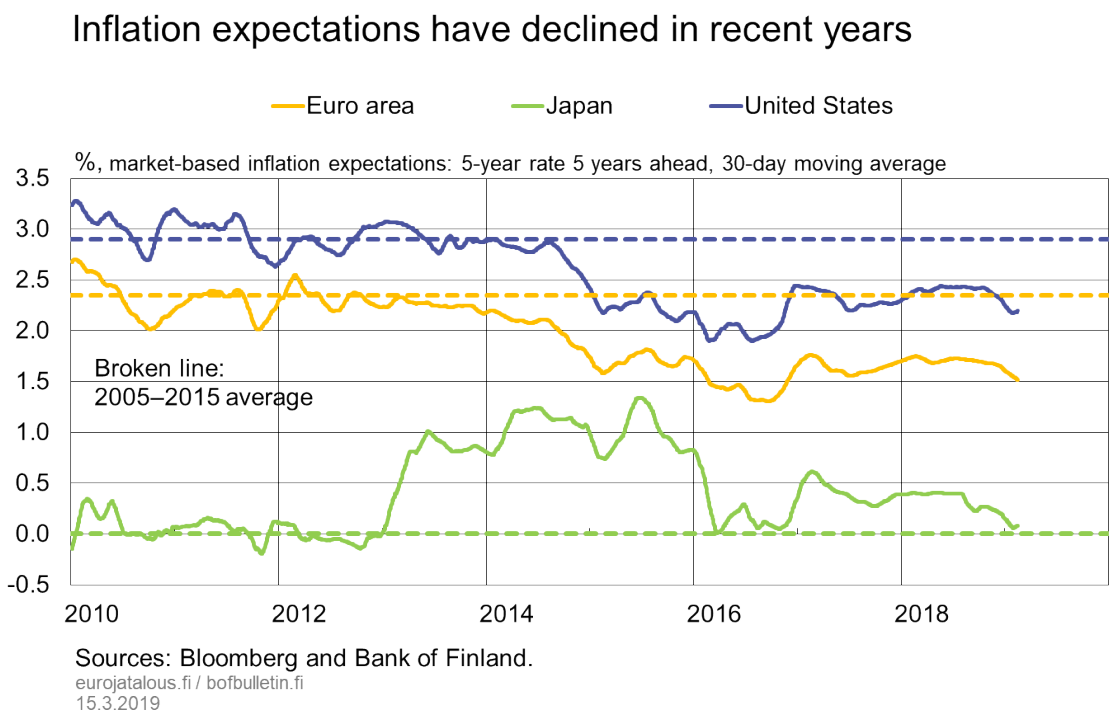
When monetary policy is constrained by the zero lower bound, the central bank can announce that it will continue the conduct of accommodative monetary policy for a longer period than under normal conditions. Central banks have used this forward guidance extensively and successfully in recent years. Forward guidance that is tied to the continuation of the low-interest-rate policy and quantitative easing, i.e. extensive asset purchases, have pushed interest rates down and smoothened the yield curve so that long-term interest rates are also at a record low. In the United States, this policy has been effective, which has enabled the central bank to move to a path of gradual normalisation of monetary policy. The central bank has raised interest rates and has started to unwind its balance sheet. In the United States, monetary policy strategy, tools and communication can be reviewed in the conditions of full employment and price stability without the debate being affected by the current monetary policy stance.

Secondly, it appears that the slope of the Phillips curve has possibly declined. This means that

aggregate demand (economic activity), or variables fundamentally affecting it, such as unemployment, impact inflation less than before. If changes in aggregate demand have a smaller impact on inflation than before, monetary policy should be applied to bring about greater changes in aggregate demand than before, in order to achieve the required effect on inflation. This is significantly hampered by the fact that the zero lower bound on nominal interest rates has reduced the leeway for monetary policy to influence aggregate demand.

If the central bank's ability to stimulate the economy is constrained, inflation will naturally deviate from the target level. This is not necessarily a temporary phenomenon – achievement of the inflation target may also be hampered in the longer term. This is due to the weakening of inflation expectations, reflecting lower-than-target inflation. If economic agents realise that the zero lower bound on nominal interest rates significantly constrains the ability of monetary policy to push up inflation, inflation expectations will weaken.[9] As a result, lower-than-target inflation will remain permanent. Lower inflation expectations also make it increasingly difficult to push up inflation during downturns, as inflation is slowed by not only low aggregate demand but also by subdued inflation expectations. The decline in inflation expectations may thus be one of the reasons behind the recent slower-than-expected rate of inflation (Chart 4).[10]

Chart 4.



If there is a threat of a scenario as described above, central bank can temporarily overshoot its

inflation target. A period of inflation that is temporarily lower than target would thus be followed by a period in which inflation is higher than target. As a result, both average inflation and inflation expectations would be consistent with the central bank's target.[11]

To achieve higher-than-target inflation, it has been proposed that central banks transition to a price level target, in which case the central bank would compensate lower-than-target inflation with higher-than-target inflation in future to remain on target. Monetary policy would thus also respond to past deviations of inflation from the target. The advantage of price-level targeting is that, if there is confidence in its effectiveness, it would change expectations on the future path of inflation in the direction desired by the central bank when inflation is higher or lower than target. This would improve the effectiveness of monetary policy. No central bank has thus far announced that it will apply a permanent price-level targeting regime. Its advantages over flexible inflation targeting are estimated as marginal under normal conditions. It has, however, been estimated that the advantages of price-level targeting would be larger at the zero lower bound. This is based on the stabilising impact of price-level targeting on aggregate demand as expected real interest rates decline in an environment of slowing inflation.[12]

As price-level targeting would seem to include substantial advantages at the zero lower bound, but in normal times, an inflation-targeting monetary policy would be more flexible – the idea of temporary price-level targeting has been proposed. When monetary policy is constrained by the zero lower bound on the nominal interest rates, the central bank would promise to keep inflation higher than target until the lower-than-target inflation would be fully compensated. Subsequently, the central bank would return to the inflation-targeting monetary policy regime.[13]

Temporary price-level targeting can also be interpreted as an extension of the flexible inflation-targeting regime, achieving it by applying the policy of average inflation targeting.[14] In this case, the inflation target is interpreted as symmetrical and the emphasis of monetary policy is rather on the past performance of inflation. This prevents the inflation target and, before long, also inflation expectations from falling. If the central bank, in its conduct of monetary policy, pays more attention to higher-than-target inflation, there is a risk of a decline in the effective inflation target.[15] The average inflation targeting regime complements the flexible inflation targeting strategy by introducing predictable monetary policy to an environment of low inflation.

Commitment to one of the monetary policy options described above requires adjustments to the monetary policy strategy, or at the least refinements. This is due to the fact that the central bank’s pursuit of temporarily higher-than-target inflation without a credible strategy could create a time inconsistency problem with the flexible inflation targeting strategy. Thus, the strategy options described above are effective only if the central bank is committed to them in a credible manner.

Raising the inflation target has also been proposed as a solution for the zero lower bound constraints.[16] This would relax zero lower bound constraints, due to higher average nominal interest rates. However, inflation could still be lower than the central bank's target, reflecting the possible zero lower bound constraints. In this sense, raising the inflation target does not necessarily resolve the problem posed for monetary policy by the zero lower bound constraints. The costs of a higher inflation target to economic efficiency would also be greater.

Some central banks are already reviewing their monetary policy strategies

The monetary policy strategies of key central banks can be considered as different versions of the flexible inflation targeting strategy. This strategy has turned out to be effective in the sense that high and volatile inflation has become moderate and stable. A good historical outcome does not, however, guarantee that the same monetary policy strategy will also be successful under different conditions. This is reflected in the fact that central banks have adjusted their monetary policy strategies over time to achieve their price stability objective.

It remains to be seen whether central banks will consider it necessary to adjust their monetary policy strategies. Central banks may also come to the conclusion that the current slower-than-target inflation only shows that, in future, they must use their policy tools more aggressively. Moreover, the period of low inflation may turn out to be temporary. In that case, the low rate of inflation could be due to reasons other than monetary policy strategy, for example, larger-than-expected economic slack.

In the current operating environment, the key monetary policy challenges are low interest rates and lower-than-target inflation. As stated above, the zero lower bound has already had an adverse effect on the effectiveness of monetary policy. This may have been reflected as a low level of inflation expectations and actual inflation. From this perspective, it is well justified for central banks to review their strategies. Many central banks have indeed launched a review or have already reviewed their monetary policy strategy.[17] Some central banks review their strategy regularly, whereas others conduct a discretionary review at various points in time. The longer it takes for the monetary policy strategy to take into account changes in the operating environment, the higher the cost to the economy. Thus, there is scant justification why monetary policy strategy should not be reviewed from time to time.

References

Bernanke, B. – Kiley, M. – Roberts, J. (2019) Monetary policy strategies for a low-rate

environment. Finance and Economics Discussion Series, No. 2019-009, Federal Reserve Board.

Bernanke, B. (2017) Temporary price-level targeting: An alternative framework for monetary policy. Brookings Blog, available here.

Clarida, R. – Gáli. J. – Getler M. (1999) The science of monetary policy: A new Keynesian perspective. Journal of Economic Literature, Vol. XXXVII, pp. 1661–1707.

Coenen, G. – Orphanides, A. – Wieland, V. (2004) Price Stability and Monetary Policy Effectiveness when Nominal Interest Rates are Bounded at Zero. The B.E. Journal of Macroeconomics, vol. 4, No. 1, pp. 1–25.

Dell'Ariccia, G. – Rabanal, P. – Sandri, D. (2018) Unconventional Monetary Policies in the Euro Area, Japan, and the United Kingdom. Journal of Economic Perspectives, vol 32, No. 4, pp. 147–172.

Friedman, M. (1968) The role of monetary policy. The American Economic Review, vol LVIII, No. 1, pp. 1–17.

Gaspar, V. – Smets, F. – Vestin D. (2007) Is time ripe for price level path stability?. Working Paper Series, No. 818, European Central Bank.

Hills, T. – Nakata, T. – Schmidt, S. (2018) Effective Lower Bound Risk. Mimeo. Available here.

Kydland F. – Prescott E. (1977) Rules Rather than Discretion: The Inconsistency of Optimal Plans. Journal of Political Economy, Vol. 85, No. 3, pp. 473–492.

Lyziak, T. – Paloviita, M. (2017) Formation of inflation expectations in turbulent times: Can ECB manage inflation expectations of professional forecasters? Research Discussion Papers 13/2017, Bank of Finland.

Mertens, T. – Williams, J. (2019) Monetary Policy Frameworks and the Effective Lower Bound on Interest Rates. Staff Reports No. 877, Federal Reserve Bank of New York.

Nakata, T. – Schmidt, S. (2019) Gradualism and liquidity traps. Review of Economic Dynamics, vol 31, pp. 182–199.

Paloviita, M. – Haavio, M. – Jalasjoki, P. – Kilponen, J. (2017) What does "below, but close to, two percent" mean? Assessing the ECB's reaction function with real time data. Research Discussion Papers 29/2017, Bank of Finland.

Summers L. – Wessel D. – Murray J. (2018) Rethinking the Fed's 2 percent inflation target.

Hutchins Center on Fiscal & Monetary Policy at Brookings, June 2018.

Svensson, L. (1999) Price-Level Targeting versus Inflation Targeting: A Free Lunch?. Journal of Money, Credit and Banking, vol. 31, No. 3, pp. 277–295.

Svensson, L. (2010) Inflation Targeting. Handbook of Monetary Economics, edition 1, volume 3, chapter 22, pp. 1237–1302, (ed.) Benjamin M. Friedman & Michael Woodford, Elsevier.

Reifschneider, D. – Willams, J. (2000) Three Lessons for Monetary Policy in a Low-Inflation Era. Journal of Money, Credit and Banking, vol. 32, No. 4, pp. 936–966.

Woodford, M. (2003) Interest & prices. Princeton University Press.

Notes

1. In the case of the ECB, however, the operational definition of the price stability objective is part of the strategy specified by the ECB. The ECB's monetary policy strategy is described here. ↑
2. See Clarida – Gáli – Getler (1999) and Woodford (2003). ↑
3. The phenomenon pertains to all aspects of economic policy and is known as the time-inconsistency problem (Kydland – Prescott, 1977). A time-inconsistency problem arises when a central bank wishes to change an already-announced policy ex post. For example, a central bank may target low inflation and unemployment, which are inversely dependent on each other. In an environment of low inflation, the central bank can considerably reduce unemployment by an accommodative monetary policy that stimulates inflation. When economic agents have an understanding of the central bank's temptation to do so, inflation expectations will rise and the economy will run into a situation of high inflation and unemployment. To avoid such a development path, the central bank must commit to a policy of low inflation. ↑
4. The Bundesbank and the Federal Reserve announced targets for growth rates of monetary aggregates starting from 1975, while the Bank of Japan began to announce forecasts for monetary growth rates in 1978. The prominent role of money in the strategies was due to economic research findings which demonstrated that inflation was determined by monetary growth rates. This approach is well presented by Friedman (1968). ↑
5. See e.g. Woodford (2003). ↑
6. These three dimensions are based on Svensson (2010). ↑
7. The fall in the natural interest rate is due to factors independent of monetary policy, e.g. demographic ageing. For more information, see Bank of Finland Bulletin 4/2018. ↑
8. For a summary of research findings, see Dell'Ariccia et al. (2018). ↑
9. See Hills et al. (2018), Reifschneider – Williams (2000), and Coenen – Orphanides – Wieland (2004). ↑
10. For a more detailed analysis of developments in euro area inflation expectations, see Lyziak ↑

– Paloviita (2017).

11. See Nakata – Schmidt (2019). ↑
12. Price level-targeting monetary policy has been analysed by e.g. Svensson (1999) and Gaspar et al. (2007) and the average inflation targeting regime by e.g. Nessen – Vestin (2005). The impacts of the monetary policy options presented here are analysed in more detail in Mertens – Williams (2019). ↑
13. This type of monetary policy is proposed by Bernanke (2017) and its effects are assessed by Bernanke et al. (2019). ↑
14. See Mertens – Williams (2019). ↑
15. See e.g. Paloviita et al. (2017). ↑
16. See Summers et al. (2018). ↑
17. The Federal Reserve announced that it will review its monetary policy strategy (more detailed information available here and in Clarida, 2019); also the Bank of Canada has announced a review of its monetary policy framework (more information available here). The Bank of Japan announced in 2016 a temporary inflation-overshooting commitment, and the Swedish Riksbank adopted in 2017 a new measure for inflation (the consumer price index with a fixed interest rate, CPIF) and at the same time announced a variation band for outcomes for CPIF inflation. ↑

Keywords

monetary policy, monetary policy strategy