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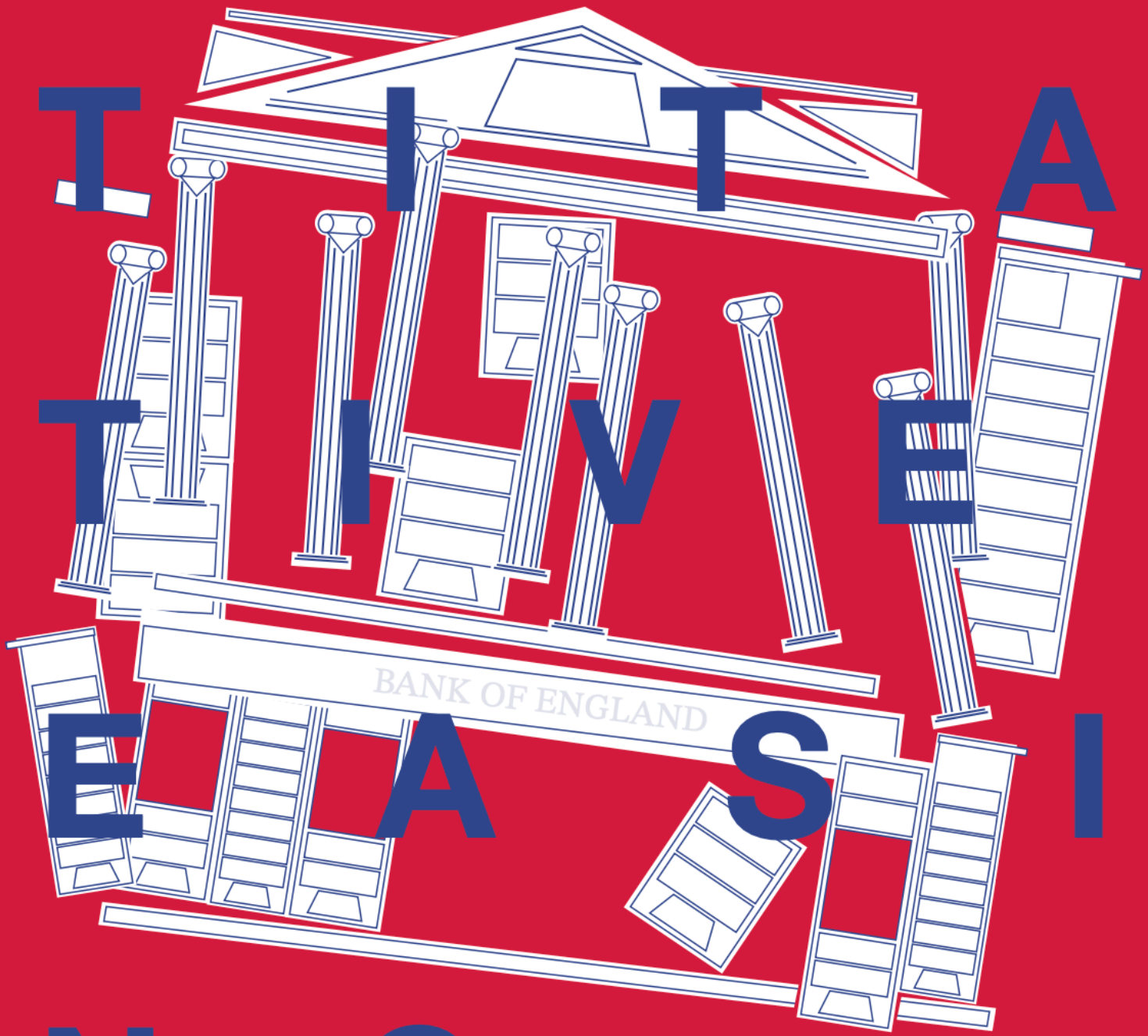
QUANTITATIVE EASING



An analysis of unconventional monetary policy in the United Kingdom.

By Jake Ferry & Abhay Venkitaraman

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B R I E F I N G

N O T E

Central banks have traditionally used conventional monetary policy, where they adjust targets for short-term interest rates to influence macroeconomic outcomes. In the United Kingdom and elsewhere, this proved unsuccessful during the 2007-08 Global Financial Crisis. Despite lowering short-term interest rates to the effective lower bound – below which further interest rate cuts prove ineffective at stimulating aggregate demand – deflationary pressure remained persistent.

The Bank of England (BoE) and other central banks were thus compelled to turn to unconventional monetary policy. In particular, they pursued quantitative easing (QE), whereby central banks conduct large-scale purchases of long-dated government bonds and other financial assets in order to lower interest rates and create liquidity in financial markets. This programme of asset purchases was expanded during the COVID-19 pandemic, as the BoE aimed to provide liquidity to financial actors and stimulate output in the face of tight financial conditions and deflation.

This report seeks to assess the impact of unconventional monetary policy in the United Kingdom as compared to traditional channels. Moreover, it looks to establish the most appropriate course of action for the BoE and the government in an economic environment where stagflation remains persistent.

This first section is a brief introduction to the key topics being discussed throughout the report. Crucially, evidence will be provided to examine the feasibility and impacts of different channels of monetary policy. The briefing will explain the main points that later sections will discuss according to the team's main findings. Each of the topics below will contain subtopics with action statements and evidence to support said statements in order to introduce the reader to the initial part of the research conducted:

01 Why has monetary policy changed over the last two decades?

02 Impacts of the Bank of England declared approach to future monetary policy – including changes in asset purchasing/sales programmes and interest rates.

03 The wider impacts of quantitative easing on the UK economy and its success at stimulating economic growth.

04 The links between monetary and fiscal policy and their significance.

CURRENT POLICY

Current Monetary Policy Guidance from the Bank of England:

Due to a near-zero base rate, the Bank of England has been forced to expand its balance sheet to an unhealthy level over the last decade to reach target inflation.

- The base rate set by the Bank of England had not exceeded 0.75% since 2008 until a series of progressive hikes in 2022; due to these rate hikes the base rate is currently 3% (Bank of England).[1]
    - Prior to 2008, the base rate hovered between 4.5 to 6% (Bank of England).[2]
- By November 2020, the total value of bond purchases by the Bank of England was £895 billion – roughly 28% of GDP. Prior to 2009, it was 0 (Bank of England, 2022).[3]
- These asset purchases have effectively caused a transition from government borrowing at a fixed rate to a floating rate. This has caused there to be mounting pressure on the Bank of England to reduce the balance sheet in order to help shield the government budget from the rising policy rate (Tucker, 2022).[4]

However, rapidly-rising inflation has finally provided an opportunity for the Bank of England to justify raising interest rates from the zero lower bound.

- In their May Monetary Policy Report, the Bank of England stated that inflation had increased by 7% year-on-year, and predicted that it would reach roughly 10% (Bank of England, 2022).[5] In their August report, they amended their prediction to 13%, and forecasted that it would remain well above target levels during 2023 (Bank of England, 2022).[6]
- Due to the severity of inflationary pressures, the Bank of England has raised the interest rate from 0.1% to 3% in an attempt to reduce inflation to the 2% target within a 2-year timespan (Bank of England, 2022).[7]
- Unlike earlier reports, the Bank of England have made no predictions for future changes to the interest rates in their August report, citing the risk from domestic and external factors to their predictions being significantly high at the moment.

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[1] Bank of England., 2022, "Bank Rate history and data." *Bank of England*, Bank of England, https://www.bankofengland.co.uk/boeapps/database/Bank-Rate.asp. Accessed 3 November 2022.

[2] Bank of England., 29022, "Bank Rate history and data." *Bank of England*, Bank of England, https://www.bankofengland.co.uk/boeapps/database/Bank-Rate.asp. Accessed 3 November 2022.

[3] "Quantitative easing." *Bank of England*, Bank of England, 19 May 2022, https://www.bankofengland.co.uk/monetary-policy/quantitative-easing. Accessed 3 November 2022.

[4] Tucker, P., 2022, Quantitative easing, monetary policy implementation and the public finances, IFS. ,IFS. https://ifs.org.uk/sites/default/files/2022-10/Quantitative-easing-monetary-policy-implementation-and-the-public-finances-Green-Budget-2022.pdf Accessed: November 3, 2022.

[5] Bank of England., 2022, "Monetary Policy Report - May 2022." *Bank of England*, https://www.bankofengland.co.uk/monetary-policy-report/2022/may-2022. Accessed 3 November 2022.

[6] Bank of England., 2022, "Monetary Policy Report - August 2022." *Bank of England*, https://www.bankofengland.co.uk/monetary-policy-report/2022/august-2022. Accessed 3 November 2022.

[7] Bank of England., 2022, "Bank Rate history and data." *Bank of England*, Bank of England, https://www.bankofengland.co.uk/boeapps/database/Bank-Rate.asp. Accessed 3 November 2022.

Declaration of the start of quantitative tightening has led to a tightening in corporate credit conditions, with rising bond yields and falling share prices.

- Corporate financing is conducted through two channels: the issuance of new shares and the borrowing of money in the form of corporate bonds.
- Corporate bond yields for UK BBB-rated companies have risen to 4.5% in July 2022, from a low of 1.75% towards the end of 2021 (Macqueen et al., 2022, p.10).[8]
- The FTSE All Share index, which represents 98-99% of UK market capitalisation, has fallen by 6% since spring (Macqueen et al., 2022, p.11)[9], thus reducing firms' ability to raise capital by issuing new shares.

Poor economic performance has delayed the Bank of England's timeline in reversing bond purchases.

- On July 2nd 2022, Andrew Bailey, governor of the Bank of England, outlined the Bank of England's intentions to start 'active' quantitative tightening – where the central bank sells assets before they mature – alongside base rate hikes to reduce inflation (Williams, 2022).[10]
- The Bank of England later backtracked on this by announcing £65 billion in government bond purchases over 13 days on the 28th of September to prevent a projected collapse of the UK pension fund sector – which was sparked by market turmoil in response to Kwasi Kwarteng's "mini-budget" (Marsh, 2022).[11]
- For reasons still unclear, but likely due to a significant drop in confidence in the government, the announcement of Kwasi Kwarteng's mini-budget on the 23rd September caused 30 year government bond (gilt) yields to rise over one percentage point from 4.01 to 5.06%[12]. Due to the way in which pension funds hold government bonds, which they largely hedge through liability-driven investment (LDI) funds, in order to receive a fixed rate of interest rather than a floating rate, they are much more vulnerable to market movements. A rise in gilt yields caused LDI funds to demand more capital from pension funds as collateral. To raise this, they started to sell gilts to pay this collateral, causing a

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[8] Macqueen, Rory & Stephen Millard & Patel, Urvish & Whyte, Kemar, 2022. "UK Economic Outlook,"National Institute UK Economic Outlook, National Institute of Economic and Social Research, vol. 0(7 Summer), pages 6-30.

[9] Macqueen, Rory & Stephen Millard & Patel, Urvish & Whyte, Kemar, 2022. "UK Economic Outlook,"National Institute UK Economic Outlook, National Institute of Economic and Social Research, vol. 0(7 Summer), pages 6-30.

[10] Williams, Neil., 2022. "Bailey: system faces 'biggest test.'" *OMFIF*, https://www.omfif.org/2022/07/bailey-system-faces-biggest-test/. Accessed 3 November 2022.

[11] Marsh, David., 2022. "Truss and Meloni bond market squalls." *OMFIF*, https://www.omfif.org/2022/09/truss-and-meloni-bond-market-squalls/. Accessed 3 November 2022.

[12] Trading Economics, 2022, "United Kingdom 30-Year Treasury Guilt Auction, Trading Economics, https://tradingeconomics.com/united-kingdom/30-year-bond-yield". Accessed 12 November 2022

further slump in the price of gilts and therefore rising yields. This negatively impacted the total assets of pension funds, in turn eroding the wealth of individuals who had invested in them.[13]

- The Bank of England's intervention did somewhat settle the market, with gilt yields dropping 1% after their intervention; however, lingering anxieties regarding the future of fiscal policy means this has left pension funds in an uncertain position.[14]

[13] Cohn, C, 2022. "Explainer: Why are Britain's pension schemes dumping gilts?", Reuters, https://www.reuters.com/markets/europe/why-are-britains-pension-schemes-dumping-gilts-2022-09-28/, Accessed 12 November 2022.

[14] Cohn, C, 2022. "Explainer: Why are Britain's pension schemes dumping gilts?", Reuters, https://www.reuters.com/markets/europe/why-are-britains-pension-schemes-dumping-gilts-2022-09-28/, Accessed 12 November 2022.

REAL EFFECTS OF QE ON THE ECONOMY

Real effects of Quantitative Easing may have had a net negative impact on the economy in the long run.

Quantitative easing is the program rolled out by central banks following the 2008 Financial Crisis where they bought a wide range of assets, largely long-dated government bonds, from financial institutions with newly-created reserves to create liquidity in financial markets and stimulate demand.

Over a decade of quantitative easing may have exacerbated inequality and inflated real estate prices.

- Recent modelling done by Evgenidis and Fasianos (2020) estimates that shocks caused by unconventional monetary policy may have caused a rise in the wealth inequality gini coefficient, the most frequently used measure of inequality, of up to 0.06 a year after implementation.[15] An increased gini coefficient signifies an increase in inequality.

- Furthermore, UK WBG (2020) highlights the negative effect quantitative easing had on gender equality of wealth.[16] Women are typically more likely to have less savings or financial assets after childbirth than men are. Quantitative easing caused an inflation in asset prices, as returns on cash and bonds fell. In turn, this would lead to a disproportionate rise in the wealth of disproportionately-male asset holders, whilst non-asset holders – predominantly women with children – fall behind

- Blakeley (2020)[17] established a strong link between rising real estate prices and quantitative easing. Falls in bond yields reduced the cost of borrowing, and also reduced returns for investors, who looked to rebalance their portfolios with other asset classes. In the UK, they largely turned to real estate, which had been increasingly commodified in past decades. This in turn has placed upwards pressure on real estate prices.

Quantitative easing may have also had a much more limited impact on growth than the same quantity spent via fiscal policies.

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[15] Evgenidis, A. and Fasianos, A., 2021, Unconventional Monetary Policy and Wealth Inequalities in Great Britain*. Oxf Bull Econ Stat, 83: 115-175. https://doi.org/10.1111/obes.12397

[16] WBG, 2020, Tax on savings and investments: gender issues, A pre-budget briefing from the Women's Budget Group

[17] Blakeley G., 2020, Financialization, real estate and COVID-19 in the UK. Community Dev J. 2020 Oct 29:bsaa056. doi: 10.1093/cdj/bsaa056. PMCID: PMC7665346.

- Initial spending on asset purchases totalled £200 billion, around 10% of GDP in 2008, and is estimated to have contributed to 1.5-2% of GDP growth in 2009, according to the Bank of England's own forecasting (Bailey et al., 2020).[18]
- Recent econometric estimations by Obst, Onaran and Nikolaidi (2020) suggest that a much smaller 1% of GDP increase in public spending could stimulate the economy by as much as 1.3%, and also would boost private investment by 0.14% of GDP (Obst et al., 2020)[19] in the UK.

[18] Bailey A., Bridges J., Harrison R., Jones J., Mankodi A., 2020, The central bank balance sheet as a policy tool: past, present and future, Paper prepared for the Jackson Hole Economic Policy Symposium, 27–28 August 2020, Bank of England.

[19] Obst, T., Onaran, O., Nikolaidi, M., 2020, "The effects of income distribution and fiscal policy on aggregate demand, investment and the budget balance: the case of Europe", Cambridge Journal of Economics, 44(6): 1221–1243,

The overlap between unconventional monetary policy and fiscal policy:

The enlargement of the British government's debt burden due to both the Great Recession and the COVID-19 pandemic has made fiscal policy more sensitive to monetary tightening.

- The UK's debt-to-GDP ratio has risen substantially during the past decade-and-a-half – from 34% of GDP in the 2007/08 fiscal year[20] to 96.1% of GDP currently.[21]
- Between March and November 2020, debt interest spending became 40% more sensitive to a 1% increase in gilt rates[22], and twice as sensitive to a 1% increase in short-term interest rates, in part due to the UK's increased debt burden.
- The Office for Budget Responsibility (OBR) projects that a 1% increase in the Bank of England's policy rate would raise debt interest spending by £20.8bn in 2025-2026.[23]

The sensitivity of fiscal policy to monetary tightening has been further exacerbated by quantitative easing.

- The Asset Purchasing Facility (APF) – the Bank of England's vehicle for conducting quantitative easing – funds asset purchases using reserves from the Bank of England, on which interest is paid at the Bank's policy rate.
- Due to recent rate hikes, the interest payments that the APF pays on its reserves now exceed the income that it receives from the assets that it holds; as such the APF is currently, and for the foreseeable future is likely to continue, running significant losses.
- These losses are indemnified by the UK Treasury; combined with losses realised due to active QT sales and passive QT, RBC Capital Markets estimates that the APF's losses will increase the Treasury's gilt issuance by nearly £100bn between now and 2026.[24]

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[20] Statista, n.d., "Public sector net debt expressed as a percentage of gross domestic product in the United Kingdom from 1920/21 to 2021/22"

[21] Office for Budget Responsibility, 2022, "Commentary on the Public Sector Finances: June 2022", p.1

[22] Office for Budget Responsibility, 2020, "The sensitivity of debt interest spending"

[23] Office for Budget Responsibility, 2021, "Debt maturity, quantitative easing and interest rate sensitivity"

[24] Ashworth, L. Financial Times, 2022, "RBC: The UK's double indemnity danger"

- The IFS projects that - assuming the market-predicted path for bank rate comes to pass - the cost of servicing QE-related debt will be £90bn between now and March 2025.[25]

In large part due to rising interest rates, the government intends to implement austerity measures that pose a risk of aggravating recession risk and increasing inequality.

- Chancellor of the Exchequer Jeremy Hunt has suggested that the government must "bring down [the United Kingdom's national] debt[26]" in order to bring down rising interest rates.
- As such, Hunt intends to cut government spending and raise taxes to the tune of £50bn in order to reduce the United Kingdom's debt-to-GDP ratio.
- Austerity measures could increase inequality; a distributional assessment of the UK government's previous round of austerity measures[27] found that reforms to taxes and benefits between 2010-2017 led to disproportionate reductions in income for the poorest half of households; households in the lowest decile saw their net incomes fall by 10%, whilst for the top 10% they only fell by 0.7%.
- Fiscal austerity measures are likely to reduce economic activity, reducing future tax revenues; ironically, this may increase the amount of tax rises and spending cuts necessary in order to place the UK's debt-to-GDP ratio on a falling path.[28]
- The notion that fiscal austerity measures are necessary in order to maintain debt sustainability is a contested one; a report by the Institute for Public Policy Research argues that the Treasury, in 2025, could run a primary deficit of £49 billion (2% of GDP) whilst still maintaining debt sustainability; this would mean that the government would not have to cut spending in order to keep debt stable in the medium-term.[29]

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[25] Tucker, P. Institute for Fiscal Studies, 2022, "Quantitative easing, monetary policy implementation, and the public finances", p.20

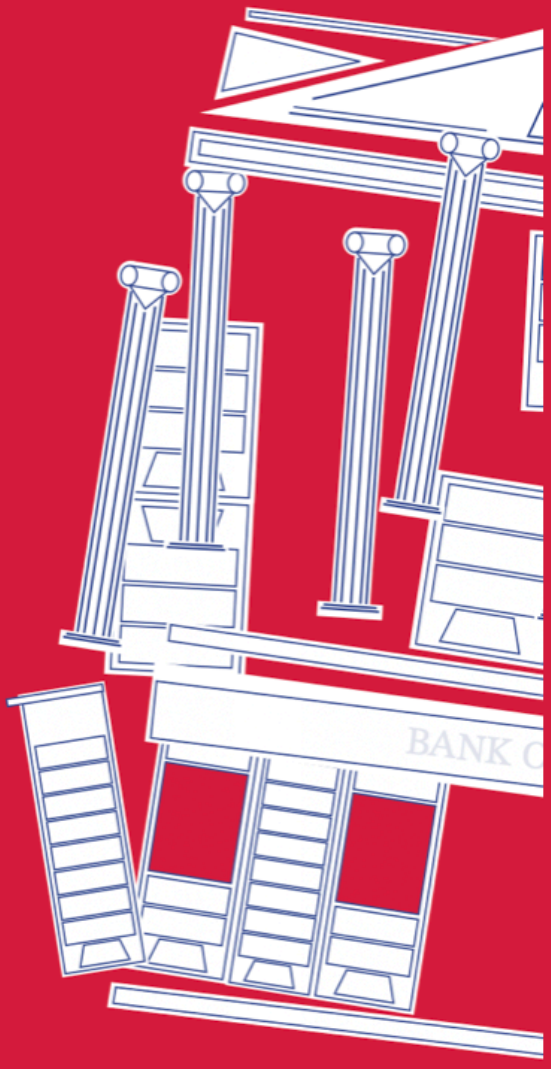
[26] BBC News, 2022, "Jeremy Hunt on interest rate rise and Bank of England forecasts"

[27] Equality and Human Rights Commission, 2017, Distributional results for the impact of tax and welfare reforms between 2010-17, modelled in the 2021/22 tax year, p.9

[28] Reuters, 2022, UK's Sunak explores tax rises and spending cuts of up to 50 bln stg -FT

[29] Jung, C. and Roberts, C., Institute for Public Policy Research, 2022, Spending and stability: How much fiscal space does the UK have?, p.5

INSIGHT



This section seeks to discuss the current economic circumstances the Bank of England must deal with alongside their potential courses of action. The current bout of high inflation is forcing the Bank of England to tighten its monetary policy to control inflation, but the United Kingdom's poor economic performance limits the extent to which they can do so without damaging the economy. Raising interest rates would allow them to regain access to their most valuable tool: conventional monetary policy, whilst quantitative tightening would reduce the government's future debt burden. This section also looks to demonstrate the net negative impact that QE has had on the British economy. QE has caused institutional money to be funnelled into a variety of asset classes besides bonds, most notably real estate. This has caused a rise in asset prices, benefiting those already holding them, who are typically already wealthy, whilst doing nothing to benefit those who aren't, who are typically less wealthy. This has led to exacerbation of wealth inequality in the UK. Finally, this section seeks to explain in detail the ramifications that quantitative easing – combined with hikes in the Bank's policy rate – has had for the United Kingdom's fiscal policy, and the extent to which quantitative easing has made fiscal consolidation a more pressing necessity.

INSIGHT

The Bank of England needs to enact monetary tightening, but is torn between two channels due to the United Kingdom's weak economic performance.

Unlike the previous decade, the Bank of England has recently been faced with severe inflationary pressures as the effects of the War in Ukraine have been further compounded by Brexit and supply chain disruptions. In May, the Bank of England announced that inflation had increased by 7% year-on-year (Bank of England, 2022)[30], and predicted a rise to 13% (Bank of England, 2022).[31]

Even factoring in that some of this may have been caused by external shocks to the economy outside of the Bank's control, inflation is ultimately so far above the Bank's 2% target that the Bank has been forced to deploy tighter monetary policy to reduce it. Traditionally, this would involve the Bank of England raising the base rate, an opportunity that should be welcomed given that it has hovered near the zero lower bound – where it is less effective – since 2009, not rising above 0.75% until 2022 (Bank of England, 2022)[32]. However, the Bank of England is also keen to finally begin to reduce the size of its balance sheet, which has grown significantly as quantitative easing has replaced interest rate cuts as the Bank's main tool of choice for fending off deflationary pressures. This would have a similar impact to a raising of the interest rate, but concerns over the health of the economy bring into doubt the extent to which monetary tightening can be deployed, and as such the Bank of England may find themselves forced to pick between the two.

A large balance sheet is undesirable for the Bank of England for several reasons. Most obviously is that there has to be, at some point, a limit to it. Traditional monetary theory dictates that money cannot be created to buy junk assets indefinitely - you will either end up with a nearly non-functional financial sector, as being completely underpinned by central bank money will lead to banks being insensitive to risk, or hyperinflation. As such, the closer you are to the limit, the less wiggle room the Bank of England has to act via asset purchasing programmes to spur growth, due to the risk of passing this threshold. Secondly, continuing to hold a high level of assets increases the sensitivity of government debt to a change in interest rates[33], as expanded asset purchasing has effectively transitioned government debt from having a fixed rate on their debt to a floating rate. This means that the cost of servicing government debt is now more tightly linked to the base rate set by the Bank of England. This forces the Bank of England to

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[30] Bank of England., 2022, "Monetary Policy Report - May 2022." *Bank of England*, https://www.bankofengland.co.uk/monetary-policy-report/2022/may-2022. Accessed 3 November 2022.

[31] Bank of England., 2022, "Monetary Policy Report - August 2022." *Bank of England*, https://www.bankofengland.co.uk/monetary-policy-report/2022/august-2022. Accessed 3 November 2022.

[32] Bank of England., 2022, "Bank Rate history and data." *Bank of England*, Bank of England, https://www.bankofengland.co.uk/boeapps/database/Bank-Rate.asp. Accessed 3 November 2022.

[33] Office for Budget Responsibility, 2021, "Debt maturity, quantitative easing and interest rate sensitivity"

consider the government's fiscal position more carefully than previously, given that the current Conservative government is already extremely strained financially. In turn, this large balance sheet may further restrict the Bank of England's ability to raise interest rates in the short run, or risk ruining the government's finances. As such, reducing the balance sheet via quantitative tightening is an appealing course of action for the Bank of England.

However, it is important to note that quantitative tightening would have significant negative effects that should be considered in the context of the UK. Crucially, due to its effects being felt through bond channels, it would cause a tightening in the corporate bond market, reducing private investment. This was felt from just the announcement and very small initial sell off by the Bank of England in July, as UK BBB rated bond yields rose to 4.5% in July 2022, from a low of 1.75% towards the end of 2021[34], greatly increasing the cost of borrowing for firms. The UK's output per hour worked in 2019, a typical measure of productivity, was 13% below the G7 average, and also experienced the 2nd slowest growth in output per hour worked between 2009 and 2019.[35] Many consider this to be an issue that stems from, at least partly, a chronic lack of investment in the UK over the last few decades compared to comparable economies elsewhere.[36] This is something that the Bank of England must consider when considering if and when to start reducing their balance sheet, or risk further harm to the UK's current and potential economic growth.

Meanwhile, regaining control of the interest rate by raising it is also a beneficial choice for the Bank of England. Interest rates have traditionally been the primary mechanism through which the Bank of England deploys monetary policy. The 0.75% rate it has not risen above is a historic low, with the interest rate averaging at least 5% prior to 2008.[37] In turn, this has led to the Bank of England to suffer from an issue called the zero lower bound - the interest rate is so low that further cuts do little to stimulate the economy, as people would prefer to just hold cash than further increase their spending. Empirical evidence goes even further than this, with research done by Ahmet et Al (2021) suggesting that not only do near-0 interest rates reduce the Bank of England's short run ability to influence the economy, but also in the long run, even if rates are further raised. Their modelling suggests that impact on GDP from a 1 percentage point cut in the interest rate has up to a 70% smaller impact on economies where the interest rates have remained constantly low compared to economies where they have not[38], as economies become increasingly desensitised to monetary policy. Consequently, the Bank of England may feel a sense of urgency to raise the interest rate, especially

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[34] Macqueen, Rory & Stephen Millard & Patel, Urvish & Whyte, Kemar, 2022. "UK Economic Outlook,"National Institute UK Economic Outlook, National Institute of Economic and Social Research, vol. 0(7 Summer), pages 6-30.

[35] Office for National Statistics, 2022. "International comparisons of UK productivity (ICP), final estimates: 2020." *ONS*, ONS.

[36] Oliveira-Cunh, J.; Kozler, J.; Shah, P.; Thwaites, G.; Valero, A.; 2021, "Business Time: How ready are UK firms for the decisive decade?"

[37] Bank of England., 29022, "Bank Rate history and data." *Bank of England*, Bank of England, https://www.bankofengland.co.uk/boeapps/database/Bank-Rate.asp. Accessed 3 November 2022.

[38] Ahmed R., Borio C., Disyata P., Hofmann B., 2021, "Losing Traction? The real effects of monetary policy when interest rates are low", p7-8.

now they find themselves with a rare opportunity to, in order to preserve their ability to influence the economy going forward.

Over a decade on, Quantitative Easing seems to have had a net negative impact on the economy, bringing into doubt its effectiveness as a policy.

Quantitative Easing was implemented by many central banks as a method of last resort following the failure of interest rates to fully tackle the fallout of the 2008 financial crisis. Due to the differing natures of the fiscal policy and structure of the economies they were implemented in, the actual success of QE has been hard to quantify, although more recent research has made an attempt to do so. The results do not seem to support its continued use as a policy, with it notably worsening wealth inequality, inflating real estate prices, and potentially having a relatively insignificant effect on the growth overall, despite that being one of its main aims.

The worsening of inequality is the easiest flaw to find with QE, and can be explained via the inflation of asset prices due to a fall in cash and bond yields. This led to institutional money being channelled into other asset classes, causing them to rise in value. Individuals holding these assets prior to the price rise are traditionally already wealthy[39]. As such, they see a further increase in the rise of their wealth thanks to the rise in the value of their asset prices. The less wealthy are much less likely to own any of these assets, and such do not experience the same benefits. This increases wealth inequality within an economy, and this is supported by empirical data. Recent modelling suggests that the gini coefficient in the UK increased by as much as 0.06 a year after a monetary policy shock from QE following the 2008 financial crisis[40]. This estimate attempts to isolate QE's impact from other factors, notably the decision to undergo fiscal austerity, via isolating each mechanism which may have affected the gini coefficient and only considering those that QE may have impacted. Similar reasoning was used by Blakeley (2020)[41] to explain the rise in real estate prices following the implementation of QE, as he shows that UK real estate, following commoditization in the late 1990s and early 2000s, became one of the most invested in asset classes following 2008. This has significantly affected home ownership for the millennial generation, which fell by 40% (Cribb, 2019)[42] compared to the generation before them. Cribb then credits this fall in homeownership for a significant portion of the 20% decline in median wealth across the same generations he found in the same paper, as he found that the proportion of household wealth that house value makes up has only increased over time.

There is also some doubt regarding the effectiveness of QE in the UK, particularly in comparison to alternative approaches. £200 billion (10% of GDP) was spent on the initial round of asset purchases by the Bank of England, and by the Bank of England's

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[39] WBG, 2020, Tax on savings and investments: gender issues, A pre-budget briefing from the Women's Budget Group

[40] Evgenidis, A. and Fasianos, A., 2021, "Unconventional Monetary Policy and Wealth Inequalities in Great Britain". Oxf Bull Econ Stat, 83: 115-175. https://doi.org/10.1111/obes.12397

[41] Blakeley G., 2020, "Financialization, real estate and COVID-19 in the UK." Community Dev J. 2020 Oct 29:bsaa056. doi: 10.1093/cdj/bsaa056. PMCID: PMC7665346.

[42] Cribb, J, 2019, "Intergenerational Differences in Income and Wealth: Evidence from Britain". Fiscal Studies, 40 (3): 275-299

own estimates this contributed to 1.5-2% of GDP growth in 2009 (Bailey et al., 2020).[43] Several other papers have attempted to model other spending programmes via different channels, and compare the effects to the outcome achieved by QE. One notable comparison was to an increase of 1% of GDP in targeted public spending, which was estimated to stimulate growth by as much as 1.3%, whilst also boosting private investment by 0.14% in the UK.[44] This is largely credited to fiscal policy being able to be used as a much more targeted tool than quantitative easing, which cannot target individual regions or demographics. Consequently, this allows for fiscal policy to attempt to tackle specific issues to the British economy, such as the notoriously low labour productivity[45], more efficiently than QE would, which provides, at best, a slight boost to corporate investment across the whole economy.

[43] Bailey A., Bridges J., Harrison R., Jones J., Mankodi A., 2020, The central bank balance sheet as a policy tool: past, present and future, Paper prepared for the Jackson Hole Economic Policy Symposium, 27–28 August 2020, Bank of England.

[44] Obst, T., Onaran, O., Nikolaidi, M., 2020, "The effects of income distribution and fiscal policy on aggregate demand, investment and the budget balance: the case of Europe", Cambridge Journal of Economics, 44(6): 1221–1243,

[45] Office for National Statistics, 2022. "International comparisons of UK productivity (ICP), final estimates: 2020." *ONS*, ONS.

In an environment of rising interest rates, unconventional monetary policy has stark implications for the United Kingdom's fiscal policy:

The Bank of England's (BoE) quantitative easing (QE) programme has left the United Kingdom's fiscal policy more sensitive to shifts in short-term interest rates. In the wake of ongoing monetary policy tightening, this has had significant consequences for the UK's fiscal policy.

The Bank of England's quantitative easing programme entailed asset purchases – predominantly of long-dated sovereign debt – from private financial institutions such as commercial banks. This was paid for through the issuance of reserves.

The BoE's Bank Rate influences the interest rate on these reserves. Because it remained close to 0% – the zero-lower bound – in the years following the Great Recession, the yields on sovereign debt owned by the Bank of England consistently exceeded the interest paid on commercial banks' reserves. This meant that the Bank of England's Asset Purchasing Facility (APF) – the vehicle used to implement its QE programme – consistently turned a profit.

Profits reaped by the APF are provided to the UK Treasury, whilst the Treasury indemnifies any losses. Because of the APF's consistent profitability for the first twelve years following its implementation, cash flows from the APF to the UK Treasury between 2009 and July 2021 amounted to £113bn.[46] In its totality, the APF is estimated to have reduced the Treasury's debt interest costs by approximately 0.8%.[47]

However, now that the Bank of England has raised its policy rate in response to inflationary pressures, the interest paid on central bank reserves exceeds the yields on government bonds that the Bank holds. As such, the Asset Purchasing Facility is now running heavy losses. The Office of Budget Responsibility suggests that, through 2028, the Treasury is set to pay £133bn[48] to cover these losses: an amount relatively larger than the total profits that the APF previously remitted to the Treasury. However, this figure could vary dramatically, depending on changes in the Bank's policy rate and government bond yields. Furthermore, the quantitative tightening that the BoE is currently undertaking will reduce the size of the APF, which will decrease the size of future surpluses and deficits that it runs.[49]

In combination with poor economic conditions and the support scheme[50] that the government implemented in response to surging energy prices, the losses incurred by the Asset Purchasing Facility make it significantly more difficult for the government to abide by its fiscal rules – which presently state that the United Kingdom's debt-to-GDP ratio must fall over a rolling five-year period.

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[46] Office for Budget Responsibility, 2021, The fiscal impact of the Asset Purchase Facility.

[47] Office for Budget Responsibility, 2021, The fiscal impact of the Asset Purchase Facility.

[48] Goodman, D, 2022, UK Faces £133 Billion Bill From BOE QE, Wiping Out Last Decade of Income.

[49] Office for Budget Responsibility, 2021, The fiscal impact of the Asset Purchase Facility.

[50] Reuters, 2022, UK taxpayers on hook for 133 billion-pound bill to cover BoE losses

As such, Chancellor of the Exchequer Jeremy Hunt has announced a slew of fiscal consolidation measures in his 'Autumn Statement', including reductions in the pace of real-term government spending rises and the freezing of income tax brackets. There are concerns that these policies – primarily by lowering aggregate demand – will reduce economic growth[51], which is especially troubling considering that the UK economy is already in recession.[52]

It is worth noting that not all policy analysts are in agreement with the government's response to the United Kingdom's rising debt burden. The left-of-centre Institute for Public Policy Research (IPPR) argues that the UK has fiscal space for extra spending of approximately £90-120bn[53] and that the government does not have to cut spending in order to stabilise the country's debt burden. Moreover, they suggest that the government's fiscal rules are misguided as they are insensitive to macroeconomic conditions and limit growth-augmenting investment spending.[54]

This viewpoint is shared by the left-wing Progressive Economy Forum (PEF). In their view, the roughly £50bn 'black hole' in the public finances that the government is attempting to fill in order to reduce the UK's debt-GDP ratio completely disappears if government debt is calculated differently – for example by including the Bank of England in measures of public sector net debt.[55] Furthermore, they point out that debt forecasts are heavily uncertain, as slight changes in forecasts of growth and borrowing cost could dramatically affect them. However, some economists have question the PEF's findings[56], arguing that even if the black hole's size is uncertain, the UK's fiscal policy is unsustainable and that fiscal consolidation is a necessity.

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[51] Tomlinson, P et al., 2022, Autumn statement 2022: experts react.

[52] Partington, R. and Allegretti, A., 2022, Autumn statement 2022: key points at a glance

[53] Institute for Public Policy Research, 2022, Spending and stability: How much fiscal space does the UK have?, pg.3

[54] Institute for Public Policy Research, 2022, Spending and stability: How much fiscal space does the UK have?, pg.19

[55] Progressive Economy Forum, 2022, The Dangerous Fiction of the "Fiscal Black Hole".

[56] Verity, A., 2022, Economists question 'black hole' in UK finances

POLICY RECOMMENDATIONS

Keeping in mind the pressing macroeconomic troubles that the United Kingdom presently faces and the drawbacks of unconventional monetary policy, the aim of this section is to outline policies that we believe may address these issues. Arguably, each of these policies is relatively feasible since – taking into account the fact that they require at most meagre amounts of funding in order to be implemented – instituting them would not be particularly politically-costly. However, these policies are not free lunches – they each involve trade-offs which policymakers must be cognizant of.

Overview

Action one

In an attempt to decouple fiscal and monetary policy, the government and Bank of England should look to restructure the asset sheet of the Bank of England to reduce the sensitivity of fiscal policy to monetary policy changes.

Action two

The government may want to consider raising the interest rate target to take pressure off the Bank of England to tighten monetary policy.

Action three

The government should look to simplify the tax code to improve productivity and boost growth with little impact on the budget.

O N E

Action 1: The government should look to collaborate with the Bank of England via a move to a system of tiered remuneration for reserve balances.

As previously highlighted, the government is facing two issues with relatively contradictory solutions. The UK economy is facing poor growth prospects, whilst the government is wrestling with the need for tighter fiscal policy in the wake of the rising debt following the COVID-19 pandemic. A compromise between these two may exist via an agreement between the Bank of England and the government regarding the way the bank remunerates reserves. Paul Tucker (2022) has advocated for a shift to a system of 'tiered rates' of interest on the reserves the Bank of England holds following the recent expansion of the balance sheet. This involves setting the interest rate on the bulk of the Bank of England's assets to a rate below the base rate set by the Bank of England, whilst having a small portion of reserves that they pay higher interest rates on in a corridor system in order to retain influence over financial markets.

As aforementioned, due to increases in the Bank of England's policy rate, the Bank's interest payments on reserves have increased substantially, and, as a result, the Bank is currently running significant losses. A tiered reserve system would entail the Bank of England paying less interest to the banking industry on its reserve balances, hence reducing its liabilities to the private sector. This would serve to mitigate the extent of the losses that the Bank's Asset Purchasing Facility is currently running, reducing the government's debt burden as a result.[57]

Tiered-remuneration reserve systems have been used both by the ECB and the Bank of Japan, but for the opposite effect to the one targeted by the Bank of England. They paid higher rates on the bulk of their reserves to the base rates they set for the wider economy, which subsequently effectively subsidised commercial banks. This makes it difficult to draw direct conclusions from them.

Moreover, by reducing the interest payments on reserves held by the banking industry, a tiered reserve system would essentially represent a tax on the United Kingdom's banking system. Therefore, it runs the risk of creating deadweight loss and hindering allocative efficiency within it. Hence the government is forced to make a tradeoff: either it accepts the increased debt burden that the status quo system of reserve remuneration entails and preserves allocative efficiency within the banking sector, or it reduces the government's debt burden, but at the cost of implementing a distortionary tax on British banks.

Taking into consideration the trajectory of the Bank of England's monetary policy at the time of Tucker's report, these savings could be between £30 billion and £45 billion

[57] Tucker, P, 2022, "Quantitative easing, monetary policy implementation, and the impact on public finances". *IFS*

a year over the next 2 years for the government. In reality, these figures are likely to be even larger, as the aforementioned meltdown in the pension sector following announcements to roll back QE and begin QT[58] means that the balance sheet would most likely remain larger than the author predicted originally. Consequently, this gives the government more wriggle room with regards to their budget, having managed to reduce future outgoings, potentially allowing for them to aid growth prospects without further worsening the budget.[59]

This policy would be effective regardless of other policy implementation, but is crucial in expanding the range of choices the government has to act. Without its effect of reducing the budget, the government would be stuck in the vicious position of being forced to make cuts to the budget in an already shrinking economy.

[58] Marsh, David., 2022. "Truss and Meloni bond market squalls." *OMFIF*, https://www.omfif.org/2022/09/truss-and-meloni-bond-market-squalls/. Accessed 3 November 2022.

[59] Tucker, P, 2022, "Quantitative easing, monetary policy implementation, and the impact on public finances". *IFS*

T W O

Action 2: The Government should consider raising the Bank of England's inflation target.

Worldwide, it is typical for central banks to target an annual inflation rate of 2%. Supporters of the 2% inflation target have previously argued that it would result in nominal interest rates high enough to allow central banks to cut interest rates during downturns without running into the zero lower bound.[60] Ultimately, this has not been the case; interest rates consistently hovered around the zero lower bound in the decade following the Great Recession, leaving conventional monetary policy unable to provide further economic stimulus.[61] This has forced central banks to turn to unconventional monetary policy – which as aforementioned is relatively ineffective and comes with a host of unsavoury side effects.

This trend has been partially driven by declines in the 'neutral' rate of interest: the real rate of interest that has neither a stimulatory nor a contractionary impact on the economy.[62] There are numerous explanations for this phenomenon, including increased savings rates due to population ageing and high wealth inequality, low productivity growth[63], and less appetite for investment on the part of businesses.[64]

As such, the Bank of England could consider raising the inflation target. This would raise the average level of nominal interest rates. As such, it is likely that interest rates would run into the zero lower bound less frequently; this means that conventional monetary policy would likely be more effective at stimulating demand during recessions. This could have broader implications for the overall macroeconomy, such as lower average unemployment.[65]

However, there are potential drawbacks to such a policy shift. For one, raising the inflation target – especially when inflation is currently far higher than the 2% target – could undermine the Bank of England's credibility.[66] In essence, this would mean that people may be less inclined to place their trust in the Bank, and that they may be more unlikely to believe that it will follow through on its pronouncements.[67] Therefore, it may be wise for the government to consider waiting until inflation falls to a level closer to 2% before contemplating raising the inflation target.

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[60] Blanchard, O., 2022, It is time to revisit the 2% inflation target

[61] Corporate Finance Institute., 2021, Zero Lower Bound

[62] Apel, M et al., 2017, The level of the inflation target – a review of the issues

[63] Politano, J., 2022, How High Will Interest Rates Go?

[64] Cole, A., 2021, Sorry, deficit hawks: low interest rates are here to stay

[65] Gagnon, J.E., and Collins, C.G., 2019, The Case for Raising the Inflation Target Is Stronger than You Think

[66] Keene, T., 2022, Time Isn't Right to Raise Inflation Targets From 2%, IMF Says

[67] Economics Observatory., 2022, What can happen when economic policy-makers lose credibility?

Moreover, the increased levels of inflation that a higher inflation target would entail may lead households and investors to pay more attention to inflation; inflation consistently in excess of 2% may be unpopular amongst members of the general public, who may feel that their incomes and savings are being undermined by rising prices.[68] A recent study estimates that British households tend to start paying attention to inflation when it exceeds a level ranging from 2.3-2.5%; the government may wish to keep this in mind in the event that it attempts to increase the inflation target.[69]

T H R E E

Action 3: The government should look to simplify the UK tax code to promote private investment and boost productivity without significant damages to the budget.

The UK's productivity has historically been very poor compared to its contemporaries in the G7, and lack of private investment is frequently credited as one of the main causes of this.[70] A key driver behind this is the complexity of the tax code, with the UK tax code standing at 21,000 pages or 10 million words in length.[71] For context, Hong Kong's tax code is 276 pages, 1.5% of the UK's, and widely considered by tax lawyers to be one of the most efficient in the world.[72] This has largely been caused by several chancellors attempting to simplify the code by adding further clauses to try and clarify earlier ones, instead of simply rewriting the existing parts. This leads to the formation of loopholes within the code which, due to its length and complexity of language, are generally only understood by large corporations who have the resources to dedicate to finding and understanding them.

First and foremost, a simplification of the tax code would promote private investment particularly with regards to small and medium sized businesses. These are entities that generally lack the resources or time to dedicate to understand the existing tax code, and as such harbour greater uncertainty each year regarding their tax liability. A simplification of the code reduces this uncertainty, consequently increasing the

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[68] tutor2u. 2017. Evaluation Skills - Inflation Targets I A Level and IB Economics

[69] K, Oleg et al., 2022. Inflation and attention thresholds

[70] Office for National Statistics, 2022. "International comparisons of UK productivity (ICP), final estimates: 2020." *ONS*, ONS.

[71] Turnball-Hall C., Thomas R., 2012, "Length of Tax Legislation as a Measure of Complexity". *Office of Tax Simplification*

[72] "PricewaterhouseCoopers; World Bank Group. 2013. Paying Taxes 2014 : The Global Picture. World Bank Group, Washington, DC. © World Bank.
https://openknowledge.worldbank.org/handle/10986/18969

incentive for these businesses to invest, as they have more confidence regarding their future financial position. Greater private investment is historically linked to stronger growth in productivity and overall economic growth.[73]

Secondly, this simplification could also be seen to increase competition within the British economy. This is because this simplification would essentially function as a removal of a barrier to entry for businesses to enter almost all markets. As previously highlighted, larger corporations are the only firms that truly understand the tax code due to the resources they have at their disposal, making it hard for smaller businesses to enter or remain in the market and compete against them as larger corporations are essentially able to pay lower taxes. A simplification of the tax code removes this gap in understanding, and the associated financial cost and impact on confidence. Consequently, larger firms in the industry are forced to innovate to differentiate themselves from this competition, as they can no longer rely on effectively pricing smaller firms out due to greater ability to utilise tax loopholes.

There are two core issues with the likelihood of the implementation of this policy. The first is the time sink required to do so. The simplification of 21,000 pages, if not a complete recreation of the tax code, is going to require a massive amount of time from public servants, and as such will not be a quick policy to implement. This makes it a less popular choice for politicians, who are judged by the public on immediate results, and as such lack incentive to consider the longer term. Furthermore, there is likely to be significant pushback from lobbyists, who largely benefit from the existence of a complex tax code.

This is another largely favourable policy for the government because, unlike subsidies or tax cuts, it would have little impact on the budget - the tax raised under the simplified budget should be the same, the benefits would be felt via an improvement in confidence. There would be a financial cost in actually simplifying it, but this could be argued to be offset, or nearly offset, by the future reduction in costs for the HMRC from tax enquiries and investigations, which should fall under a simpler code. Additionally, it also does little to distort the workings of the free-market, as all it is doing is providing economic agents with more information, and letting this impact their decision making. It is also acting in a similar channel to that of monetary policy - corporate investment. This may help to blunt any negative impacts from future decisions from the Bank of England, which, as previously explored, are likely to be contractionary in nature.

[73] Oliveira-Cunh, J.; Kozler, J.; Shah, P.; Thwaites, G.; Valero, A.; 2021, “Business Time: How ready are UK firms for the decisive decade?”

9.6%
BANK OF ENGL
INFLATION

CONCLUSION

The aforementioned policies seek to reduce the impact of monetary policy going forward, particularly its ramifications for fiscal policy. The first policy aims to diminish the relationship between fiscal and monetary policy by reducing the sensitivity of government debt to changes in the Bank of England's policy rate. This is arguably the most feasible policy as it requires no financial commitment, seems to have little wider repercussions for confidence and has previously been implemented in other parts of the world, albeit in a reverse fashion. However, it may result in lower levels of allocative efficiency within the world of banking.

The second policy aims to increase the effectiveness of conventional monetary policy by maintaining nominal interest rates well above the zero lower bound, reducing the Bank's dependence on relatively less effective unconventional monetary policy as a result. This is also a very achievable policy, but it is crucial that it is implemented in a period where trust in the government and Bank of England is high, so as to prevent a loss of credibility.

Finally, the third policy looks to promote growth without impacting the budget via simplifying tax laws, promoting investment and improving productivity. This policy is relatively simple to implement, but would require a large time period to do so successfully due to the length of the project. By mitigating contractionary pressures now, the government should find itself with the budget to do so sooner than if they chose not to act.