# RETHINKING MONETARY POLICY

The case for adopting NGDP targeting in Britain

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## About the author

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# Contents

# Summary

- The existing monetary framework of the Bank of England fails to manage supply-side shocks and financial crises effectively, which leads to economic volatility and potential policy errors.

- Targeting the growth path of nominal GDP would provide a more stable and predictable macroeconomic environment by focusing on total nominal spending rather than a rigid inflation target.

- Nominal GDP targeting reduces policy uncertainty by minimising discretionary decision-making, improving transparency, and better anchoring expectations for businesses and financial markets.

- Establishing a nominal GDP futures market could provide real-time guidance for policymakers, while enhanced data collection and market communication would facilitate a smooth transition.

- By stabilising total nominal spending, nominal GDP targeting supports long-term economic stability, reducing volatility in output and employment while ensuring a more growth-friendly policy framework.

- The Bank of England's failure to anticipate inflationary trends has undermined trust in its decision-making. A transparent and predictable nominal GDP-based framework would rebuild confidence in monetary policy.

# Introduction

As many central banks across advanced economies (AEs), including the Bank of England (BoE), undertake comprehensive reviews of their monetary policy frameworks, it is essential to reflect on past regimes to understand how economies evolve over time, so that central banks continue to be effective in carrying out their statutory mandates.

The UK monetary policy environment has changed considerably since the mid-20th century, from the development of economic thought to the changes in policy priorities and the lessons learned from past experiences. Each transition, from the demise of the gold standard to floating exchange rates and, more recently, the introduction of inflation targeting, has been a reactive response to the prevailing economic conditions of the time, whether driven by inflation, financial stability concerns, or geopolitical pressures. Despite these changes, the question must be asked: is there a better framework to ensure long-term price stability and economic growth?

Inflation targeting lies at the heart of the BoE's contemporary monetary policy approach. This regime aims to maintain price stability by keeping inflation close to a medium-term target of 2%. While widely adopted by AE central banks as the global standard, the limitations of this framework have been exposed by financial crises and supply-side shocks. Too often, the BoE has underestimated the influence of fiscal policy and its own balance sheet expansions on inflation trends, contributing to monetary policy decisions that have added to the erosion of real incomes and exacerbated the cost-of-living crisis.

In this paper, I argue for a fundamental rethink of the UK's monetary policy framework. The BoE should implement a framework that targets the growth rate or level path of nominal GDP (NGDP)[1] rather than relying on an inflation target of 2%. NGDP targeting (NGDPT) offers a more transparent, rule-based approach that reduces subjectivity and the risk of policy errors, by looking to stabilise total nominal spending in the economy. In contrast, the current 'constrained discretion'[2] framework gives policymakers considerable flexibility (discretion) to react to fluctuating economic conditions within loosely defined parameters (constraints). By reducing reliance on discretionary decision-making, NGDPT would increase predictability and transparency for financial markets, thereby regaining any lost credibility of the BoE.

To support this argument, this paper first looks at the development of UK monetary policy. Up until the late 1960s, the postwar Keynesian consensus — with its strong focus on demand management to stabilise economic activity — dominated economic thinking. However, its increasing inability to deal with rising inflation expectations, and the breakdown of the Phillips Curve trade-off between inflation and unemployment in the 1970s, added to the economic turbulence of the decade. The stagflation of the late 1970s, characterised by high inflation and low output growth, further eroded confidence in Keynesian economics, which had already begun to unravel

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1    NGDP is the total market value of all goods and services produced in the UK economy, generally over a one year period, not adjusted for inflation. Real GDP is the inflation-adjusted measure.

2    Bernanke and Mishkin (1997) describe 'constrained discretion' as a monetary policy that avoids some of the disadvantages of either rigid rules or pure discretion, giving discretion 'rule-like properties'.

with the 'breakdown of the neoclassical synthesis'[3] in the 1960s. In response, the UK embarked on the 'monetarist experiment' from 1976 to the mid-1980s, prioritising control of the money supply as a means of restoring economic stability. However, as financial innovation and deregulation intensified competition, the velocity of money — the rate at which money circulates through the economy — became increasingly erratic, weakening the previously stable relationship between money supply and inflation. This allowed inflation targeting to emerge as the dominant approach in the early 1990s.

This paper then presents the case for NGDPT. This approach, also known as nominal income targeting, provides a more flexible and adaptive framework for managing external and supply-side shocks, such as the Covid-19 pandemic and energy price spikes, which contributed to driving inflation to its highest levels in four decades.[4] I will argue that NGDPT is better equipped to maintain long-term economic stability by reducing fluctuations in output and employment more effectively. By reducing reliance on discretionary decision-making, NGDPT would provide a free-market approach to monetary policy and give households and firms clearer guidance on the future path of interest rates.

The objective of this paper is to demonstrate how an NGDPT-based framework could address the deficiencies of the current system. A key flaw of inflation targeting is its inability to distinguish between demand- and supply-driven inflation, leading to suboptimal policy responses during economic shocks. By advocating NGDPT, this paper seeks to add to the broader

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3    Arestis and Mihailov (2009) quote Danthine (1997: 135) and Mankiw (1990), who argue macroeconomics was left in a state of 'schizophrenia where most practitioners continue to resort to the neoclassical synthesis for forecasting and policy analysis while researchers have almost totally discarded it as a framework for conducting research.'

4    UK CPI reached 11.1% in October 2022.

debate on the future direction of UK monetary policy. Finally, the adoption of NGDPT would provide a strong alternative framework more aligned with the stated government mission to prioritise growth.

# Historical evolution of UK monetary regimes

Since the abandonment of the gold standard (1717-1931),[5] UK monetary policy has undergone multiple regime changes. These include fixed exchange rates under Bretton Woods (1944-1971); monetary targeting (1976-1986); exchange rate pegs (1987-1992), and the eventual adoption of inflation targeting (1992-present).

**From Bretton Woods to monetary targeting**

Following World War II the United Kingdom, along with many other major industrial nations, joined the Bretton Woods plan, a new international monetary system established in July 1944, with fixed rates of exchange between participant currencies and the US dollar. By linking the British pound to the US dollar, which was convertible to gold at $35 per ounce, this agreement aimed to stabilise exchange rates and promote global economic stability.[6] The primary goal was to avoid the competitive devaluations that had upset economies during the interwar years, and for a time this was successful, with a period of rapid economic growth until the late 1960s. However, structural difficulties were brought about by the system's over-reliance on the US dollar as a key anchor and central reserve currency,

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5    According to Redish (1990), while 1821 is the correct *de jure* date, the *de facto* date is 1717.

6    See Bordo (2017), who says it was designed to combine the advantages of fixed exchange rates of the pre-World War I gold standard with some flexibility to handle large real shocks.

especially as participant nations pursued increasingly divergent economic policies. These tensions highlight how challenging it is to maintain fixed-but-adjustable exchange rates in the absence of closer macroeconomic policy coordination.

A significant transition in monetary policy occurred due to the US decision to halt dollar-gold convertibility[7] in the early 1970s, which led to the collapse of the Bretton Woods system. The last remnants of commodity money came to an end, and pure fiat currencies[8] and floating exchange rates were introduced. The changeover was especially difficult for the UK. From 1971 to 1976, the UK lacked a distinct nominal anchor, which left monetary policy without a reliable benchmark. The dangers of this were exposed by the dramatic rise in inflation and general economic instability, exacerbated by the 1973 oil crisis. This contributed to the 'Great Inflation' of the 1960s through the early 1980s, a time of ongoing inflationary pressure caused predominately by excessive growth in the money supply (Bernanke, 2004), which saw inflation in the UK rise above 20% in 1975, and contributed to the need for an International Monetary Fund (IMF) bailout in 1976.

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7    On 15 August 1971 President Richard Nixon announced his New Economic Policy, which suspended the dollar convertibility into gold, triggered by French and British intentions in early August to convert dollars into gold.

8    Government-issued money not backed by anything, such as a commodity, only trust.

**Figure 1.** Inflation rose sharply in the 1970s before falling in the 1980s
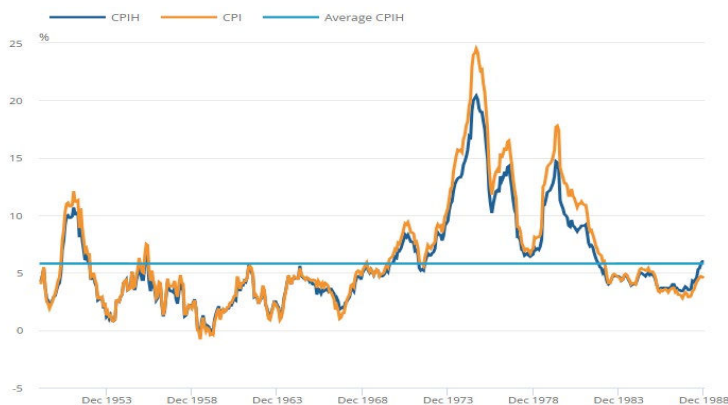


Source: Office for National Statistics: consumer price inflation

In response, the UK government adopted monetary targets in 1976,[9] later supplemented by the Medium-Term Financial Strategy introduced in the 1980 budget,[10] to control inflation by limiting growth of the money supply. The target was sterling M3, a broad measure that includes cash and bank deposits. The reasoning was simple: if inflation was essentially a monetary phenomenon,[11] then controlling growth in the money supply should reduce inflation.

However, after the severe recession of 1980-81, monetary targeting began to lose its effectiveness, and by the mid-1980s had lost credibility and support in political circles. Several factors contributed to its decline. Firstly, attempts to manage the money supply precisely were made more difficult by the growing instability of the demand for money, which had been relatively stable in prior decades. Secondly, the previously

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9    See Joanne Salop (1986).

10    A four-year plan designed primarily to reduce inflation but also to generate economic growth. See FSBR (1980).

11    See for example, Friedman (1958; 1960) and Friedman and Schwartz (1963).

assumed link between inflation and the growth rate of the money supply was weakened by the liberalisation of the financial sector and recessionary strains. Furthermore, growth in the shadow banking sector by non-bank financial institutions had introduced new money-like assets beyond the conventional banking system, making it harder to distinguish between traditional bank deposits and other types of liquidity and credit. As Schularick and Taylor (2012) noted, volatility in the velocity of circulation increased dramatically from the early 1970s, driven by rapid growth of credit intermediation by non-bank entities, making control of monetary aggregates alone insufficient to control inflation. As a result, monetary targeting was abandoned in 1986.

**The European exchange rate mechanism**

After the failure of monetary targeting, sterling informally shadowed the West German Deutsche Mark. However, on 8 October 1990, the UK entered the European Exchange Rate Mechanism (ERM), a system intended to reduce exchange rate volatility among European currencies and prepare member states for participation in the future European Economic and Monetary Union (EMU).[12] The British pound was pegged to the Deutsche Mark within a narrow band to provide exchange rate stability and pave the way for greater European economic integration.[13]

Nevertheless, the UK's membership of the ERM proved both challenging and ultimately unsustainable. Britain's economic situation was very different from that of other ERM nations,

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12    The ERM was set up in 1979 when the UK declined to join.

13    Sterling was pegged at DM 2.95 to the £1 with 6% leeway either side. The Deutsche Mark was seen as the *de facto* anchor for European currencies.

particularly Germany, whose comparatively high interest rates at the time – caused by concerns about inflation after it had run large budget deficits to support reunification in 1990 – clashed with the demands of the faltering British economy, which was entering a devastating recession.

Growing scepticism about the UK's ability to maintain its currency peg saw the BoE struggle to defend the pound with a series of interest rates hikes and costly foreign exchange interventions.[14] Mounting pressure on the pound culminated in 'Black Wednesday' on September 16 1992, forcing the UK to exit the ERM, and resulting in a sharp devaluation of the pound.

**The shift to inflation targeting**

Following the ERM fiasco, the UK changed its monetary policy strategy. In October 1992, the government abandoned exchange rate pegs and formally adopted an inflation-targeting policy framework[15] as the new anchor for monetary policy. An inflation target range of between 1 and 4%, measured by the Retail Price Index excluding mortgage payments (RPIX),[16] was introduced, with the expectation that inflation should be in the lower half of the range by the end of Parliament's session in 1997. Under

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14    Black Wednesday saw the BoE conduct a $22 billion intervention in the currency markets, and raise interest rates from 10% to 12%, with a promise to raise them again later that day to 15%. George Soros and his hedge fund (among others) had established a large short position in the pound. In 2005 the UK Treasury estimated the cost of defending sterling on 16 September 1992 to be £3.3 billion.

15    Bernanke and Mishkin (1997) say inflation targeting is a 'policy framework', not a rule.

16    The expectation was for inflation to be in the lower half of this range by spring 1997. Beyond June 1995, the inflation target was changed to '2.5% or less' when it became clear the range was too wide, and inflation was too high.

this new arrangement, interest rate decisions were still the responsibility of the Chancellor.

An important turning point was the May 1997 decision by the newly elected Labour government to give the BoE operational independence, which gave it sole responsibility for setting interest rates, and saw the establishment of the Monetary Policy Committee (MPC). This independence protected interest rate decisions from political interference and election cycle demands, allowing the BoE to prioritise domestic price stability over other objectives. The notion that inflation should neither significantly exceed nor fall below the target level was reinforced when the inflation mandate, previously amended to '2.5% or less' in June 1995, was adjusted to a 'symmetrical' 2.5% target in June 1997.

In December 2003 — the last time the inflation mandate was amended — the inflation target was reduced to a fixed 2% annual change, measured by the Consumer Price Index (CPI). This explicit target added transparency and accountability to the Bank's policy actions.

**Table 1.** Historical inflation targets (October 1992 – present)

| Period | Inflation target | Index used |
|---|---|---|
| October 1992 - June 1995 | 1% to 4% | Retail Price Index excluding mortgage interest payments (RPIX) |
| June 1995 - June 1997 | 2.5% or less | RPIX |
| June 1997 - December 2003 | Symmetrical target of 2.5% | RPIX |
| December 2003 - present | 2% | Consumer Price Index (CPI) |

## The Great Moderation and beyond

The period known as the Great Moderation[17] saw central banks, including the BoE, benefit from unusually low and stable inflation and a substantial decline in macroeconomic volatility. This period was characterised by several structural economic developments that contributed to this stability, including globalisation and technological advances, leading many to conclude that central banks were the beneficiaries of good luck rather than policy prowess. Nevertheless, inflation targeting appeared to be highly effective during this period, further solidifying its credibility and the credibility of the BoE.

But the 2008 global financial crisis (GFC) revealed serious flaws in a monetary policy framework solely focused on price stability. Faced with a significant contraction in liquidity and the largest drop in demand and production since the Great Depression,[18] the BoE aggressively cut interest rates to boost aggregate demand and offset the significant deleveraging of households and firms (not to mention the financial sector) that had pushed the UK economy into a deep recession.

However, as nominal interest rates approached the zero lower bound (ZLB)[19], the BoE found itself unable to stimulate

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17    Between 1984 and August 2007. See Stock and Watson (2003), Bernanke (2004), and Clark (2009), Gali and Gambetti (2009).

18    'Industrial output fell as fast in the first twelve months starting in April 2008 as it did in the early stages of the Great Depression.' Taken from 'What do the new data tell us?' *VoxEU*, 8 March 2010 (https://voxeu.org/article/what-do-the-new-data-tell-us).

19    The zero lower bound (ZLB) occurs when the short-term nominal interest rate is at or near zero, causing a 'liquidity trap'. This saw a shift in the absolute preference to hold cash over other higher-yielding assets, with monetary policy impotent to affect output and the price level.

aggregate demand further, as the use of interest rates became ineffective.[20] This led to the introduction of quantitative easing (QE), an unconventional monetary policy tool developed to inject liquidity into the banking system and stimulate demand.

Following the 2008 financial crisis, an intense debate emerged over the appropriate monetary policy framework, with participants seeking one that effectively addressed financial stability while maintaining price stability, output, and employment. Some economists proposed raising the inflation target[21] to allow for an increase in the cushion between nominal interest rates and the ZLB, giving the BoE more flexibility during economic downturns. Theoretically, a higher inflation target would prevent monetary policy from becoming constrained in future crises by allowing nominal interest rates to stay structurally higher in normal times.[22] However, raising the inflation target comes with its own limitations. Because long-term inflation expectations are often deeply embedded, re-anchoring them at a temporarily higher level may prove difficult. This is especially true for the public: higher inflation is generally viewed by them as unfavourable, because it reduces real income and purchasing power. Policymakers too are reluctant, for the most part, to move the long-established 2% inflation target.

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20    There is no legal mandate or mechanism for negative interest rates in UK monetary policy.

21    Blanchard et al. (2010) and Krugman (2012).

22    Mishkin, (2007) 'Monetary Policy Strategy', Chap. 11, p. 205.

# UK monetary policy framework

### Introduction to the framework

The BoE defines monetary policy as a set of actions central banks or governments can take to help control how much money is in the economy and how much it costs to borrow. The current framework for monetary policy is provided by the 1998 Bank of England Act, a historic piece of legislation that gave the BoE operational independence and made the MPC the main decision-making body for setting interest rates.[23] The MPC is therefore tasked with maintaining price stability (as defined by the government's inflation target) while supporting the broader economic policies of the UK government, including its growth and employment objectives. In recent years, the MPC's remit has been expanded to include consideration of the government's net zero emission ambitions, indicating the growing overlap between monetary policy and environmental goals.

### Structure and function of the MPC

The MPC is made up of nine members including the Governor of the BoE, three Deputy Governors (each responsible for a particular area, such as monetary policy, financial stability,

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23   Bank of England Act 1998. https://www.legislation.gov.uk/ukpga/1998/11/contents See Chap. 11, part II, sec. 11.

or markets), the Chief Economist, and four External Members chosen by the Chancellor of the Exchequer. These external members, often experts from academia, business, or the financial sector, are supposed to ensure that the MPC benefits from a range of viewpoints and independent thought, which is supposed to improve the committee's decision-making process. The MPC meets eight times a year to assess the state of the UK economy and determine the optimal monetary policy course of action. During its two- to three-day meetings, the committee reviews a wealth of information on both domestic and international economic conditions. Decisions on the policy rate are made by a majority vote, with each member having one vote, and the Governor has the final say in the event of a tie.

**Central bank independence**

The independence of central banks has emerged as a key component of UK monetary policy, aimed at correcting the problem of time inconsistency. Seminal studies from Kydland and Prescott (1977), Calvo (1978), and Barro and Gordon (1983) have shown that independent central banks are more effective in controlling inflation and shielding monetary policy from politically-motivated cycles. To maintain political legitimacy, central banks must gain public trust through building a reputation for competence and transparency. This requires formal institutional arrangements and legal frameworks that allow for the continual accountability of central banks to the relevant elected legislature.

For central banks to perform their role without political interference or bias, including preventative measures that can come to dominate policy during times of crisis, they require a clearly assigned mandate. Friedman (1962: 178) argued this

should take the form of a contract that prevents monetary policy from becoming 'a day-to-day plaything…of the current political authorities.' Yet despite current safeguards, some economists accept that a central bank cannot act in isolation; for example, Blinder (2012) admits that 'close cooperation between the central bank and the fiscal authority in a crisis is both inevitable and desirable', as central banks do not have the resources to recapitalise banks.

Today, the private supply of liquidity in money markets has been largely replaced by central bank money and increased risk-sharing arrangements, in addition to a substantial rise in regulatory oversight and supervision of the financial system. This has seen central banks move from their role as inflation fighters to one of crisis (prevention) managers. According to Mayes (2019: 597), such crisis avoidance and crisis management measures by central banks have led to their 'politicization in the detailed running of the economy', a conclusion also reached by Lockwood (2016: 3) who says that 'central banks are political entities themselves', and Honohan et al. (2019: 622), who suggests that 'central bankers are inherently political actors'.

Just four days after Tony Blair's Labour Party election win in May 1997, the new Chancellor, Gordon Brown, granted the BoE operational independence over monetary policy. Under this new institutional setup (ratified under the 1998 Act), the UK was brought into line with other major economies that had long embraced central bank autonomy, such as the United States and Germany.

Many on the political right, however, saw the decision as a step toward possible euro adoption, a claim denied by Gordon Brown. To address persistent pessimism, Brown was forced to announce five economic tests in October 1997, to ascertain whether adopting the euro would be in the UK's long-term

economic interest. The five tests were established by the UK government and were not part of the Maastricht criteria. In June 2003, it was announced that the UK had not met the tests, and Chancellor Brown and the Treasury ruled out joining the euro for the foreseeable future.

## Testing the framework: the 2008 financial crises and Covid-19

The 2008 GFC and the economic fallout from the Covid-19 pandemic severely tested the resilience of the UK's monetary policy framework. Both events exposed significant weaknesses in the responsiveness of the MPC and raised questions about the suitability of its existing mandate, particularly with respect to financial stability — an issue not fully addressed by the 1998 Act. Scholars like Goodhart (2010) and Tucker (2018) argue that while the 1998 Act successfully insulated monetary policy from political pressures, it did not provide the MPC with sufficient tools to manage systemic financial risks effectively.

These critiques highlight a critical gap in the Bank's remit. Although the independence granted by the 1998 Act helped achieve price stability during the early 2000s, the financial crisis exposed the limitations of an inflation-centric framework that overlooked broader financial stability. The reliance of the MPC on the use of interest rates also proved insufficient in addressing the complex and interconnected risks posed by the banking crisis which 'began with US subprime mortgages, but ultimately led to a loss of confidence in virtually all forms of household and business credit', according to Bernanke (2022), and which saw banks and other financial institutions reluctant to lend, contributing to the collapse of the housing market.

The Covid-19 pandemic exacerbated these limitations, presenting an unprecedented economic shock that forced central banks worldwide, including the BoE, to deploy unconventional monetary tools on an unprecedented scale.[24] QE, previously used during the financial crisis, was once again aggressively implemented to counteract the economic fallout of the pandemic, pumping hundreds of billions of pounds into a Covid-stricken UK economy.

However, as inflation surged and growth plummeted in 2021 and 2022, the Bank's inability to strike a balance between price stability and economic growth brought renewed attention to the need for a more adaptable and all-encompassing monetary policy approach.

**Central bank accountability and transparency**

Central banks are some of the most powerful institutions in the world run by unelected officials, meaning that central bank transparency – which has only really become prevalent since the early 1990s – is important to support accountability and credibility, and to make monetary policy more effective by being consistent and predictable.

Although the BoE operates 'independently', it is nevertheless accountable to the UK Parliament, and its operations are regularly scrutinised by the House of Commons Treasury Committee. To defend the Bank's actions in accordance with its mandate and to explain its monetary policy decisions, the Governor and MPC members must frequently appear before the Committee. This parliamentary oversight ensures political transparency and

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24   Between March 2020 and November 2020, the Bank of England announced three tranches of QE gilt purchases totalling £450 billion in nominal terms.

holds the Bank accountable to the elected representatives of the British public. Beyond parliamentary scrutiny, the 1998 Act grants the Treasury an explicit override mechanism or 'reserve power' to direct the Bank on monetary policy 'in the public interest and by extreme economic circumstances.'[25] The fact that these powers have never been used, however, highlights the broad political consensus in favour of independent monetary policymaking and government satisfaction with the Bank's actions in pursuit of its mandate. Furthermore, the Bank maintains internal governance frameworks to oversee its operations, in addition to external parliamentary oversight. The Court of Directors, the Bank's governing body, is made up of executive and non-executive directors and is responsible for reviewing the Bank's performance in relation to its statutory duty to safeguard price and financial stability. The Court has the power to commission external performance reviews, including retrospective assessments of policy decisions, and is assisted by an Independent Evaluation Office.

However, there is some disagreement between central banks about how best to communicate their intentions and actions and therefore the level of transparency. A common subject of disagreement is what information to provide on the models and forecasts used, which can also lead to implementation complications. Moreover, while transparency has increased since the 2008 financial crisis, it has slowed since 2015, maybe showing drawbacks to further openness, with Mishkin (2004) arguing that some see increased transparency as going too far.

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25    1998 Bank of England Act, Chap. 11, part II, sec. 19 (reserve powers are subject to parliamentary approval and limited to a three-month period).

## The principal-agent problem

Debates over the principal-agent problem in monetary policy have been rekindled by recent controversies around the potential removal of the Governor of the BoE.[26] Such a problem may arise when the objectives and actions of the central bank (the agent) do not align fully with the broader economic goals of the government and the public (the principals). These conflicts highlight how important it is to maintain central bank independence while ensuring strong democratic accountability frameworks.

Carl Walsh tackles the principal-agent dilemma by putting forth a state-contingent performance-based contract system for central bankers in his seminal work *Optimal Contracts for Central Bankers* (1995). Walsh contends that such contracts would incentivise central bankers according to how well they achieve various economic goals, including controlling inflation or some other mandated objective. Through the establishment of clear, quantifiable benchmarks for performance evaluation, this contract system aims to match policymakers' actions with more general societal goals, improving accountability and transparency.

However, there are difficulties implementing such a system. Under the current framework, policymakers run the risk of overlooking other important economic indicators such as employment or growth if they place an excessive amount of emphasis on price stability. Furthermore, some flexibility in contracts would be needed to allow central bankers to respond to unforeseen economic shocks while maintaining focus on their long-term core goals.

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26    'Sack Andrew Bailey as Bank of England boss, says Liz Truss', *Politico*, 15 April 2024 (https://www.politico.eu/article/chief-bank-england-andrew-bailey-should-be-sacked-liz-truss-says/).

# The current regime: inflation targeting

**Overview of inflation targeting**

In October 1992, the UK formally adopted inflation targeting.[27] This framework rests on two key pillars: (1) a flexible approach for discretionary responses to short-term economic shocks, and (2) a clear numerical objective for inflation to anchor expectations and ensure price stability. Although there are many different definitions of inflation targeting, the fundamental idea is that a forward-looking central bank is committed to maintaining inflation at a predetermined target, usually around 2%, by conducting monetary policy through the interest rate channel.[28]

Changes to a short-term interest rate are the BoE's primary instrument, affecting aggregate demand to bring actual inflation into line with the inflation target. The underlying assumptions are that markets are flexible, that prices and wages adjust quickly to changes in monetary conditions, and that households and firms form rational expectations for both short-term and future inflation.[29]

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27   First introduced in New Zealand in 1990 (see Reserve Bank Act of 1989), followed by Canada in February 1991.

28   See Bernanke et al. (1999); Mishkin and Schmidt-Hebbel (2007).

29   Anchored expectations are a feature of rational-expectation models and are a useful benchmark because they impose discipline on economic theory. See Calvo (1983) and Werning (2022).

## Mechanisms and accountability

The UK's current inflation target is set at 2%, measured by the 12-month increase in the CPI. This target is symmetrical and applies at all times. This level aims to balance the risk of both inflation and deflation while ensuring that inflation remains low enough to avoid undermining public confidence. Should inflation diverge by more than one percentage point above or below the 2% target, the Governor of the BoE is required to issue an 'open letter'[30] to the Chancellor of the Exchequer, explaining the reasons for the deviation, the corrective measures being implemented and the expected timeframe to return inflation to target. If inflation continues to exceed the one percentage point deviation after three months, a follow-up letter is necessary. The first 'open letter' was written by Mervyn King on 16 April 2007 when the CPI inflation for March increased to 3.1%. This transparency ensures the government, financial markets, and public are kept up to date on the thinking of the Bank in relation to its understanding of the economic outlook and future policy actions. Credibility is increased and monetary policy effectiveness is aided by the Bank's successful track record and the achievement of its inflation target.

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30    The BoE November 2024 remit requires that the open letter from the Governor should be published alongside the minutes of the following MPC meeting.

**Figure 2.** CPI inflation in the UK remained quite steady from January 1993 to December 2020, averaging 2%
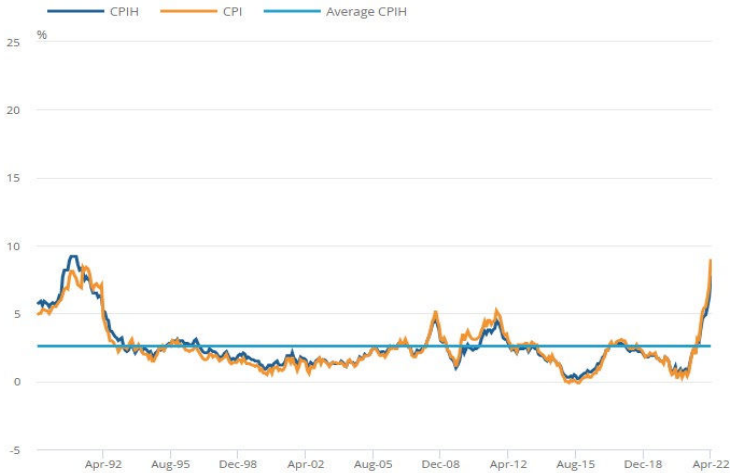


Source: Office for National Statistics: consumer price inflation

## Anchoring inflation expectations

By committing to a clear 2% inflation target, the BoE provides a secure anchor for inflation expectations by lowering uncertainty regarding future price levels, at least over the medium term.[31] Firms are more confident when making medium- to long-term investment decisions thanks to this stability, and consumers are able to plan their spending and saving decisions more effectively.

Traditional orthodox monetary policy suggests that central banks should initially 'look through' short-term inflation caused by adverse supply shocks, given their temporary impact on output.[32] If central banks react too aggressively to such shocks,

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31   See Gurkaynak et al. (2006, 2007) and Ravenna (2007).

32    Bodenstein et al. (2008), Brainard (2022), and Bandera et al. (2023).

they risk amplifying economic volatility rather than stabilising it. Under 'constrained discretion', central banks can temporarily deviate from their rigid inflation target to support broader economic objectives such as employment and financial stability, although to what extent is subjective. According to Bernanke and Mishkin (1997), inflation-targeting nations have shown better overall economic performance, lower macroeconomic volatility, and more realistic expectations of inflation.

**Criticisms of inflation targeting**

Despite its successes, inflation targeting has drawn a lot of criticism for its rigidity and narrow focus, which often neglects other important macroeconomic variables, not to mention wider financial stability concerns. This limited scope may result in suboptimal policy decisions, especially during financial crises. Inflation targeting also ignores asset prices, particularly those of property and equities, which can result in asset bubbles, adding to the frequency of boom-bust cycles.

A number of other issues remain outstanding and are hotly debated regarding the design and implementation of inflation-targeting regimes:

- Should central banks use a price level target or an inflation target?

- Should the target be based on CPI, RPI, or the GDP deflator?

- What is the right numerical target? Is 2% the right level? Why not 3% or 4%?

- Should the target have a range?

- What is the correct choice of policy horizon?

## Incorporating asset prices

Some economists argue that incorporating asset prices into the inflation-targeting framework could help central banks mitigate financial instability by addressing asset bubbles before they become systemic risks.[33] Housing booms, stock market surges, and credit growth have often preceded financial crises, therefore, proponents contend that monitoring asset prices could prevent excessive risk-taking and financial imbalances.

Proponents also argue asset prices contain information about future inflation, allowing central banks to preemptively tighten monetary policy when signs of asset price bubbles appear, even if short-term inflation remains under control. Referred to as 'leaning-against-the-wind',[34] this approach aims to prevent financial instability by addressing imbalances before they become systemic concerns. The idea is that preventing a crisis is far less costly than dealing with its aftermath.

However, this idea remains highly contentious, with several economists contending that policy rules including asset prices would yield sub-optimal results.[35] Furthermore, implementing and communicating monetary policy would prove more challenging if central banks were required to track a greater range of economic data. Policymakers would need to balance multiple objectives and make decisions on whether price movements were the result of speculative excess or fundamental considerations. Therefore, they say, any proposal to include asset prices is impractical. The current consensus remains that central banks should not try to 'prick' a bubble but should follow a 'mop-

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33    See Goodhart and Hofmann (2000).

34    See Poole (1970), Cecchetti et al. (2000) and Borio and Lowe (2002).

35    For example, see Bernanke and Gertler (1999; 2001).

up strategy' after the bubble has burst (Greenspan 2002; Blinder and Reis 2005; Mishkin 2007).

## The impact of supply shocks

Adverse supply shocks, such as those that occurred during the Covid-19 outbreak, pose a unique challenge for inflation targeting. Policymakers face a dilemma because inflation is rising, while at the same time economic output is falling. Should the BoE prioritise supporting employment and growth, or just price stability? Because attempts to lower inflation may exacerbate the economic downturn and delay recovery, the rigidity of inflation targeting in these circumstances may lead to less-than-ideal policy decisions (certainly from a political standpoint). To avoid raising interest rates in reaction to short-term inflationary pressure from adverse supply shocks, economists are now debating whether central banks should incorporate more flexibility into their inflation targets, perhaps permitting a temporary increase in the inflation target.

## Reassessing monetary policy in a changing world

The debate over the best (and most agile) monetary system in the UK is continuing against a backdrop of an unstable macroeconomic climate, which includes very high levels of private and national debt, chronically low productivity (especially in the public sector), deglobalisation, and an ageing population with associated social care costs.

One measure that has gained popularity in recent years is the aforementioned NGDPT. By focusing on real output and inflation, NGDPT aims to stabilise overall economic growth rather than

the rate of inflation. A fundamental principle in the creation of monetary policy is the requirement for a quantitative anchor: a baseline that guides market expectations and policy actions. According to Fatas et al. (2007), stability and predictability in monetary policy depend on a reliable anchor, be it inflation, the money supply, or another measure.

According to Frenkel (2012)[36], NGDPT offers a more balanced approach to managing economic volatility, since it naturally adapts to both supply- and demand-side shocks. Under this approach, monetary policy will permit some deflationary pressure if output increases and productivity rises, but will tolerate higher than target inflation to support recovery during a downturn when growth is below the desired target.

Although some economists and central bankers find this framework to be an appealing alternative, this has not yet become the consensus view, despite growing attention in policy and media circles. Furthermore, to date, it has not been adopted by any central bank. Its slow acceptance in scholarly discussions reflects concerns about practical applicability, especially with respect to data accuracy, policy transmission, and public understanding. However, with recent crises exposing shortcomings in inflation targeting, and with a UK economy flirting with stagnation and seeing a shift in government focus towards growth, NGDPT should be reevaluated as a viable alternative to inflation targeting.

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36    'The death of inflation targeting', *VoxEU*, 19 June 2012 (https://voxeu.org/article/inflation-targeting-dead-long-live-nominal-gdp-targeting).

# Monetary policy tools

The BoE employs a variety of monetary policy instruments to achieve its objectives of maintaining price stability and supporting economic growth. These tools can be broadly categorised into conventional and unconventional measures, each playing an important role in managing economic conditions and responding to crises.

**Policy rate**

The policy rate, or 'bank rate', serves as the primary instrument for monetary policy.[37] It is an overnight rate paid by the BoE on reserves held by commercial banks and other eligible financial institutions. Paying interest on reserves sets a floor below which the market interest rate cannot fall as the opportunity cost of holding reserves has been removed. The Bank adjusts this rate 'endogenously in response to current and expected macroeconomic developments, especially to forecasts of inflation' (Goodhart 2009: 824). Conventional wisdom says that through substitution along the yield curve, changes in the policy rate serve as the benchmark for all other interest rates in the economy, including mortgage, savings, and loan interest rates.

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37    Since the early 1990s, this has been achieved under the framework of monetary policy and its transmission through the banking system by the interest rate and lending channels, commonly referred to as a central bank's interest rate policy (Keister, Martin, and McAndrews 2008). This monetary transmission process is known as 'interest-rate pass-through', as introduced in the banking firm models by Monti (1972) and Klein (1971) in their papers on the behaviour of bank loan and deposit rate setting based on the economic theory of oligopolistic competition.

Therefore, changes in bank rate directly affect the cost of borrowing for both firms and consumers as well as the quantity of money in circulation within the economy. By lowering borrowing costs, a policy rate reduction promotes consumer spending and business investment, which in turn boosts economic growth. On the other hand, a rise in bank rate makes borrowing more expensive, which deters investment and spending. Consequently, firms, households, and financial markets all keep a careful eye on the level of bank rate, which is a strong indicator of the BoE's monetary policy stance.

**Quantitative easing**

As interest rates near the ZLB and conventional monetary policy hits its effective limit, the BoE must resort to unconventional measures, most notably QE, for further monetary stimulus. In the UK, QE involves the electronic creation of new interest-bearing central bank reserves (unremunerated before the GFC) that have zero credit or duration risk, which are then used to purchase large quantities of medium- to long-term UK government bonds (known as gilts) from nonbank financial institutions such as pension funds and insurance companies.[38]

QE aims primarily to reduce long-term interest rates to stimulate borrowing, spending, and investment, and thereby raise inflation to the BoE target. By purchasing large amounts of gilts, the Bank raises its price, which lowers its yield, which is expected to spread to other long-term securities via the portfolio rebalance channel. In this way, long-term borrowing costs are reduced across a wide range of assets throughout the economy.

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38    Between March 2009 and December 2020, the Bank of England bought £895 billion worth of bonds. Most of those (£875 billion) were UK government bonds (gilts). The remaining £20 billion were UK corporate bonds.

Since commercial banks maintain reserve accounts at the BoE, they function as intermediaries in QE transactions. This transfer results in an expansion of commercial bank assets, reflected in the accrual of interest-bearing reserves remunerated at bank rate, offset by the creation of interest-bearing deposit liabilities. The interest rate differential between these assets and liabilities generates a profit margin for commercial banks, which feeds the perception that QE is 'free money' for these institutions.

From March 2009 to November 2020, the BoE amassed assets worth approximately £895 billion, circa 40% of the UK's GDP at the time. Initially envisaged as a temporary emergency measure to support conventional monetary policy, QE has become considerably larger in scale and more persistent than originally intended by both the BoE and the Treasury when first introduced.

Just as QE expands the BoE balance sheet, the reverse process, quantitative tightening (QT) reduces it.[39]

QT can be carried out in two ways:

- Active QT: where the Bank sells previously acquired bonds back into the secondary market, directly draining liquidity.

- Passive QT: where the Bank allows bonds to mature without reinvestment, shrinking its balance sheet over time without direct market intervention.

The risks associated with the timing, sequencing and pace of the transition to quantitative tightening (QT) cannot be

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39    Meier (2009, p. 42) draws attention to the fact that the Treasury has clarified the BoE will not need its approval to sell QE assets; therefore, the MPC has full control over a future 'exit' from its unconventional policy. This is not the case for QE programmes, where the BoE requires sign-off from the Chancellor.

underestimated. Previously, the BoE emphasised that any balance sheet reduction would be 'gradual and predictable' and depend on market conditions to prevent disruptions to financial markets.[40] However, recent sales of QE bonds by the Bank under active QT have drawn considerable attention in the press and some political quarters due to the significant losses incurred on those sales. The Bank is indemnified against these losses under the Deed of Indemnity[41] issued by the Treasury. It is therefore covered by the government, funded with new borrowing that adds to national debt. Ultimately, it is the UK taxpayer who is liable for any QE losses.[42]

Furthermore, QE has been criticised for the widespread perception that its programmes have been implemented primarily for 'monetary financing' — the direct financing of government borrowing — which the BoE is prohibited from doing.[43] (See the speeches by former BoE Chief Economist Andy Haldane, and ex-Governor of the BoE Mervyn King.[44])

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40    BoE Monetary Policy Report August 2022.

41    Then Chancellor Rishi Sunak refused to make public the details of the indemnity. See letter dated 2 July 2021 to the Economic Affairs Committee.

42    As of Q4 2024, the Bank of England forecast lifetime losses on its QE portfolio of £85-100 billion.

43    House of Lords (2022), 'Quantitative easing: a dangerous addiction?' Economics Affairs Committee, para. 21 p. 13.

44    In 2020, Andy Haldane commented: 'Recent quantitative easing has placed central banks in deep, and uncharted, waters. My view is that these quantitative easing actions have been necessary to support the economy and hit the inflation target. But they pose rising challenges to public understanding of the purposes of quantitative easing and, ultimately, perceptions of independence.'

In 2012, Mervyn King was forced to defend the Bank's QE programme, saying 'We are not doing it at the behest of the government to help finance its spending. It is the independence of the Bank that allows us to create money without raising doubts about our motives.'

Finally, the widespread (and arguably excessive) use of QE has disproportionately benefited existing asset-holders while exacerbating wealth inequality. Rather than driving productive investment, it has distorted market signals and contributed to economic stagnation. Intergenerational inequality has worsened, with younger generations increasingly locked out of home ownership — an issue of critical importance, though beyond the scope of this paper.

**Channels of QE**

By exchanging short-term central bank reserves for long-term liabilities, the BoE aims to improve the functioning of financial markets and intermediation. This strategy aims to increase liquidity within the banking system and improve lending and investment activities, without the central bank making direct credit allocation decisions in support of the private sector, which falls outside the remit of monetary policy (Conaghan 2012: 201-204).

Several transmission channels through which QE works have been proposed, all of which rely on the existence of financial and market frictions.[45] The impact of QE on macroeconomic variables and the different transmission channels, which themselves are contemporaneous and not explicitly mutually exclusive, is non-linear and instead state contingent: it is dependent on the type of shock affecting the economy (negative demand or negative supply driven), on whether fiscal policy is expansionary or contractionary, and on the health of both the banking sector and broader economy at the time of introduction.

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45   See Vayonas and Vila (2009); Eggertsson and Woodford (2003).

Here, the focus is on the three channels the BoE believes to be the most dominant in its QE programmes.

- **The portfolio channel:** By reducing the supply of government bonds, QE forces investors to shift their portfolios toward riskier assets such as equities, corporate bonds, and property. This reduces yields across a wider range of assets and stimulates investment (Joyce et al. 2011).

- **The signalling channel:** QE sends a strong signal that the Bank intends to maintain a highly accommodative monetary policy stance, influencing market expectations of future interest rates and economic conditions, thereby lowering long-term bond yields (Bauer and Rudebusch 2014; Bhattarai et al. 2015).

- **The liquidity channel:** Boneva et al. (2019) and D'Amico and Kaminska (2019) show that QE is particularly important during times of financial disruption and market stress, with the purchase of assets by the central bank able to compress credit spreads and improve liquidity by reducing the risk faced by holders of bonds that they may not be able to sell them at short notice when financial markets are in distress, as well as facilitating new issuance.

**Figure 3.** stylised QE transmission mechanism
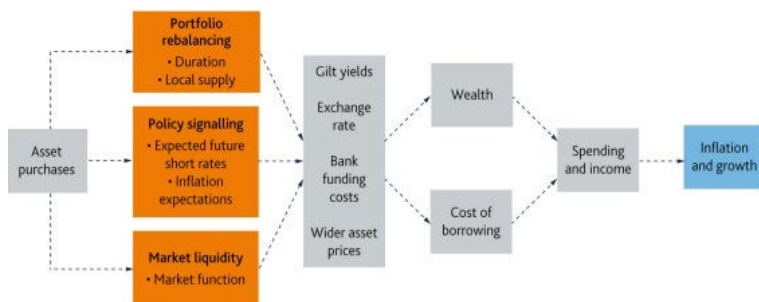


Source: Bank of England.

# Financial stability as a growing concern

Since the 2008 financial crisis, central banks of the major developed countries have become more concerned with financial stability, with a new era of prudential regulation and the introduction of supervision based around the Basel Accord.[46] This has resulted in different macro- and microprudential policies.[47] The result has been a substantial increase in common equity for core capital requirements and an improvement in liquidity within the banking system, the lack of which has been blamed as a major contributor to previous banking crises.

Financial stability, being a broad concept, means different things to different people, and a widely accepted definition remains elusive, primarily due to the lack of an analytical framework or a single target variable for assessing financial system stability (IMF 2004). However, some consensus seems to centre on removing systemic risks to ensure that the financial system and therefore the economy are protected, resilient and able to function well.[48]

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46   Polizatto (1992, p. 175) argued that 'prudential regulation is the codification of public policy toward banks, banking supervision is the government's means of ensuring compliance.'

47   This has seen the introduction of stress testing, more appropriate internal risk management models for capital requirements, tougher liquidity and capital ratios, countercyclical capital buffers, central clearing counterparties (CCPs) and an end to 'implicit insurance' for institutions deemed 'too big to fail' with the development of organised resolution plans or so-called living wills.

48   Kaufman and Scott (2003): 'Systemic risk' refers to the probability of breakdowns in an entire system, evidenced by correlation among all the parts.

Instability in financial markets can quickly lead to uncertainty and resource misallocation, impacting political structures, and even leading to systemic financial crises, which can be interpreted as 'severe disruptions of financial markets that, by impairing the market's ability to function effectively, can have large adverse effects on the real economy' (IMF 1998: 75). Schwartz (1986) offers a much narrower definition of 'real' financial crises relating to 'fears that means of payment will be unobtainable at any price' resulting in a 'scramble for high powered money.'

Therefore stable, well-functioning financial markets are critical for efficient allocation of capital to the real economy leading to economic growth, employment, and prosperity. Implicit in that are the proper functioning of the payment and settlement system, the smooth running of credit markets, the maintenance of employment and price stability, and the resilience of financial intermediaries during episodes of stress. In short, a financial system that can absorb, or at least limit, an unexpected event or shock from what appears to be an endless cycle of easy monetary and credit-driven booms and busts, through a series of self-correcting measures.[49] However, not all parts of the financial system need to be functioning optimally for financial stability to be present.

In 2012, then-Chancellor George Osborne, building on the government's 2011 white paper *A new approach to financial regulation: the blueprint for reform,* established the Financial Policy Committee (FPC) within the BoE, finally removing the responsibility for managing the financial sector from the

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49    Important elements for both Kindleberger (1978) *Manias, Panics and Crashes* and Minsky (1986) *Stabilizing an Unstable Economy.*

Financial Services Authority (FSA) in April 2013.[50] As the UK's macroprudential authority, the FPC publishes a Financial Stability Report twice a year and is accountable to Parliament.

Today, central banks act as financial 'crisis managers', providing liquidity to solvent financial institutions to meet their obligations, supporting key market functions, and acting as a lender of last resort (LOLR).[51] These provisions and liquidity management actions are a key function of modern central banks and help prevent panic, stabilise financial markets, and ensure the continued flow of credit to households and firms.

**Challenges of monetary policy implementation**

The lag between changes in interest rates and the impact on the real economy is well known. These 'long and variable lags',[52] which impact the timing of policy interventions, make it difficult for central banks to make real-time policy adjustments. Due to this delay in the monetary policy transmission mechanism, accepted to be around 18 to 24 months, policymakers must take proactive measures based on projections, which pose risks if underlying data or forecasts turn out to be incorrect.

Furthermore, global factors such as changes in asset prices, cross-border capital flows, and foreign exchange rates, can

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50   This marked a major institutional shift, internalising macroprudential supervision and equipping the BoE with new tools that enhanced its ability to identify, monitor, and address systemic risks to protect the stability of the financial system.

51   See Bagehot (1873) *Lombard Street: A Description of the Money Market.* LOLR calls for central banks to lend 'freely and vigorously' without limit against acceptable collateral, and at a higher-than-normal rate of interest, which was not initially found respectable among theorists.

52   Friedman (1961: 447) *The Lag in Effect of Monetary Policy.*

have a great impact on the effectiveness of domestic monetary policy. Tightening monetary policy in one country – such as the US Federal Reserve raising interest rates – can lead to capital outflows (or reduced capital inflows) from others, causing currency depreciation and destabilising their economies, especially through an inflationary effect.[53] International coordination between central banks becomes essential in this situation to reduce the possibility of unintended consequences and spillover effects from unilateral policy decisions.

## Balancing financial stability with macroeconomic objectives

Financial stability is best illustrated in its absence. Today, the role of LOLR popularised by Bagehot (1873) has become a defining policy tool for central banks looking to achieve financial stability, with Goodhart (2011) going so far as to suggest that liquidity and LOLR responsibilities are the top priorities of a central bank. Similarly, in 2013 Ben Bernanke suggested 'It is now clear that maintaining financial stability is just as important a responsibility as maintaining monetary and economic stability.' Whether or not you think that monetary policy decisions should take financial stability into account, the history of central banking is littered with crisis management interventions. Therefore, if an unexpected event or shock results in stress on the financial system, leading to the inability of financial markets to function efficiently, central banks should make clear their willingness to act for 'provision of liquidity' with bold and decisive action, allowing banks to continue to support a fully functioning payments system and preventing a panic from turning into a more costly crisis.

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53    Obstfeld and Rogoff (2001).

In response central banks, including the BoE, have increasingly incorporated macroprudential policies into their frameworks, based on the Basel Accord as previously mentioned.[54] These policies aim to enhance the resilience of the financial system by mitigating systemic risks and preventing financial imbalances from building up. Key macroprudential measures include:

- Higher capital requirements, ensuring banks hold sufficient capital buffers to absorb losses during downturns.

- Stricter leverage ratios, limiting excessive borrowing by financial institutions.

- Countercyclical buffers, increasing capital reserves during economic booms to curb credit excesses and allowing reductions during downturns to support lending.

- Enhanced oversight of non-bank financial institutions, monitoring the role of shadow banking and other entities that contribute to systemic risks.

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54    A series of international banking regulatory frameworks developed by the Basel Committee on Banking Supervision (BCBS). First accord announced 1988, followed Basel II, III and IV in 2004, 2010, and 2017.

# Rule-based policies: the case for NGDP targeting

NGDP targeting traces its intellectual origins to early proponents such as Meade (1978), Tobin (1980), Bean (1983), and Gordon (1985) – although others argue its roots lie in the work of Hayek and Austrian Economics.[55] It emerged as a compelling alternative to Keynesian full-employment and the monetary targeting policies of the 1970s, particularly due to its ability to counteract velocity shocks (i.e. shifts in money demand).[56]

**Rules versus discretion**

The debate between rule-based and discretionary approaches to monetary policy has regained attention recently, particularly after the criticisms of policy responses following the Covid-19 pandemic. Rules (intermediate targets) act as nominal anchors for central banks, committing them to implement consistent policies. Advocates of a rule-based approach, such as Kydland and Prescott (1977), argue that although discretionary policies may address immediate issues such as unemployment, they often result in 'inflationary bias' and greater long-term economic instability.

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55    See references made by Evans, A. J. (2015) Sound money: an Austrian proposal for free banking, NGDP targets, and OMO reforms.

56    See Beckworth (2019).

Discretionary inflation bias, as described by Kydland and Prescott (1977) and Barro and Gordon (1983), arises when central banks attempt to stimulate employment above its natural level by surprising markets with inflation. However, this approach typically leads to higher inflation without reducing unemployment, and weakens central bank credibility. When policymakers deviate from their commitments to react to short-term conditions, they risk undermining trust, which can lead to elevated inflation expectations among market participants and greater inefficiencies in wage and price setting.

Such time inconsistency problems — where policymakers deviate from pre-committed policies for short-term gains — affect both monetary and fiscal policy decisions. When investors anticipate policy deviations, they demand higher yields on government debt, increasing borrowing costs and contributing to fiscal inefficiencies. Inconsistent policies can also lead to 'stabilisation bias', resulting in greater volatility in inflation and economic output, increasing uncertainty and complicating long-term business planning. Therefore rules are preferable to discretion in monetary policy.

Proponents of NGDPT argue that its rule-based approach enhances predictability and transparency, while providing a countercyclical mechanism to recessions and booms, and reducing the risk of destabilising inflation bias. This systematic approach minimises uncertainty and allows market participants better to anticipate central bank actions. By contrast, the current system of constrained discretion has been criticised for its lack of clarity. The delayed response of the BoE to rising inflation in 2021, initially downplayed as 'transitory', demonstrates how discretionary policies can lead to suboptimal outcomes.

**Growth rate or level targeting?**

NGDP targeting can be implemented in terms either of targeting changes in growth rates or targeting a level. McCallum (2011) argues that targeting a growth rate without commitment to return to the target path for deviations ('bygones be bygones') aligns more with a rule-based approach consistent with inflation targeting. By contrast, level targeting involves returning NGDP to its pre-deviation path (bygones are not bygones). Level targeting would solve the problem of 'base drift' to which a focus on growth rates is susceptible, although it would also require more frequent and discretionary adjustments.

In the UK, the BoE already employs growth rate targeting within its inflation targeting framework. Shifting to NGDP level targeting would therefore likely involve substantial changes, requiring some experimentation and potentially more discretionary policy interventions. Level targeting also presents communication challenges, as the public may struggle to understand the 'make up' actions required to account for past deviations from its target path, complicating the Bank's messaging.

However, some economists argue that level targeting could improve policy effectiveness by providing greater certainty about the future trajectory of NGDP. By encouraging financial markets to anticipate corrective 'make-up' measures to return NGDP to its target path, level targeting could reduce economic volatility through clearer forward guidance from the central bank.

Level targeting is not new. In some ways, the US Federal Reserve's actions resemble price level targeting within its existing 'flexible

average inflation targeting' (FAIT) monetary policy framework.[57] Under this framework, the Federal Reserve is committed to 'seek to achieve inflation that averages 2% over time', adjusting for any deviations above or below this target. For example, if inflation in the first year is zero and 4% in the second year, inflation has averaged 2% over the two years. This would be consistent with a price-level target that accommodates periods of above- and below-target inflation with contractionary and expansionary monetary policies to stay on the desired target path.

**How NGDP targeting works: a growth rate example**

A growth rate strategy aims to stabilise the growth of total nominal output — combining the desired rate of inflation and growth rate of potential real GDP[58] — by setting a target nominal growth rate.

Table 2. illustrates this. If potential output growth (Y) in the economy is 3%, and the desired level of inflation (P) is 2%, policymakers would set the nominal growth target (PY) at 5%. If potential output were to fall to 1%, inflation would need to rise to 4% to maintain the NGDP target until output normalises.

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57   In his speech *New economic challenges and the Fed's monetary policy review*, given on the 27 August 2020, US Federal Reserve chairman Jerome Powell refused to say when or if past deviations to the 2% average inflation target would be corrected, adding that the Federal Reserve was not committed to any mathematical formula.

58   GDP is the total monetary value of all goods and services produced within a country's borders in a given period, unadjusted for inflation.

**Table 2.** NGDP and supply shocks

| NGDP target (PY) | Type of shock | % Change in P & Y |
|---|---|---|
| 5% | No shock | 2% + 3% |
| 5% | Positive supply shock | 1% + 4% |
| 5% | Negative supply shock | 4% + 1% |

The dual focus of NGDPT reduces the volatility of the output gap (the difference between actual and potential output) and smooths fluctuations in the business cycle. By targeting steady growth for NGDP, central banks can stabilise employment more effectively and support economic activity, even during crises. In the event of an adverse supply shock (e.g. a rise in prices but reduced output below potential, including an adverse effect on the labour market), NGDPT would allow inflation to rise temporarily without triggering restrictive monetary policy that could exacerbate a downturn. During a demand-driven downturn, the same target would encourage more aggressive monetary easing to support growth and employment. The goal is to have less overall volatility in the economy, even if it results in greater volatility in short-term inflation.

From 1997 to 2007, Figure 4 shows nominal GDP growth in the UK averaged around 5% (comprising approximately 2% inflation and 3% real GDP growth). Following the contraction during the 2008 financial crisis, nominal GDP growth averaged 4% from 2011 to 2019, before experiencing increased volatility due to the Covid-19 pandemic. The latest forecasts from the BoE for 2026, contained in the February 2025 Monetary Policy Report, have nominal GDP at 4.5% (real GDP growth of 1.5% and CPI inflation of 3%).

**Figure 4.** UK nominal GDP (1997 – 2024)
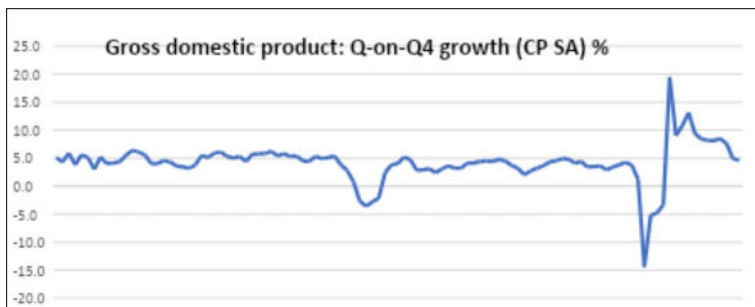


Source: Office for National Statistics.

## Dealing with supply shocks

While inflation targeting works well for dealing with demand shocks, it is ineffective when faced with supply-side shocks, in which output and inflation move against each other. This difficulty was demonstrated during the Covid-19 pandemic, when supply chain interruptions added to increased costs while reducing output. The UK economy was further harmed by the BoE's decision to tighten monetary policy to fight inflation during this period because nominal wages could not keep up with rising prices.

NGDPT offers a more robust framework to handle supply shocks. By focusing on stabilising NGDP, policymakers can allow the price level to adjust to changes in output without immediately tightening policy. Using our previous example and a growth target of 5% for NGDP, if an adverse supply shock caused the growth rate to fall below 5%, a central bank would make monetary policy more accommodative by lowering interest rates. However, under inflation targeting the movement in interest rates would depend solely on what was happening to inflation. For example, if inflation had increased to 3% (i.e. above

its 2% target), policymakers would raise interest rates regardless of growth falling below its desired target.

A central bank following a level target would have to follow an accommodative monetary policy until such time that NGDP returned to its initial 5% growth level path. This would require NGDP growth to exceed 5% for a period.

## NGDPT and the zero lower bound

NGDPT offers a more effective alternative to the serious problem conventional monetary policy encounters when faced by the ZLB, by focusing on stabilising NGDP, which implicitly manages the money supply and its velocity.[59] This approach functions as a velocity-adjusted money supply target, where changes in the money supply balance changes in money demand.[60] When economic uncertainty increases money hoarding, NGDPT would automatically loosen monetary policy, encouraging spending. Conversely, when spending accelerates, it would tighten conditions. Compared to QE alone, this flexibility preserves stability more successfully. If NGDP falls below target, the BoE could implement a prolonged monetary stimulus, allowing inflation to rise temporarily and incentivising firms to increase production, ultimately driving real GDP above potential.

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59    Estimates the movement of money in an economy — in other words, the number of times the average pound changes hands over a single year.

60    See Tobin (1983), Woodford (2012).

## Implementation of NGDP futures market

A proposal by noted advocate for NGDPT Scott Sumner involves establishing a subsidised NGDP futures market.[61] Policymakers would set a target growth rate for NGDP, say 5% annually, and allow market participants to trade NGDP futures contracts based on their expectations of future NGDP performance. Traders would purchase futures in anticipation of higher-than-target growth if they believed that NGDP would surpass the target. On the other hand, they would sell futures if they anticipated that growth would be insufficient.

To maintain market stability, the BoE would be prepared to purchase or sell an unlimited number of NGDP futures contracts to those who wanted to take a short or long position. The Bank would conduct an open-market operation (OMO) in the opposite direction for each purchase or sale of these contracts. This would ensure that the money supply reflected market expectations of NGDP growth. For instance, if the Bank bought futures contracts, it would buy assets to boost liquidity in the economy; if it sold futures, it would sell assets to reduce the money supply. Market expectations would drive this strategy, which would continuously modify monetary policy to achieve the NGDP target. This would reduce the need for central bank discretionary actions and provide policymakers with real-time feedback on economic performance. To reduce central bank counterparty risk, Sumner suggests mandating that participants deposit ten cents per futures contract (covering an approximate 10% change in NGDP) in a margin account. In this way, excessive risk taking would be avoided and the BoE would be protected from significant financial exposure.

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61   See Sumner (1989, 1995).

## Similarities to money supply targeting

Some economists have observed that NGDPT and money supply targeting are closely related concepts, often complementing each other in practice. This has led to suggestions that the path of NGDP could be effectively managed by adjusting the monetary base, as in the approach used in the McCallum Rule.[62] According to Horan (2022), NGDP level targeting resembles Friedman's constant 'k-%' money growth rule, which was intended to stabilise NGDP by increasing the money supply at a fixed rate annually. This connection reflects the principles of Quantity Theory of Money and Fisher's equation of exchange $(MV = PY)$,[63] which is central to monetarism and the idea that inflation is caused by 'too much money chasing too few goods' (Friedman 1956).

Under such a scenario, NGDPT would establish a growth rate for NGDP (PY) and modify the money supply (M) (base or broad measure) to take into account variations in the velocity of money (V), as opposed to concentrating on controlling the money supply (M) to target inflation (P). If NGDP rises above target, the money supply should be reduced. If NGDP falls below target, the money supply should be increased.

## Criticisms of NGDP targeting

Despite its theoretical appeal, NGDPT presents a number of practical problems with implementation, some of which

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62    See McCallum (1988, 1993). Adjustments are made to the monetary base to offset changes in money velocity and latest growth rates.

63    Where $M$ is the quantity of money, $V$ is its velocity of circulation, $P$ is the price level and $Y$ is the value of real output.

are presented here. One of the main issues is the challenge in obtaining accurate, real-time GDP data; as Orphanides and Norden (2002) note, GDP data are typically only available on a quarterly basis and are frequently revised, which means that initial estimates may be inaccurate and could result in poor policy decisions. As a result, questions have been raised about the practicality of an NGDPT framework for monetary policy. Scott Sumner addresses these concerns with the creation of an NGDP futures market that would target the forecast, as discussed earlier.[64]

Another criticism is the possibility of increased inflation volatility. Stabilising NGDP could make inflation more unpredictable, particularly if real output fluctuates significantly. Central banks may be concerned that changes in inflation make it more difficult to maintain price stability in the absence of a stable inflation anchor. Adopting NGDPT would also require a significant improvement in communication by the BoE, as households and firms do not usually scrutinise nominal GDP data. Frankel (2012) has suggested a phased transition, beginning with NGDP target ranges alongside inflation targets, allowing time for markets to adjust to the new approach while minimising disruption.

Lastly, it is significant to remember that NGDP targeting has not yet been put into practice by any central bank. As a result, the effectiveness of NGDP targeting in practice has not been thoroughly examined, and comparisons with other monetary policy regimes are restricted to theoretical models and simulations.

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64    Sumner (2013) A market-driven nominal GDP targeting regime.

# Conclusions

No single monetary policy framework can comprehensively manage the complexities of a contemporary economic system. Inflation targeting, as in previous regimes, should not be seen as permanent. Its sole focus on one macroeconomic variable is a design flaw that no longer makes it the optimal anchor for UK monetary policy.

This paper has attempted to demonstrate the relative effectiveness of NGDPT as a compelling alternative to inflation targeting for conducting monetary policy: how it can better accommodate both supply-side and demand-side shocks, how it automatically incorporates economic growth into monetary policy decisions, and its ability to deal with the ZLB. All of these make it a serious alternative for strengthening the UK's monetary policy framework, and support sustainable long-term financial and economic stability.

Additionally, by providing a clear and transparent approach to monetary policy while preserving the BoE's independence, NGDPT will increase the BoE's credibility. However, implementing such a transition requires careful consideration of practical challenges, particularly related to communication and data accuracy.

The UK must move towards a monetary system that reduces dependence on discretionary policymaking. NGDP targeting represents a critical step in that direction, but the ultimate goal should be a framework where market forces, not bureaucrats, determine the supply of money.

# Implications for HM Treasury and the Bank of England

To strengthen the effectiveness and resilience of UK monetary policy, HM Treasury should consider the following recommendations for the Bank of England:

1.  **Implement a nominal GDP targeting framework:** The Bank of England should target a growth rate (or level path) for nominal GDP better to handle supply-side and demand-side shocks, and balance inflation and real output. By concentrating on total economic activity, nominal GDP targeting would more effectively support the government's declared objective of increasing growth.

2.  **Prioritise clear and transparent communication:** To guarantee successful adoption, the Bank of England must clearly explain the rationale behind the new framework to financial markets and the public, including its benefits and implementation techniques. Confidence in the new approach would increase through regular updates and transparent decision-making processes.

3.  **Invest in data accuracy and timeliness:** Using big data and contemporary AI technology, the Bank of England must give priority to enhancing the timeliness and accuracy of nominal GDP data.

4.  **Incorporate flexibility for exceptional circumstances:** For nominal GDP targeting to work, the framework must be adaptable enough to deal with significant unforeseen

economic shocks such as financial crises or pandemics. The Bank of England must define precise rules for when and how deviations from the target are acceptable.

5.  **Coordinate with fiscal policy:** Achieving sustainable economic stability requires more than just effective monetary policy. The Bank of England should collaborate closely with HM Treasury and other governmental bodies to ensure coherence between monetary and fiscal strategies, while maintaining its operational independence.

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