

# The quest for nominal stability: lessons from three decades of inflation targeting

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Over the past 30 years, inflation targeting has emerged as the dominant approach to conducting monetary policy. To reflect on this development and draw lessons for the future, Sveriges Riksbank organised a conference on 23–24 May 2024, titled '*The quest for nominal stability: Lessons from three decades with inflation targeting*'. The conference brought together leading researchers, economists, and policymakers to discuss experiences, challenges, and areas for improvement in inflation targeting. This article summarises the presentations and discussions from the conference, highlighting new insights into the role of monetary policy in a changing world and strategies to strengthen the framework for future challenges.

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## 1 Introduction

Inflation targeting has long guided monetary policy in many developed countries and has also become more common in emerging economies. An inflation targeting policy means that the central bank has a numerical target for the inflation rate, set either by the central bank itself or by the country's Government or Parliament. The central bank then independently uses monetary policy instruments – primarily the policy rate – to stabilise inflation around the target.

The Reserve Bank of New Zealand was the first to introduce inflation targeting in 1989. Other central banks, such as the Bank of Canada, the Bank of England, and the Riksbank, followed in the early 1990s, and Norway in the early 2000s. Inflation targeting has proved to be a successful strategy. Until the upturn in inflation in 2021–22, the average rate of inflation in Sweden, Norway and the United Kingdom was around 2 per cent or slightly below, that is, significantly lower than the double-digit levels that characterised the 1970s and 1980s. Even during the high inflation of recent years, caused by historically large and unusual shocks, the inflation targeting regime has helped to moderate inflation without imposing excessively high real economic costs. This is partly due to the fact that inflation expectations have been significantly more stable compared to previous episodes of high inflation.

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This success story, as well as the challenges that inflation targeting has faced over the years, formed the background for a conference organised by the Riksbank on 23–24 May 2024 entitled *'The quest for nominal stability: Lessons from three decades with inflation targeting'*. The conference consisted of six panel discussions, with each panel being initiated by a main speaker who presented a research paper. This was followed by two commentators who gave their views on the paper and related questions, and a general discussion in which all conference participants were given the opportunity to participate. The participants at the conference consisted of academic researchers and economists, as well as decision-makers from central banks and international organisations. The programme for the conference is available in the Appendix.

This article summarises the presentations and discussions at the conference. One of the conference papers, by Lord Mervyn King, is published in full in this issue of the Economic Review.<sup>1</sup>

## 2 Institutions that foster nominal stability

The first panel of the conference discussed the institutional arrangements to foster nominal stability. **Guido Tabellini** (Bocconi University in Milan) presented a paper titled 'Optimal contracts and inflation targets revisited' written together with **Torsten Persson** (the Institute for International Economic Studies at Stockholm University). The starting point of the paper is the research conducted during the 1970s, 1980s and 1990s to analyse the causes of high inflation and how institutions can be designed to reduce the likelihood of high inflation.

Inflation targeting was introduced in several countries during the late 1980s and early 1990s, after a period of high and variable inflation. A central idea in the academic literature that underpinned the reforms was that high inflation was not a policy mistake but a result of systematic incentives. The view was that it paid off for politicians to stimulate the economy in the short term, which, however, led to higher inflation. In this way a so-called 'inflation bias' arose. The main objective of introducing an inflation target delegated to an independent central bank was to create incentives for those who governed the central banks to focus on low and stable inflation. Thirty years later, we can conclude that the new framework gave credibility to low inflation.

However, after the global financial crisis of 2008–09, a new problem arose, that inflation was instead too low. As it was not considered possible to lower the policy rate sufficiently far below zero per cent, the central banks' most important tool was constrained. This made it difficult for central banks to conduct monetary policy that was sufficiently expansionary to make inflation rise toward the target. The question posed by Persson and Tabellini is how institutions should be designed not only to keep inflation and expectations low during normal times but also to keep inflation

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<sup>1</sup> Most papers and presentations from the conference are available on the Riksbank's website: [The quest for nominal stability: Lessons from three decades with inflation targeting 23–24 May 2024 | Sveriges Riksbank](#). Video recordings from the various panel discussions are also available on the website.

expectations up during periods when monetary policy is constrained and cannot be made sufficiently expansionary.

The previous academic literature has analysed a one-sided credibility problem that deals with measures to avoid excessive inflation. In their paper, Persson and Tabellini analyse a situation with another credibility problem – avoiding inflation becoming too low. They use a simple model in which production and demand in an economy are determined and influenced by one another, by monetary policy and by various shocks. The role of monetary policy is to stabilise inflation and resource utilisation when shocks occur. At the same time, monetary policy faces two credibility problems.

On the one hand, what is called an *inflation bias* arises, which means that the central bank, in the absence of binding commitments, tends to conduct an overly expansionary monetary policy. This is because the equilibrium level of economic activity is often considered to be lower than the level the central bank seeks to maximise welfare. To try to raise activity to a higher level, the central bank stimulates the economy, which leads to higher inflation than is compatible with the inflation target.

On the other hand, there is another credibility problem that concerns a *deflation bias*. This problem arises when the central bank faces a lower bound for the policy rate and is unable to lower the interest rate sufficiently to stimulate the economy in the event of major negative shocks. The result is a situation with too low inflation and sometimes deflation, which can exacerbate economic downturns and lead to a deeper recession.

Persson and Tabellini first show that if a central bank, acting in an economy with these dual credibility problems, is able to commit itself to an optimal monetary policy, the average inflation rate will be higher than the inflation target. However, if the central bank cannot commit itself (that is, it acts under *discretion*), the outcome becomes more uncertain. Average inflation can either exceed or fall below the inflation target, depending on which of the two credibility problems weighs the heaviest. For example, the inflation bias may dominate if the central bank prioritises increasing resource utilisation, while deflation bias may dominate if the lower bound is binding with sufficiently high probability. This result is similar to insights in previous studies, for example Eggertsson and Woodford (2003).

The new issue analysed by Persson and Tabellini is how a contract between the central bank's principal ('the state') and a central bank acting under discretion in an environment with these two credibility problems can best be designed. The principle is to give the central bank incentives to act in such a way that the economy develops as close as possible to the commitment solution.<sup>2</sup> Persson and Tabellini show that such a contract means the central bank shall only be held liable when the interest rate is above its lower bound. The contract can also include both rewards and penalties, depending on how likely it is that the interest rate reaches the lower bound. If inflation deviates from the target, for example, the state can 'punish' the central

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<sup>2</sup> Persson and Tabellini (1993) and Walsh (1995) analyse optimal contracts in an environment with only the classic inflation bias problem.

bank. If the probability of the policy rate hitting its lower bound is higher (or if the consequences are worse), the central bank should place greater emphasis on avoiding high inflation. This is similar to the traditional inflation targeting policy, but with a higher inflation target.<sup>3</sup>

How much higher should the inflation target be? The model in the paper is too simple to give a complete answer, but a calibration shows that the optimal inflation target can be between 2.5 and 3 per cent if the ‘true’ target is 2 per cent. The analysis also shows that one should only hold the central bank responsible for reaching the inflation target when the policy rate is above its lower bound, and that the central bank should attach equal importance to inflation above and below the inflation target.

Finally, Persson and Tabellini discuss possible directions to expand the analysis. Among other things, they advocate that the central bank should take financial stability into account in monetary policy. For example, quantitative easing can be used to reduce the risk of financial crises, but it can also create vulnerabilities if too much liquidity is created in the economy.

The paper was commented on by **Carl E. Walsh** (University of California, Santa Cruz) and **Donald Kohn** (Brookings Institution and former Vice Chair of the Board of Governors of the Federal Reserve System). **Walsh** agreed that it is important to take into account the incentives of decision-makers when studying how central banks should be governed, and argued that the analysis of Persson and Tabellini raises many new questions about how to design institutions in more complicated contexts than those analysed in the previous literature. Walsh said that there are also questions about how monetary policy can be made more robust against uncertainty, how central banks communicate about monetary policy and its possibilities, and what is the optimal level of the inflation target, because different agents in society are affected in different ways by inflation.

**Kohn** discussed four conclusions from the paper, partly in light of the Federal Reserve’s reviews of its monetary policy strategy.<sup>4</sup> One conclusion is that monetary policy and the fulfilment of inflation targets should only be evaluated when the central bank has not been limited by the lower bound of the policy rate. Kohn argued that this is similar to the Federal Reserve strategy with an average inflation target, where the aim is for inflation to be above the target if it has been below the target for some time. A second conclusion is that the inflation target should be raised to reduce the risk of hitting the policy rate’s lower bound. Kohn pointed out that it is important to take into account that higher inflation entails costs, such as the increased difficulty in interpreting the signals sent by price changes in a market economy. A third conclusion is that monetary policy needs to take financial stability into account. Here, Kohn believed that there are risks, such as inflation being too low, so it is better to develop macroprudential instruments to manage risks to the financial stability. It is

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<sup>3</sup> Svensson (1997) has previously shown that an optimal central bank contract can be likened to an inflation target.

<sup>4</sup> The Federal Reserve conducts a review of its monetary policy strategy every five years. The next review is planned for 2025.

possible that quantitative measures can be tailored to manage financial stability risks without major effects on inflation and output. Finally, the fourth conclusion is that the accountability differs, depending on the regime in which the central bank has been. Kohn said that this would be very complicated in reality. Kohn also believed that accountability is in practice not so much about the design of contracts, but rather about public hearings, appointments and external evaluations (as in Sweden), and that the central bank's communication needs to be effective and directed towards more target groups.

### 3 Flexible inflation targeting

The second panel discussed how 'flexible' inflation targeting should be, that is, how much weight monetary policy should give to stability in inflation relative to the real economy. **Michael Woodford** (Columbia University in New York) presented a paper titled 'Flexible inflation targeting as optimal stabilization policy' written together with **Gauti Eggertsson** (Brown University).

The paper is based on an analysis made by Svensson (1999), which shows that an optimal monetary policy with a flexible inflation target can be described as a 'target criterion', where the central bank strikes an optimal balance between inflation and real economic stabilisation, rather than as a simple rule for the central bank's policy rate. However, the exact nature of the optimal balance, and which measure of real economic stability should be used, depend on the underlying model that is used. In early theoretical analyses of flexible inflation targeting, the importance of real economic stability was relatively small (see Woodford 2010).

Eggertsson and Woodford begin by showing how an optimal monetary policy looks in a simple New Keynesian model with sticky prices, in which monetary policy is designed to maximise the welfare of an average household. In this type of model, the measure of the real economy to which monetary policy is to be adjusted will be given by an output gap, that is, how aggregate output deviates from its efficient level, and inflation will develop proportionally to the change in the output gap rather than to its level. The weight of the output gap is determined by how often firms can change their prices and how close substitutes different goods in the economy are. A typical calibration of the model implies that the weight placed on real economic stability is low. This means that the main task of the central bank is to keep inflation stable around the target.

They then extend the analysis in different directions to see how the optimal target criterion for monetary policy is affected by assumptions in the model. They first analyse a model in which the degree of substitutability between different types of goods within a given sector differs from the degree of substitutability between different sectors (the latter being significantly lower than the former). Such a model implies that the central bank should put a larger weight on stabilising the real economy than in the simple model with the same degree of substitutability between all goods.

Next, Eggertsson and Woodford analyse a model where different sectors have different levels of productivity and where firms change their prices if productivity has changed sufficiently. This extension of the basic model provides a more realistic description of how firms change their prices. In the basic model, the time when firms change their prices is random, with no connection to economic fundamentals. In the extended model, firms alter their prices when they deviate sufficiently from economic determinants. In other words, it is optimal for firms to set different prices in different sectors, depending on their respective productivity. Eggertsson and Woodford show that the design of the optimal target criterion is similar to that of the basic model, although it is more complex, and that the implications for monetary policy are modest.

Finally, Eggertsson and Woodford develop a model in which household income volatility varies between households, and where households cannot fully insure themselves against variation in income. In this model, households' expected future income (and their permanent income) play an important role. The central bank should allow inflation to rise if household income more persistently is expected to be lower than anticipated, and allow inflation to fluctuate even if the efficient level of output changes (unlike in the simple model). The importance of real economic stabilisation is also higher than in the simplest New Keynesian model.

Eggertsson and Woodford conclude that in all the extensions of the simple New Keynesian model they study, the optimal monetary policy can be described as a relationship between inflation and the real economy, as in Svensson (1999). However, the importance of stabilising the real economy may be considerably greater than in the simple model, and there may be reason for monetary policy to respond to changes in the efficient level of production if income changes are expected to be persistent. One result that does not change, however, is that inflation should optimally depend not on the level of output (or output gap) but on its rate of change.

The paper was commented on by **Lucrezia Reichlin** (London Business School) and **Christopher J. Erceg** (the International Monetary Fund). **Reichlin** began by noting that the result of the paper is a strong defence of rule-based policy. Not for so-called simple rules that specify exactly how the policy rate should be set as a function of a few macro variables (such as a Taylor rule), but for criteria that describe how the different target variables of the central bank should be related to one another (a target criterion). It is then important that the central bank clearly explains and communicates its decisions in relation to changes in the economy, in the structure of the economy and in response to shocks. She also pointed out that there have been major changes in relative prices in recent years, especially following supply shocks that have different effects on different sectors, and emphasised that the monetary policy trade-off will be particularly difficult after shocks to energy prices. More research is therefore needed to understand the drivers and consequences of these relative price changes.

**Erceg** noted that the importance that monetary policy places on the real economy compared to inflation is particularly important after supply shocks, and that these have become more common following the pandemic. Therefore, more research is

needed to better understand what is a correct weight, and not let assumptions in the model determine the weight a priori. It is therefore also useful to combine welfare analysis (which Eggertsson and Woodford use) with analysis where one can more freely choose the weight that the central bank gives to real economic stabilisation, as in Svensson (2007).

## 4 Inflation targeting and financial stability

The next topic discussed at the conference was whether and how monetary policy should take financial stability into account. Central banks are usually responsible for both price stability and financial stability, the latter often including a stable payment system. A long-standing debate has been about whether central banks should explicitly take financial stability into account in their monetary policy decisions and, if so, how this should be done. One example is the strategy of ‘leaning against the wind’, which means that the central bank deliberately maintains a higher policy interest rate than otherwise to reduce risks to financial stability, for example in the event of rising asset prices or a rapid increase in household or corporate debt.

**Franklin Allen** (Imperial College London) presented a paper titled ‘Inflation targeting and financial stability’, written with **Jae Hyoung Kim** and **Ansgar Walther** (both at Imperial College). They note that prior to the global financial crisis, economists were typically sceptical about the idea that monetary policy should take financial stability into account, but that this view was reassessed after the financial crisis and that many now argue that financial stability needs to be an explicit objective for monetary policy as well. They also note that Norges Bank’s central bank act gives greater importance to financial stability than the Sveriges Riksbank Act, which sees price stability as the overriding objective of monetary policy.

A central question is whether and how other policy areas can address problems with financial stability if monetary policy does not do so, and how effective such ‘macroprudential regulation’ is in practice. Allen and his co-authors see no strong support for macroprudential policy being effective enough. They take as an example the situation in China, where the real estate market developed dramatically over the years from the early 2000s until 2023, with very large increases in real estate prices, despite the fact that the authorities have introduced many different regulations to dampen this development. One reason why the regulations have not been sufficient is that the stock market in China is relatively undeveloped, which means that investments in the stock market have yielded much lower returns than the real estate market. They conclude that the authorities need to take into account the entire financial system in order to design effective regulations.

Allen and his co-authors also note that one alternative for central banks to ‘leaning against the wind’ is to ensure that there is sufficient liquidity in financial markets, thereby reducing the risk of financial instability. If banks face bank runs, the central bank can help the banks by providing liquidity. The authors illustrate this in a simple theoretical model. The cost of achieving financial stability may then be that inflation is higher, which in the model is good because it distributes the risks broadly in the

economy. The model does not capture the costs that can arise from high inflation, and nor does it capture frictions that create greater costs from financial crises. If the cost of a crisis is greater than the cost of high inflation, it may be beneficial to use liquidity instruments to increase stability. The mandate of the central bank should therefore take into account both price stability and financial stability.

**Frank Smets** (European Central Bank, now Bank for International Settlements) and **Ida Wolden Bache** (Governor of Norges Bank) commented on the paper. **Smets** began by noting that the discussion is a continuation of the one held at a conference at the Riksbank in 2013, where he himself presented a paper on monetary policy and financial stability (see Smets 2013).<sup>5</sup> In that paper, Smets described how the view of the relationship between monetary policy and financial stability had been affected by the experiences during the global financial crisis, and that it was possible to identify three different views on what conclusions could be drawn. Among the first category were those who considered that the view was largely unchanged, that is, that monetary policy and financial stability were separate policy areas, with different instruments. In the second category, there were those who believed that the crisis showed the value of ‘leaning against the wind’, that is, incorporating financial stability considerations into monetary policy decisions. In the third and final category, there were those who argued that the two policy areas cannot be distinguished, and that the very definition of financial stability includes price stability. Smets argued that Allen’s analysis belonged to the third category. At the same time, Smets pointed out that the monetary policy that Allen analyses in his theoretical model is actually liquidity policy. Smets then discussed the ECB’s strategy review in 2021, saying that he believes that elements from all three approaches can be found in the ECB’s strategy. For the ECB, price stability is the primary objective, and financial stability risks should be addressed primarily by macro and micro-prudential regulation. But he also noted that financial stability and price stability are prerequisites for one another. Financial stability risks are primarily managed in the medium term, and how monetary policy reacts to such risks depends on the circumstances. The ECB therefore does not pursue a systematic policy of ‘leaning against the wind’ in the short term.

As regards the question of whether macroprudential policy is sufficiently effective, Smets considered that there is clear support in the research literature for this to be the case. At the same time, there are in practice problems with so-called ‘inaction bias’, that is, that policymakers are reluctant to tighten regulation, and ‘leakage’, that market participants are able to circumvent the regulations. The most important thing in order to maintain financial stability then is that the banks meet high requirements in terms of capital and liquidity buffers, and regulations are more effective than monetary policy in managing stability risks. Finally, he noted that liquidity measures may be a way of managing financial stability risks, but that more discussion is needed on whether it is possible to distinguish between measures aimed at making monetary policy more expansionary and those aimed at supporting the transmission of monetary policy.

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<sup>5</sup> The discussions at the 2013 conference are summarised by Berg et al. (2013).



**Wolden Bache** first noted that the monetary policy mandates of Norges Bank and Sveriges Riksbank, in terms of monetary policy and financial stability, are perhaps less different than one would assume from reading the central bank acts alone; price stability is the overriding objective also in Norway. She stressed that financial regulation and supervision are the first line of defence to ensure financial stability, but that although macroprudential measures are important, they have limitations when it comes to fine-tuning credit cycles or dealing with bubbles in specific markets. Therefore, Norges Bank includes financial stability considerations in its monetary policy decisions as part of its risk management strategy.

Norges Bank has been clear that it leans against the wind if necessary, for example in 2016–17 and early 2022. Wolden Bache concluded by noting that financial stability considerations have not been a prominent factor in monetary policy in recent years, but that they may become relevant in the future depending on how the economy develops, what risks are judged to arise and how effective other tools are judged to be. She emphasised the importance of carefully weighing costs against the benefits of possible interventions and of having a holistic view of both macroprudential and monetary policy.

## 5 Inflation targeting and exchange rates

The fourth panel of the conference dealt with how monetary policy should be conducted in open economies when there are large movements in commodity prices and fluctuations in the exchange rate have a major impact on the economy. **Silvana Tenreyro** (London School of Economics, former external member of the Monetary Policy Committee at the Bank of England) began by presenting a paper titled ‘Commodity shocks with diverse impacts: how can different central banks tailor their policies?’, written together with **Thomas Drechsel** (University of Maryland), **Michael McLeay** (Bank of England) and **Enrico D. Turri** (London School of Economics).

In this paper, Tenreyro and her co-authors analyse how a central bank should conduct monetary policy in an environment with high volatility in commodity prices, and how the conclusions depend on whether the economy is an advanced economy or an emerging economy, and whether the economy exports or imports commodities. By advanced economy they mean a country whose borrowing costs on international capital markets are less sensitive to the amount of foreign currency debt that the country has, while the borrowing costs of emerging economies are more sensitive. They expand a New Keynesian model of a small open economy based on Svensson (2000) by including commodities traded globally that are used for both consumption and as inputs in other production. The model also takes into account that the conditions for foreign borrowing are affected by the fluctuations in commodity prices and whether the country exports or imports commodities, and that the conditions are more affected in emerging economies than in advanced economies. The authors study alternative ways of conducting monetary policy – fixed exchange rates or flexible exchange rates with an inflation target – when economies suffer shocks to commodity prices, and compare with a policy that maximises household welfare.

The authors show that a traditional inflation targeting policy with a flexible exchange rate is typically better than a fixed exchange rate policy. This applies to advanced economies, whether they export or import commodities, and to emerging economies that export commodities. A flexible exchange rate then helps to reduce the volatility in inflation and output. However, for emerging economies that import commodities, a fixed exchange rate is better, as it suppresses the effects on the economy of fluctuations in import prices. But in most economies, the authors argue that there are advantages in allowing the exchange rate to vary and focusing monetary policy on stabilising the domestic economy.

In her presentation, Tenreyro noted that the model they use concerns a small open economy, where the exchange rate is primarily affected by domestic monetary policy. In a multi-country model, there may be reason to coordinate policies between countries to achieve a development that is good for many countries. And to deal with issues of geopolitics and climate change, other types of models with policy tools such as taxes and subsidies are needed to influence investment, trade and situations where there is a shortage of important inputs.

The paper was commented on by **Maurice Obstfeld** (Peterson Institute for International Economics) and **Andréa Maechler** (Bank for International Settlements). **Obstfeld** began by putting the paper into a larger context by recalling the so-called ‘impossible trinity’, that is, that countries that choose a fixed exchange rate in a world with free capital movements must give up their monetary policy autonomy, and cannot simultaneously have other nominal targets, such as domestic price stability. However, research in recent years has asked how costly it is in practice to hold on to a fixed exchange rate or, conversely, what the value of a flexible exchange rate is, especially with regard to other objectives such as stability in inflation and the real economy or financial stability (see Rey 2013). Obstfeld noted that the paper makes an important analysis that fits well into the current debate. The analysis shows that independent monetary policy has a great value for most small open economies. However, he questioned the assumption that fixed exchange rates are entirely credible. This can imply that the benefits of a fixed exchange rate are exaggerated. In practice it is unlikely that fixed exchange rates are perfectly credible, neither in emerging economies nor in advanced economies. One alternative would be to assume that the risk premium in financial markets is affected by the credibility of the exchange rate regime. This would affect how the economy reacts to various shocks.

Another important issue to consider is that commodity price fluctuations do not occur in a vacuum, but are often driven by other shocks in the global economy, such as changes in monetary policy in large countries. This would make a flexible exchange rate even more attractive; if a tightening monetary policy globally increases the risk premium for emerging economies, a weakening of the exchange rate will dampen the negative effects on the domestic economy. Obstfeld concluded by noting that the analysis generally shows that inflation targeting with a flexible exchange rate is a good strategy, and that it supports the political choices that have been made in many emerging economies.

**Maechler** pointed out that the paper analyses a very topical issue: How robust monetary policy frameworks are in the event of supply disruptions when financial channels are important. She noted, however, that currency interventions are an additional possible tool for central banks in small open economies, and that emerging economies in particular have increased their foreign exchange reserves dramatically over the past 20 years. This also seems to have dampened the effect of various shocks to these economies. Currency interventions can thus be an important complement to monetary policy to stabilise the exchange rate and improve the trade-off between stabilising inflation and the real economy.

Maechler went on to note that debt has increased in many economies, in both advanced and emerging economies. The analysis in this paper focuses on countries' indebtedness in foreign currency, but also indebtedness in domestic currency has increased. It is therefore important to better understand how debt in general affects risk premiums and macro-financial stability.

## 6 Monetary and fiscal policy

The next panel discussed the interaction between monetary policy and fiscal policy. **Olivier J. Blanchard** (Peterson Institute for International Economics) presented a paper titled 'Fiscal policy as a stabilization tool. The case for quasi-automatic stabilizers'. Blanchard began by noting that much research on stabilisation policy has focused on monetary policy, particularly inflation targeting, but that insufficient focus has been given to fiscal policy. In the most common model of monetary policy analysis, fiscal policy is not needed to stabilise the economy; this can be done by monetary policy, while fiscal policy adjusts to the monetary policy conducted. In practice, however, there are many frictions that require fiscal policy to take an active role. For example, it is more difficult to use monetary policy to stabilise the economy when households face borrowing constraints, if there is sluggishness in real wages or the economy is hit by commodity price shocks, or when the policy rate is approaching its lower bound. In all cases, fiscal policy may be needed as an alternative to monetary policy to stabilise the economy.

The challenges in reality, however, are numerous. Fiscal policy decisions are made by politicians who may have an overly short time horizon. The fiscal decision-making process is often long. Changes in fiscal policy take longer to affect the economy compared to monetary policy adjustments. Automatic stabilisers, which do not require active decisions to operate, are therefore an important part of fiscal policy. Blanchard noted that the impact of automatic stabilisers, which can be large, depends on many factors, such as the progressiveness of the tax system. In such cases, the effect of an automatic stabiliser on the economy is not a conscious choice but rather a by-product.

Blanchard argued for the use of quasi-automatic stabilisers, which are activated when an observable variable, such as GDP or unemployment, reaches a certain threshold

level.<sup>6</sup> To function well, these stabilisers need to meet a number of criteria. They should be debt-neutral over time (so that public debt does not systematically rise or fall); they should stabilise resource utilisation (how output or employment fluctuate around their efficient levels); and they should be responsive and easy to implement. There are many possible tools that can act as quasi-automatic stabilisers. In his presentation, Blanchard focused on the effects of allowing the VAT rate on goods and services to vary depending on how resource utilisation develops. In a simple model, he showed how a time-varying VAT leads to inflation and output being less affected by demand shocks, if the VAT rate is automatically lowered in bad times and raised in good times. He concluded by discussing several aspects of implementation that can be complicated.

**Tommaso Monacelli** (Bocconi University in Milan) and **Signe Krogstrup** (member of the Board of Governors of Denmark's Nationalbank) commented on Blanchard's paper. **Monacelli** first noted that a time-varying VAT rate would have more direct effects on demand than monetary policy, as it directly affects the expenditure of all households in the economy. However, an important question is to what extent changes in the VAT rate are passed on to the final prices of goods and services. Empirical studies suggest that changes in the VAT rate have a limited effect on prices, and therefore mostly affect firms' profit margins. One might also suspect that increases in VAT affect prices more than decreases, as firms are more likely to keep prices at a higher level. **Monacelli** also presented empirical findings suggesting that changes in VAT rates mainly affect demand for durable goods, and such demand tends to fall significantly in recessions, as households experience increased uncertainty about their future. This may make changes in the VAT rate less effective in recessions, which is precisely when you want to stimulate the economy.

**Krogstrup** noted that public debt has increased sharply in many countries since the global financial crisis, limiting the ability to use fiscal policy actively to stabilise the economy. She discussed challenges in implementing a quasi-automatic VAT in practice. If this is based on, for example, an output gap, a large amount of judgement is still needed to determine the potential level of output. Another aspect that she raised was that a time-varying VAT rate will affect inflation, which can complicate monetary policy. She also argued that it can be effective to build buffers in advance to deal with economic disruptions.

## 7 Inflation targeting in practice

The final panel discussed experiences of conducting inflation targeting in practice. **Lord Mervyn King** (former Governor of the Bank of England) presented a paper entitled 'Inflation targets: practice ahead of theory', which is also published in this issue of Economic Review (see King 2025).

King pointed out that inflation targeting has been a successful regime, mainly because it changed the way central banks made monetary policy decisions and communicated

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<sup>6</sup> In his model, Blanchard uses a gap, such as the deviation of unemployment from the natural rate of unemployment.

monetary policy. Transparency and accountability have been key elements of the regime, and are a natural part of monetary policy when there is considerable uncertainty about the monetary policy transmission mechanism.

When inflation targeting was first introduced, the objective was to achieve price stability in general, rather than to reach a specific inflation rate. This was very important after the high inflation of the 1970s and 1980s. Inflation targeting was combined with a gradual increase in the independence of central banks, with monetary policy decisions being made in most cases by a monetary policy committee, and with the central bank being held accountable for its decisions and the fulfilment of its objectives.

However, King is sceptical about the theoretical research literature on monetary policy and inflation targets. Theoretical modelling is useful for illustrating important mechanisms and has, for example, made inflation expectations an important part of monetary policy analysis. But models are always simplifications. And the models that have become dominant among central banks in recent decades have not been able to take account of the complex and growing financial system. They have also created a false impression that monetary policy can control inflation with great precision. The models currently in use often ignore measures of money supply and other nominal variables and their impact on inflation. King argues that this contributed to central banks underestimating the risks associated with the expansionary monetary policies pursued in most advanced economies in 2020–21. Models are also needed that explicitly model the credibility of monetary policy and how it is affected by target fulfilment.

Looking ahead, King sees two major challenges for monetary policy. One challenge is whether central banks will maintain their focus on stabilising inflation. Rising public debt in many countries and the trend toward increased protectionism are likely to lead to higher inflationary pressures and thus a more contractionary monetary policy. And high government debt can lead to increased political pressure on central banks, even if formal independence is not threatened.

A second challenge is to avoid major misjudgements. Because the world is characterised by radical uncertainty, where the underlying structure of the economy is constantly changing, King argued that models are less useful for understanding what is going on. It is therefore important that central banks have a good internal climate for discussion and debate. There is always a risk of 'groupthink', but this risk can be reduced by having a high degree of intellectual diversity within the central bank. In addition, there is a risk that the credibility of the inflation target will be undermined if the central bank is given too broad a responsibility.

King concludes with some suggestions for how to implement inflation targets and monetary policy in future:

- When forecasting inflation and other variables, explore different assumptions regarding the credibility of monetary policy.

- Focus less on the forecast in a main scenario and more on risks around the main scenario. Economic scenarios and uncertainty bands around the forecast are two ways of illustrating uncertainty and risk, and the two approaches can complement one another.
- Refrain from providing guidance on future monetary policy (so-called 'forward guidance'). As economic developments are uncertain, central banks do not know how the policy rate will develop. Monetary policy guidance confuses the central bank's reaction function with its forecast of economic developments and risks reducing the central bank's credibility if the guidance is not followed. It is more important to develop a narrative about the state of the economy, and that narrative will vary over time.
- Publish and discuss statistics on the evolution of monetary variables, in particular the growth rate of broad monetary aggregates.
- Stop publishing detailed minutes of monetary policy meetings. This does not increase transparency, but only leads to the important discussion taking place at other meetings and spontaneous dialogue not coming about.

King's paper was commented on by **Charles L. Evans** (former president of the Federal Reserve Bank of Chicago) and **Carolyn A. Wilkins** (external member of the Financial Policy Committee at the Bank of England and former Deputy Governor of the Bank of Canada). **Evans** focused his discussion on monetary policy under radical uncertainty. He stressed that radical uncertainty changes the rules of the game for monetary policy, requiring new approaches and an increased focus on factors that have been overlooked, and that the best thing a central bank can do when there is radical uncertainty is to analyse alternative scenarios. Unlike King, Evans believes that forward guidance has proved useful, but pointed out that there are different types of forward guidance.

He concluded with a few thoughts on the Federal Reserve's monetary policy. He stressed the importance of anchored inflation expectations and noted that central bank models do not automatically return to two per cent inflation if expectations are not anchored. He pointed out that the increases in the policy rate have been effective in limiting inflationary pressure and that it has been possible to implement a contractionary monetary policy, although it is more difficult to conduct an expansionary monetary policy at the lower bound of the policy rate.

**Wilkins** discussed the limitations of the models used to design monetary policy, the importance of transparency in central bank reaction functions, and how financial stability can support monetary policy objectives. She agreed with King that the model analysis at central banks could be developed, for example by analysing models where credibility can vary over time, develop the supply side, and possibly include monetary aggregates. She also agreed that there are risks with strong guidance on monetary policy because it could damage the credibility of the central bank, and suggested that central banks should communicate more clearly about their reaction function, even if it is not easy.

She also saw that micro- or macroprudential measures can help reduce risks of financial vulnerabilities, although there are many challenges when the financial sector

is developing rapidly. Therefore, central banks may need to develop new tools to support financial stability.

Finally, Wilkins stressed the need for more analysis of the interaction between monetary and fiscal policy, although coordination between the two policies is difficult. Nevertheless, the pros and cons of using asset purchases for monetary policy purposes versus fiscal stimulus can be analysed, and information should be regularly exchanged between the central bank and fiscal authorities to identify situations where fiscal measures may be preferable.

## 8 Concluding remarks

Inflation targeting has emerged over the past thirty years as the dominant strategy for monetary policy, mainly among advanced economies but increasingly among emerging economies. One reason was that earlier regimes with fixed exchange rates in many countries (like Sweden) were not successful in establishing a nominal anchor and contribute to economic stability.

Experience and evaluations show that the inflation targeting policy has been successful. Initially the policy was a recipe for reducing the average inflation rate without stifling economic growth. Later, during the period of very high inflation following the pandemic and Russia's invasion of Ukraine, inflation targeting policy helped to keep inflation expectations anchored around the target. This has facilitated a faster return to the inflation target and reduced the costs to the real economy.

The conference participants agreed that inflation targeting has been a highly successful strategy for achieving nominal stability. However, there are several areas where more research and further development of the framework may be needed. One area concerns the interaction between monetary policy and central banks' responsibility for financial stability. Another area is how monetary policy shall interact with fiscal policy. Additional areas concern how monetary policy should address uncertainty and shocks originating from abroad.<sup>7</sup>

One of the strengths of inflation targeting lies in its flexibility and adaptability in a changing world. Maintaining this success and meeting the challenges of the future will require continued research, innovation and close interaction between theory and practice. Properly adapted to new economic and financial challenges, inflation targeting can remain a cornerstone of stable and sustainable economic development.

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<sup>7</sup> For further discussion, see Hansson et al. (2018) and Jonsson and Vredin (2025).

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## Appendix: Conference programme

Welcome address: **Anna Breman**, First Deputy Governor, Sveriges Riksbank

### **Panel 1: Designing institutional arrangements to foster nominal stability**

Main speaker: Guido Tabellini, Bocconi University  
(with Torsten Persson, IIES, Stockholm University)  
Commentators: Carl E. Walsh, University of California, Santa Cruz  
Donald Kohn, Brookings institution  
Moderator: Jon Faust

### **Panel 2: Flexible inflation targeting**

Main speaker: Michael Woodford, Columbia University  
Commentators: Lucrezia Reichlin, London Business School  
Christopher J. Erceg, International Monetary Fund  
Moderator: Charles Bean, London School of Economics

### **Panel 3: Inflation targeting and financial stability**

Main speaker: Franklin Allen, Imperial College London  
Commentators: Frank Smets, European Central Bank  
Ida Wolden Bache, Norges Bank  
Moderator: Anders Vredin, Sveriges Riksbank

### **Panel 4: Inflation targeting and exchange rates**

Main speaker: Silvana Tenreyro, London School of Economics  
Commentators: Maurice Obstfeld, Peterson Institute for International Economics  
Andréa Maechler, Bank for International Settlements  
Moderator: Karolina Ekholm, Swedish National Debt Office

### **Panel 5: Monetary and fiscal policy**

Main speaker: Olivier J. Blanchard, Peterson Institute for International Economics  
Commentators: Tommaso Monacelli, Bocconi University  
Signe Krogstrup, Danmarks Nationalbank  
Moderator: Tore Ellingsen, Stockholm School of Economics

### **Panel 6: Inflation targeting in practice**

Main speaker: Mervyn King  
Commentators: Charles L. Evans, University of Chicago  
Carolyn A. Wilkins, Griswold Center, Princeton University  
Moderator: Anna Breman, Sveriges Riksbank

### **Organising committee**

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