A Comparison of the unconventional monetary policy reaction in the Great Recession (2007-2009) and the COVID-19 Recession.

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Contents

Abstract

This piece aims to produce a review of the Unconventional Monetary Policy (UMP) used in both the Great Recession 2007-09 and the COVID-19 Recession, then compare the two recessions to show how unconventional monetary policy changed, differences in tools used by the Bank of England and the size of the tools put in place. Notably, tools such as quantitative easing see use in both recessions suggesting similarities in the aims of the Bank of England during both recessions. The main results show a significant increase in the use of unconventional monetary policy from the Great Recession to the COVID-19 Recession. At the same time, inflation outcomes were worse during the COVID-19 Recession. This suggests that the greater reaction by the BoE in the use of UMP towards the COVID-19 Recession may not have been as effective in controlling inflation compared to the Great Recession.

Introduction

Central banks conduct monetary policy with the aim of maintaining price stability relative to inflation targets set by themselves or the central government. Conventionally, this is achieved through the adjustment of policy instruments, such as the bank rate. However, significant economic shocks have led to the central banks' increased use of additional – or *unconventional* – policy tools.

Firstly, what Allsopp and Vines have defined as "The Great Recession of 2007-09" (Vines; 2015, p. 134) caused significant out-of-target inflation rates, which were significantly beyond the expected outcomes. In response, unconventional monetary policies were implemented to mitigate the effects of subdued economic activity on inflation. More recently, there was the recession associated with the COVID-19 pandemic that has seen inflation move away from targets. This project aims to evaluate data and policies pertaining to the responses to these two economic shocks and gain insight into the impacts of using unconventional policies. Specifically, this project evaluates the effectiveness of the Bank of England (BoE) policies in bringing inflation back to the 2% target in the U.K.

The project has been structured so that the issue can be directly assessed and understood within the context of the identified literature, data, and subsequent results. The next section includes an analysis of relevant literature provides. This is followed by a methodology section which outlines the research method used in this project, including data collection and associated limitations. Finally, the results section presents the analysis and discussion of findings.

Literature review

Monetary policy is the "action that a country's central bank or government can take to influence how much money is in the economy and how much it costs to borrow" Bank of England (2023). It should be noted that implementing monetary policy involves a significant time lag between instrument adjustment and the final effect on inflation rate.

Literature within the subset of study into monetary policy provides significant knowledge around the current use of unconventional monetary policy (UMP) and its use in important economic events. Sina et al. (2021) explain that UMP provides an alternative to conventional tools when banks reached the zero lower bound, meaning that interest rates could not go lower. Bernanke and Reinhart (2004, p 85) define unconventional monetary policy, stating that it "encompasses measures which cause a change in the size and/or composition of a central bank's balance sheet". However, the article was written before the 2007-2009 financial crisis; therefore, changes may arise regarding how unconventional monetary policy is defined. Although, the essential idea of unconventional monetary policy remains the same. Examples of unconventional monetary policy tools include quantitative easing (QE), quantitative tightening, large-scale asset purchasing, special liquidity schemes and extended open market operations.

Further exploration by Kuttner (2018) into UMP and the Federal Reserve's (the U.S. central bank) response towards the Great Recession, using a case study style, found that implementing quantitative easing and large-scale asset purchases significantly affected inflation. This demonstrates that UMP can be effective in controlling inflation targets. Similarly, Dell'Ariccia (2018) uses a grouping of countries comparing their responses to the financial crises finding that UMP significantly affected inflation rates. These articles show that UMP effectively controls inflation rates and can be used across multiple economies. As far as the U.K. is concerned, Joyce (2012) provides a comprehensive review of the Bank of England's policies during the Great Recession, showing the timeline and justification for using these policies. It should be noted that both – Dell'Ariccia (2018) and Joyce (2012) - focus on the financial crises and do not include the lessons learnt from the recent COVID-19 Recession.

Sina et al. (2021) explore this gap, analysing the link between UMP and inflation rates within the Euro Area during the COVID-19 Recession. They find that expectations of the private sector in a time of high UMP rely heavily on the credibility and confidence of the Central Bank for the efficacy of the unconventional action. Sina et al. (*ibid.*) then concluded that UMP leads to stabilised inflation expectations in the short run. Conversely, Greenwood (2023) states that "excessive" use of QE and other measures during the early periods of the COVID-19 Recession resulted in high inflation. Contradicting findings by Sina et al. and Greenwood suggest that there is a level to which UMP is effective and beyond, leads to the opposite of the desired effect.

Similarly to Sina et al. (2021), Agur (2022) aims to examine how UMP affects inflation expectations during the COVID-19 Recession. However, in comparison, Agur focuses on emerging markets and developing economies (EMDEs), finding that the UMP had little effect on inflation expectations in those countries. The author concludes that the lack of effect is due to the size variable of UMP. Though this is insignificant in "21 of the 23 specifications". The overall economic effect of insignificant UMPs in emerging developing economies could suggest that UMPs are more effective in developed economies. Although unconventional monetary policy's efficiency is still being debated, Bernanke (2014 p14) summarises the problem as "that it works in practice, but it doesn't work in theory". It is clear that unconventional monetary policy requires greater research to fully understand its economic implications, which could explain the varying outcomes in different economies.

Furthermore, UMP aimed at easing economic conditions has received more attention than quantitative tightening (QT). For instance, the Bank of England used QT for the first time at the end of the COVID-19 Recession to reduce the size of the Bank's balance sheet. Consequently, there is presently limited data availability for any rigorous analysis of the effects empirically of QT.

Methodology/ Data

The report will consist of a systematic policy review and will involve structuring the central bank's tools used in the Great Recession and the COVID-19 Recession into a table, allowing a clear view of the policies implemented and their similarities and differences. The approach taken is similar to that in Paess (2021). Structuring results in this way allows for a comparison of the tools used by the Bank of England in response to both Recessions, detailing the date, source, extended explanation and justification given by the Bank of England for their use. These tables aim to show similarities in the policies implemented and where they differed across the two Recessions. It could be argued that communication by the Bank of England is in itself a UMP tool[1]. Therefore, the approach of this analysis will involve looking at the narrative surrounding policy actions, presented in such sources as policy announcements and monetary policy reports[2].

Separate tables for the use of Quantitative Easing have been constructed to show; the sources of information, the date of the decision, what decision was made regarding QE and the justification/ aims of this decision. In addition, these tables will provide a path of how QE has evolved and increased/ decreased throughout both recessions, allowing comparisons of how it was implemented in each Recession and its effectiveness in achieving the central bank's aims.

To support the above method, secondary data will be used to give weight to the case studies and reports provided by the central bank. Taking inflation data and inflation forecasts from the Bank of England, OECD and National Archive, for the periods of the Great Recession 2007-09" (Vines; 2015, p-) and March 2020 onwards for COVID-19 Recession (Agur, 2022, p1). Inflation forecasts from each period will be collected for each quarter during that time period projecting forward, with actual inflation being shown per quarter alongside each individual forecast line. There is a limitation to this data as actual inflation is reported monthly. However, because forecast inflation is reported quarterly, actual inflation must also be quarterly;

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[1] This view is explored in the central bank communication literature.
[2] It should be noted monetary policy reports were called inflation reports during the Great Recession.

therefore, this may affect the accuracy of analysis. A graphical analysis will be conducted to compare the path of inflation forecasts with the actual inflation rate for each Recession. Therefore, it allows numerical and diagrammatical analysis of the expected path of inflation, how closely or loosely it followed actual inflation, and the impact the implementation of unconventional monetary policy had on both forecasts and actual inflation.

Taking the data further, a Min, Max will be performed on the quarterly inflation forecasts for both the Great Recession and COVID-19 Recession. to show the range between the minimum forecast inflation and the maximum forecast inflation in the form of a fan chart to highlight the difference between the two, with the aim of demonstrating the uncertainty or certainty of the central bank of the path of inflation. Inflation in these graphs will be shown as a line graph allowing for insight as to how close the bank's forecasts were to the true path of inflation. A limitation of this data is that it will observe one country only, showing the effects of unconventional monetary policy on the UK economy. In contrast, multiple countries could provide a greater view of the true effects of these on inflation data.

Consideration of a two-year lag will be required when looking into the impact of the tools implemented by the Bank of England. The lag is necessary as it is widely accepted that two years is the required time span to see the effects of implemented monetary policy, as shown by Svensson (1997) and Svensson and Woodford (1999). This implies that policy decisions made today are based on a two-year forecast of inflation. Presenting this data in a bearded diagram will show the time lag of two years and where previous inflation forecasts differ from the path of the actual inflation rate—leading to a demonstration of the Bank of England's forecasts on the effectiveness of their policies. Pétursson (2022) uses this graph to demonstrate long-term inflation expectations using different models. In addition, this graph can be adapted to show the actual inflation versus inflation expectation at multiple points throughout each crisis.

From these graphs, it may be possible to determine if the implemented policies worked in their intended way and returned inflation to its 2% target as well as if these forecasts change for similar policies. Similarly, a working paper by Joseph et al. (2022) directly analyses inflation forecasting. However, the approach taken finds that the combination of ridge regression and CPI time series led to a significant increase compared to the autoregressive (AR) benchmark with a sixth-month horizon. Capolongo and Pacella (2021) also find that using different models compared to the benchmark significantly improves forecasting accuracy. Moreover, suggesting that inflation forecasting has a degree of inaccuracy for the standard method. This acts as a limitation to the data analysis and will have to be considered when drawing conclusions and results.

Other limitations, such as the ongoing effects of Brexit throughout the COVID-19 Recession, have significantly affected the UK economy and the simultaneous start of the Russian and Ukrainian war as economies opened up in the later periods of the COVID-19 Recession. It will be difficult to isolate these events and their variables, subsequently creating limitations to the available data and analysis. Thus, this will need to be factored into any conclusions. A further limitation similar to the one described in the data is that this piece only covers the UK economy and the Bank of England. Therefore, it is subject to only being able to draw conclusions based on this narrow view. Later research may benefit from including other

countries and central banks in the data and analysis to provide a greater view of the true use of unconventional monetary policies in these recessions and the subsequent effects on inflation.

Results and Analysis

Great Recession

The section below compiles the different monetary policy strategies the Bank of England used during the Great Recession 2007-2009. During the financial crisis, the Bank of England's focus was to provide liquidity. This was achieved by implementing various liquidity support operations, Joyce (2012) after conventional monetary policy failed when interest rates reached the zero lower bound. In addition, requiring the use of unconventional monetary policy, the table below provides an overview of the policies implemented during this period and their intended purpose.

Table 1 Unconventional monetary policies used by the BoE in the Great Recession.

Source	Policies	Extension	Justification	Numbers
Joyce (2012)	An Extension of lending operations (2007).	Through the increase of lending horizons and broadening the eligible collateral accepted	Aimed to unblock interbank markets as well as ease conditions for funding	N/A
Joyce (2012) John, Roberts, and Weeken (2012)	Special Liquidity Scheme (2008).	Aimed to exchange high-quality assets from the banks for Treasury bills followed later by the permanent Discount Window Facility	Implemented due to the lack of confidence in the banking system, leading to banks having an overhang of assets.	£185 billion total lent in treasury bills.
Joyce (2012) John (2014) Joyce et, al. (2011) John et, al.(2012)	Creation of the Asset purchasing facility (2009). Quantitative Easing (QE) March 2009-2010.	The facility meant the BOE could purchase commercial paper and corporate bonds. As a result, QE allowed a further increase in the number of assets purchased by the Central Bank.	Reaching the lower bound on the bank rate meant that the Central Bank could continue to ease monetary conditions.	March 2009 BOE used £75 billion to purchase public sector assets with a 5-25 years residual maturity. It increased in Feb 2010 to £200 billion.
Bank of England (2007) inflation report December 2007.	Open market operations 2007.	The Bank maintained the usual length of reserves at 3, 6, 9 and 12-month periods. However, increasing the total amount offered to three-month maturity, with a greater range of acceptable collateral.	To increase the size of reserves and reduce the pressure on the funding market.	£11.35 billion, of which £10 billion focused on three-month maturities.

A report by the Bank of England(2007) Shows that initially, in the Great Recession, the expectation of the wider economy and thus CPI or inflation was that it would, in the long term, right itself without the interjection of the Bank of England. The BoE Instead chose to continue using conventional monetary policy and a bank rate of 5.75%. This suggested that the Central Bank hesitated to divert from conventional monetary policy and assumed that inflation would return to the target inflation of 2%, only implementing more unconventional policies later in 2007 when expectations worsened.

The Bank of England, in December (2007), introduced a UMP measure alongside the European Central Bank, The Federal Reserve and the Swiss National Bank. These measures aimed to reduce the short-term pressures in the funding market. As stated in Table one, the BOE also used open-market operations to increase the size of reserves from £2.85 billion to £11.35 billion, with £10 Billion of the increase focusing specifically on the 3-month maturity, showing a significant reaction to the ongoing financial crisis. The BoE also, Implemented a special liquidity scheme along with an extension of lending operations Joyce (2012). Policies like the special liquidity scheme allowed commercial banks to exchange high-quality assets for secure treasury bills. With the scheme initially Intended as a temporary measure to provide time for commercial banks to improve their balance sheets and diversify funding sources John et al.(2012), the policy tool reached a total of £185 billion. However, John et al. does contradict Joyce with the date the policy was implemented.
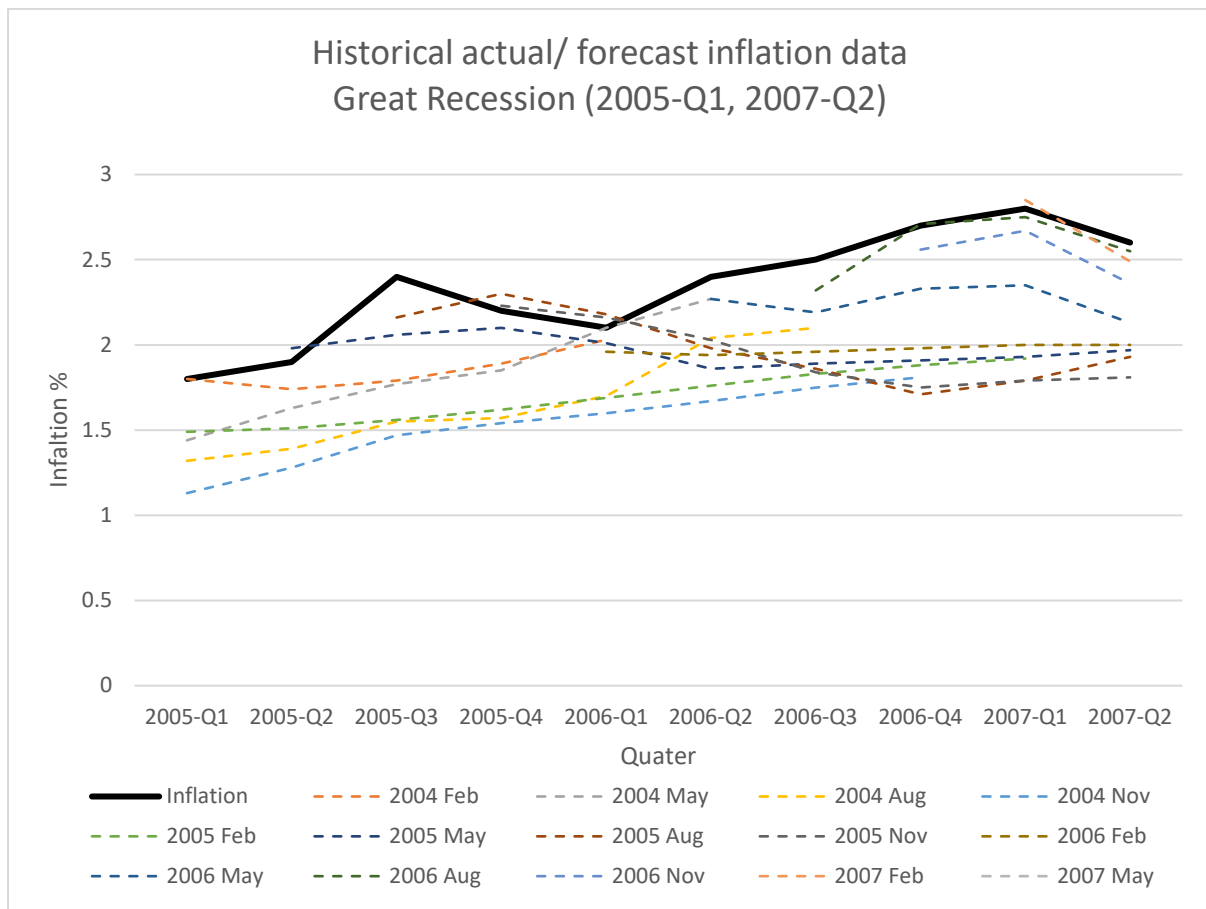

Figure 1: Historical actual/forecast inflation data Great Recession (2005-Q1, 2007-Q2)

Figure 1 shows how these early expectations by the Bank of England compared with the actual inflation rate during the Great Recession. At any time t, the graph shows actual inflation (solid line) at time t and a set of forecast of inflation at time t formed at t-1, t-2, t-3 etc…Dashed lines correspond to sets of inflation forecasts published in an Inflation Report in a given quarter. Inflation expectations in Figure 1 remained around the 2% inflation level prior to February 2007, in line with the Bank of England's target rate. However, inflation can be seen to rise above the 2% target, reaching 2.8% in 2007 Q1; this increase in the actual inflation is noticeable from 2006-Q1, with early inflation forecasts such as the 2006 May forecast, which predicts that inflation would remain around the 2% target, significantly undershooting the path of actual inflation. These forecasts support that inflation was expected to correct itself, Bank of England(2007). Later forecasts diverged greatly from earlier forecasts, with the 2007 February at 2.49% and the earlier 2005 November forecast at 1.97%, showing how unexpected the shock was to the BoE.
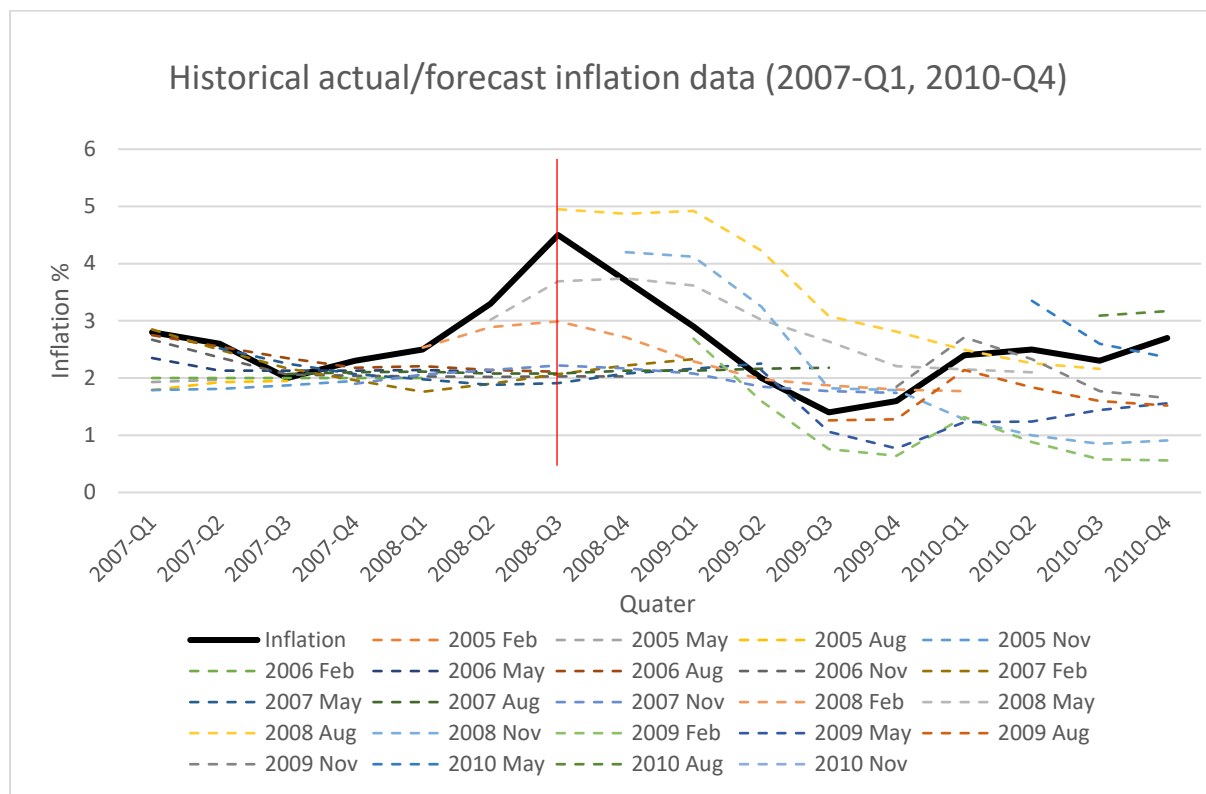

Figure 2: Historical actual/ forecast inflation data Great Recession (2007-Q1, 2010-Q4)

Looking at inflation from 2007-Q1 onwards. In Figure 2, inflation is seen to correct itself for a brief period in 2007-Q4, falling back to target inflation before sharply rising to 4.5% in 2008-Q3, coinciding with the Lehman Brothers collapse on the 15th of September 2008, shown by the red line. Noticeably, forecasts in February 2008 and May 2008 fall significantly below the path of actual inflation, demonstrating uncertainty in detecting the inflation rate and its peak. On the other hand, the 2008 August forecast was above the actual inflation rate, further demonstrating the uncertainty in the central bank at the time. Moreover, later forecasts demonstrate increased uncertainty by the central bank, with forecasts varying significantly from actual inflation. Also, unlike previous periods, inflation forecasts show a sharp increase in expected future inflation rates, although later forecasts by the Bank of England fall below the peak of actual inflation. This could be due to the implementation of unconventional monetary policies, such as extended lending operations and special liquidity schemes Joyce (2012).

Though these policies would have been subjected to policy lag, as described by Svensson (1997) and Svensson and Woodford (1999). This is because each policy goes through three types of lag: recognition time for policy action, implementation time for decision and adjustment, and effects is the time to affect the target variables. Therefore, the time lag meant that results from the use of these policies were seen later in 2009 when actual inflation fell to 1.4%. However, the graph shows that inflation forecasts into late 2009 and onwards expected inflation to rise back above the target rate, with the actual inflation rate rising to 2.7% by November 2010.

These forecasts could then have led to the greater reaction and implementation of quantitative easing and the subsequent creation of the asset purchasing facility John et al. (2012). Later into the financial crisis, it was evident that the Bank implemented an increased variety of unconventional policies. Leading to a rapid and significant increase in the size of the Bank of England's balance sheet Joyce (2012). Such policies include the asset purchasing scheme, implemented in March 2009 after reaching the zero lower bound of 0.5% in March 2009 Benford et al. (2009). This allowed the BOE to continue easing the monetary conditions using £75 billion Rogers (2014), later increasing to £200 billion Dell'Ariccia (2018). The Bank of England (2009) aimed to reduce the quantity of spare capacity within the economy and push inflation back towards target inflation.
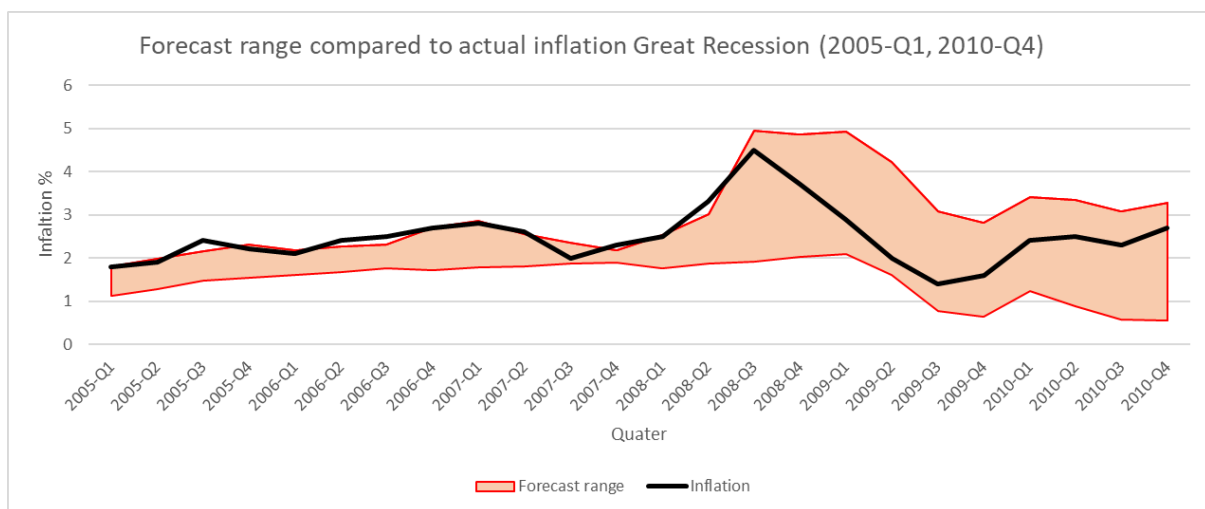

Figure 3: Historical actual/ forecast range inflation (2005-Q1, 2010-Q4)

Figure 3 uses data collected from the national archive and the OECD database, formatting the data into a forecast range using min and max with actual inflation in a line chart format. At any time t, the graph shows actual inflation at time t and maximum and minimum values out of the set of forecasts of inflation at time t formed at t-1, t-2, t-3 etc...The Data has been plotted in quarters ranging from 2005-Q1 to 2010-Q4 with inflation in the form of a line chart and the shaded area on either side representing the Min/Max forecast range for inflation; similarly implemented by Sina et al. (2012) to compare the relationship between unconventional monetary policy and inflation expectations.

Figure 3 shows that the inflation forecast range initially remains stable, not differing significantly from actual inflation. However, from 2007-Q1 onwards, the uncertainty of inflation is made more apparent as the inflation forecast range shows an increase between 2008-Q2 and 2009-Q2, demonstrating uncertainty in the BOE with a relatively small response to unconventional monetary policy. Although later increases in UMP's use and increased response could be the cause of a decreasing forecast range in later periods. This is supported by Gupta and Jooste's (2018) study finding that UMP helped to reduce uncertainty, possibly encouraging the increasing use of UMP.

Table 2: QE during the Great Recession.

Sources/ Dates	Decision about QE	Justification
January 29th 2009: Benford et al. (2009) Joyce, M. (2012)	The creation and implementation of the asset purchasing facility for £50 billion were authorised by the government and implemented by the BoE.	The APF gave the BoE another tool to control inflation, improving liquidity in credit markets that were not functioning normally.
March 05th 2009: Exchange of letters (2009)	Increase funds available for purchasing assets that are eligible to £150 billion, with £50 billion being used to purchase private sector assets.	To further facilitate the increase in the monetary base, support the corporate credit flow and continued stimulation of the UK economy.
August 06th 2009: Inflation report (2009) August Exchange of letters (2009) August 06th	Increase in quantity purchased from £150 billion to £175 billion.	The increase was done to keep inflation on track to meet the inflation target of 2%.
November 11th 2009: Inflation Report (2009)	The final increase from £175 billion to £200 billion.	The increase was justified stating that it would help keep inflation on track to hit the 2% target inflation in the medium term, following the justification of the previous increase.

The Bank of England used significant rates of QE during the Great Recession in order to mitigate the effects of inflation and can be defined as the 'large-scale purchase of securities by the Central Bank' being implemented through long-term government bonds Joyce (2012). Initially, the asset purchasing facility only had £50 billion authorised, demonstrating a significant increase from the relatively small quantity of £11.35 billion in early 2007. Suggesting a greater reaction to the financial crisis later into the Great Recession compared to the reluctance to use unconventional monetary policy at the start. These purchases aimed to improve liquidity in the credit market and further control inflation after reaching the zero lower bound, with Kapetanios et al. (2012) finding QE was an effective tool during the Great Recession.

This quantity was later significantly increased to £150 billion after an exchange of letters between the Chancellor of the Exchequer and Governor of the BoE. This is in line with forecast inflation showing increasing rates. Therefore, it could have encouraged the increasing quantity. With £50 billion being used to purchase private sector assets and £75 billion in government debt, injecting money into the economy acting as a stimulus Benford et al. (2009)

COVID-19 Recession

When comparing BoE's response to the COVID-19 Recession to its response during the Great Recession of 2007-09, there are several notable similarities and differences. However, a significant difference between the two is how the two recessions started. COVID-19 caused the Recession by shutting borders and slowing economic activity. Unlike the collapse of the banks and subprime mortgages in the 2007-2009 Great Recession. Equally, this leads to different unconventional monetary policies, such as quantitative tightening, being implemented. The table below details the policies implemented by the BoE.

Table 3: Unconventional monetary policies used by the BoE during the COVID-19 Recession.

Source	Policy/ Date	Extension	Justification	Numbers
May 2020 Bank of England (2020) Monetary Policy Report May 2020 Bank of England (2023) Our response to covid	Term Funding Scheme. Ran from April 2020- October 2021	Giving additional incentives for small and medium businesses to keep them afloat.	The intended purpose was to limit the long-term economic damage caused by the Pandemic.	Gave banks and Building societies long-term funding at interest rates close to or at 0.1% to increase their lending capabilities
May 2020 Bank of England (2020) Monetary policy report	Increase in quantitative easing, May 2020	This increase is for the stock of the UK Government bonds and sterling non-financial investment-grade corporate bond purchases	Similar to the above, the policy intended to decrease the impact of the Pandemic on the Economy.	£200 Billion increase to a total of £645 Billion
August 2020 Bank of England (2020) Monetary policy report August 2020	A further increase in quantitative easing by the Bank of England, August 2020	Increasing the stock of UK Government bonds and sterling non-financial investment-grade corporate bond purchases	The aim was to further decrease the impact of the Pandemic on the economy	Increase of £100 Billion to £745 Billion
November 2020 Bank of England (2020) Monetary Policy Report	The continued increase in the easing of money, November 2020	This led to a continued increase in the target stock of purchased UK government bonds	This was done in order to meet inflation targets in the medium term.	£150 Billion in government bonds and £20 billion in non-financial investment grade cooperate bonds. Taking the total government bonds to £875 Billion
Bank of England (2023) Our response to covid	Creation of the Covid corporate financing facility in March 2020	Offering to fund to large employers who would normally raise their funds through financial markets	Aiming to support firms in paying employees' wages and suppliers. With the further aim of bridging the distortion of cashflows.	The facility gave out £85 Billion in total, supporting 2.5 million jobs.

The shutting of borders led to a rapid decrease in the global economic activity Bank of England (2020). This caused a significant unconventional monetary response from the Central Bank, such as the £200 billion increase in the government stock of bonds to £645 billion in May 2020 Bank of England (2020). Showing that the initial reaction to COVID-19 Recession through unconventional monetary policy was more robust than the Great Recession in contrast to the minimal £11 billion in the early stages of 2007. Therefore, it could be argued that the central bank was comparatively more able or knowledgeable in implementing UMP than during the Great Recession.

However, comparing the later periods of the Great Recession and the COVID-19 Recession, both show a significant increase in the level of UMP implemented by the Bank of England to control inflation rates and move inflation back towards the target rates. Looking back at the table above showing UMP in the COVID-19 Recession, there was a significant increase in QE in November 2020 to £875 billion to meet medium-term inflation targets. This would have led to a rapid increase in the stock of the Bank of England over a short period of time, demonstrating the size of the effect COVID-19 Recession had on the wider economy.

The Bank of England also implemented a term funding scheme in May 2020, with the aim of limiting the long-term damage of the COVID-19 Recession by reducing the interest rates on loans and funding given to Banks to near or at 0.1% Bank of England (2020), supporting these banks to continue lending at lower rates. Compared to the Great Recession, this policy shares similarities with the policies used in 2007; both the term funding scheme and the lending operations extension increased the ability of banks to continue lending to businesses and individuals during the Recession. However, they differ in that the lending operations extension focused on increasing the eligible collateral that was accepted Joyce (2012) rather than allowing banks to borrow at lower interest rates.
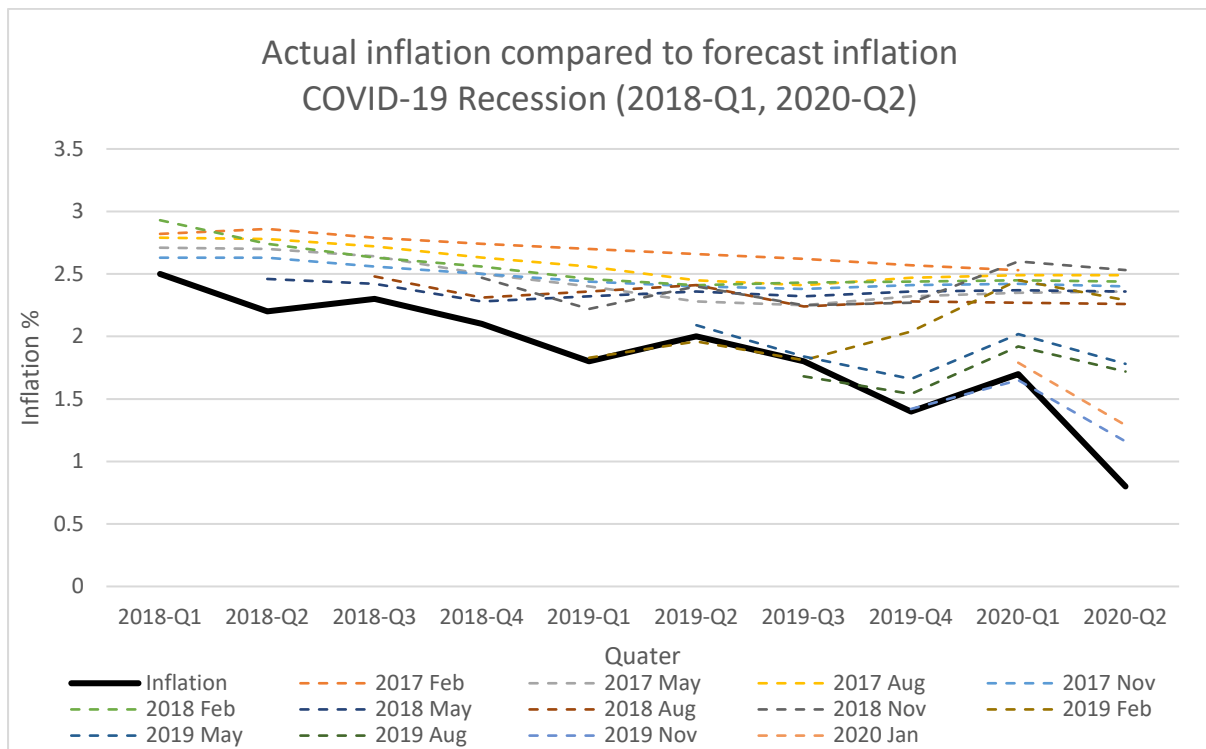

Figure 4: Historical actual/ forecast inflation COVID-19 Recession (2018-Q4, 2020-Q2)

Figure 4 shows the period before the start of the COVID-19 Recession and the early beginning of the Recession, which Agur defines as starting in March 2020 and caused an "unprecedented decline in economic activity across the globe" (Agur, 2022, p1) leading to central banks using expansionary monetary policy to support economies. The graph above shows the actual inflation rate for the UK per quarter and forecasts for each quarter up to 2020-Q2. The data is formatted into a bearded graph to show how inflation forecasts compared with the actual path of inflation and how this relates to the response of the Bank of England. Looking at the period between 2018-Q1 and 2019-Q4, inflation remains stable around the 2% target set by the BoE and the UK government, requiring little UMP intervention. Though from 2020-Q1 onwards, the data shows a sharp decrease in the inflation rate from 1.7% to 0.8% below target inflation as the economy slowed and shut down.
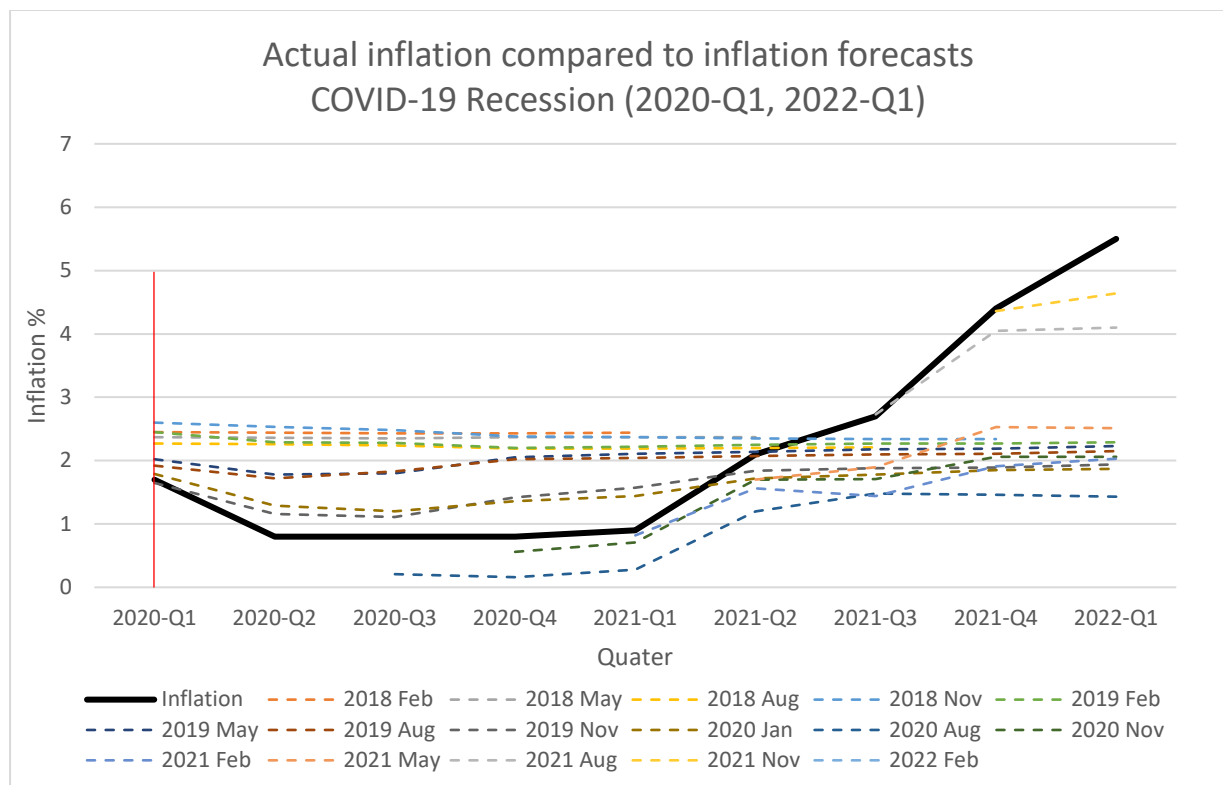

Figure 5: Historical actual/ forecast inflation COVID-19 Recession (2020-Q1, 2022-Q4)

Figure 5 above specifically shows the period between 2020-Q1 and 2022-Q2 at the start of the COVID-19 Recession, denoted by the red line with the first U.K. lockdown occurring on 23rd of March 2020-Q1. From this period, inflation rates decreased to 0.8% below the BoE's 2% target between 2020-Q2 to 2020-Q4, rising back to target inflation in 2021-Q2. Though earlier inflation forecasts are shown to remain around the 2% target, later forecasts fall below the 2% target but fail to be in line with actual inflation, further illustrating the issue the central bank faced in accurately predicting the level of actual inflation. Additionally, whilst inflation rates decreased during the COVID-19 Recession, Figure 1 shows that in the Great Recession, inflation rates initially increased, which could have led to the difference in response by the BoE.

This significant economic shock and drop in inflation rates could have prompted the difference in the UMP response of the central bank. Notably, during this period, the BoE implemented the Term Funding Scheme in April 2020 and increased QE from £200 billion to £645 billion in May 2020 to support the economy finally, increasing QE to £875 billion by November 2020 Bank of England (2020). This shows a greater use of UMP in the early stages of the COVID-19 Recession by the BoE, unlike in the Great Recession, where the BoE only extended lending operations in the early periods of the recession. Therefore, the BoE is possibly more confident in implementing UMP after the Great Recession, leading to a greater reaction by the central bank.
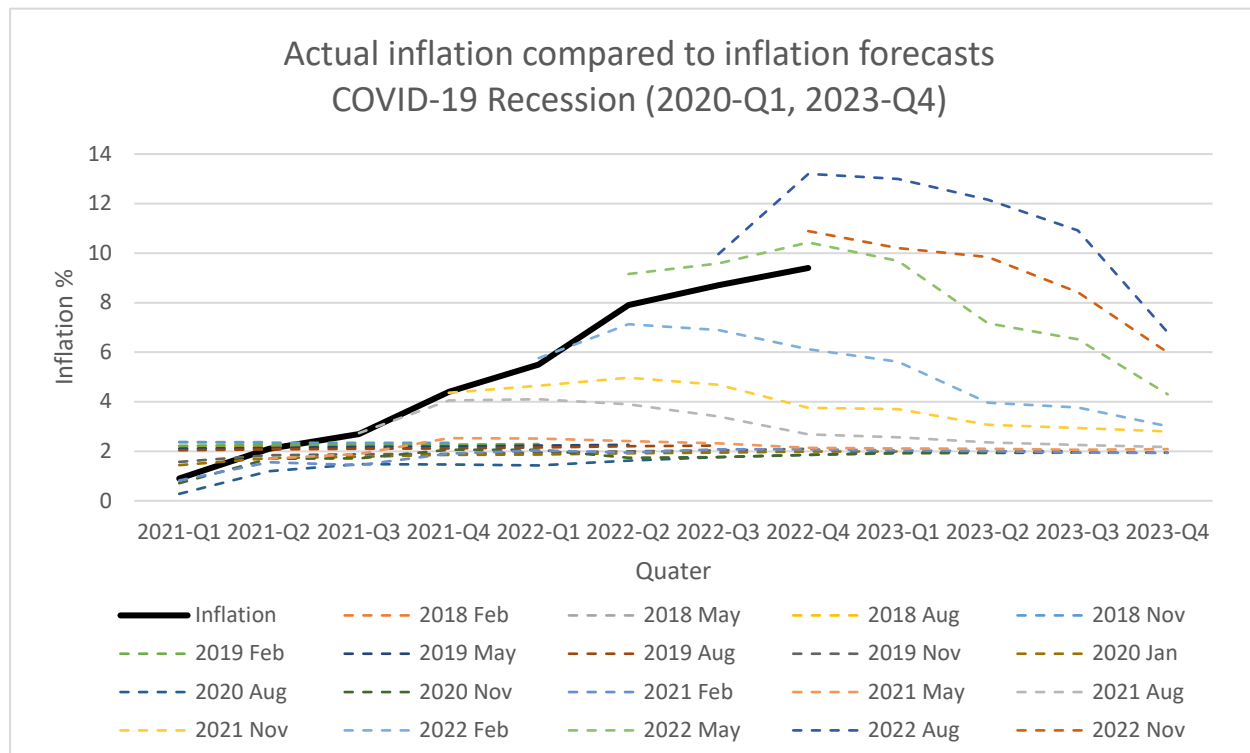

Figure 6: Historical actual/ forecast inflation COVID-19 Recession (2021-Q1, 2023-Q4)

Figure 6 shows later periods of the COVID-19 Recession; further similarities to the Great Recession are shown in the inaccuracy of inflation forecasts later into the Recession, demonstrating uncertainty in the BoE in both recessions. Inflation rises from 2021-Q1 to the last recorded quarter in 2022-Q4, where inflation reaches 9.4%, substantially higher than the Great Recession peak of 4.5%, leading to the greater UMP measures to control inflation in the COVID-19 Recession. Though inflation rises, forecasts remain around the 2% target, such as the 2020 Nov forecast. Showing similarities in the response of the BoE, expecting inflation to quickly right itself. However, unlike the Great Recession, where inflation is shown to peak, the inflation in COVID-19 Recession continues to rise through 2022-Q4. This suggests that the response of the BoE to the COVID-19 Recession was less effective than in the Great Recession. Although later periods of data could be affected by the ongoing Russia-Ukraine war and, therefore, could have led to the continued increase of inflation in the UK economy.
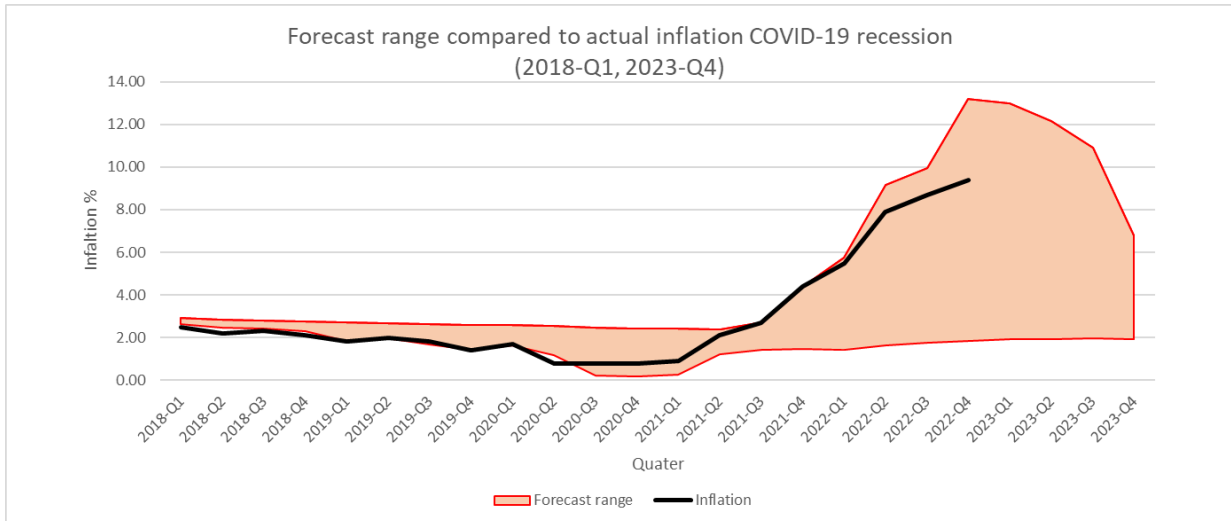
Figure 7: Historical actual/ forecast inflation range COVID-19 Recession (2018-Q1, 2023-Q4)

Figure 7 has been produced using data collected from the national archive and the OECD database, formatted with the forecast range using min and max with actual inflation in a line chart format. Again, the data is presented in quarters ranging from 2018-Q1 to 2023-Q4 with inflation in the form of a line chart; the shaded area on either side represents the Min/Max forecast range for inflation.

Figure 6 shows that the forecasts follow actual inflation closely between 2018-Q1 and 2020-Q1. The inflation line drops below the forecast range in 2020-Q2, similar to the data presented in Figure 5, showing the uncertainty of the BoE in the short-run path of inflation and is further demonstrated from 2021-Q3 onwards, seeing a significant increase in the forecast range. This is possibly due to under confidence of the central bank in the short-run horizon, as described by Knüppel and Schultefrankenfeld in their article (Knüppel and Schultefrankenfeld; 2019, p 1748-1769). Notably, an article by Greenwood (2023) states that the excessive use of QE and the easing of the economy during the early periods of the COVID-19 Recession resulted in high inflation levels in later periods shown in the table above. This suggests that the reaction to the COVID-19 Recession by the BoE was unsuccessful in achieving the central bank's goals, unlike in the Great Recession, where inflation is seen in Figure 2 to return to target levels, at least in the short run.

Table 4: QE used by the BoE during the COVID-19 Recession.

Sources/ Dates	Decision about QE	Justification
May 06th 2020 Bank of England (2020) Monetary policy report May.	The first initial increase in QE, at the start of the COVID-19 Recession, was from £445 billion to £645 billion, a total increase of £200 billion. Increasing the BoE's stock of bond and sterling non-financial investment-grade bonds.	Used as a way to support companies and households through economic disruption by boosting their cash flows, maintaining the flow of credit and helping support the prices of assets.
June 17th 2020 Bank of England (2020) Monetary policy report August.	A further £100 million increase in the stock of UK government bonds financed by the central bank insurance. Taking the total stock to £745 billion.	The MPC judged that further easing of monetary policy was needed to meet its statutory objectives.
November 04th 2020 Bank of England (2020) Monetary Policy Report November.	The MPC voted to maintain the stock of sterling non-financial investment-grade corporate bonds at £20 billion. As well as a further £150 billion in UK government bonds. Bringing the total to £895 billion	The MPC judged that further easing of monetary policy was warranted to meet medium-term inflation targets.
February 02nd 2022 Bank of England (2022) monetary policy report February.	MPC voted unanimously to start reducing the stock of UK government bonds and non-financial investment-grade corporate bonds. To achieve this, reinvestments into maturing assets will cease.	This was done to begin tightening the economy and achieve the BoE remit to hit its 2% inflation target in the medium term and minimise unwanted volatility in output.

Table 4 above shows the path of Quantitative Easing through the COVID-19 Recession. The data shows that the level of Quantitative easing doubled through the COVID-19 Recession. Rising from £445 Billion at the start of the Recession to £895 billion at its peak. This is relatively higher compared to the peak levels of QE in the Great Recession, totalling £200 billion Bank of England (2020). However, a significant quantity of QE was implemented in 2020, as shown by the table above, but the time lag for implemented policies, as previously discussed, requires two years for these policies to affect the economy. In contrast, in 2022, inflation is shown to rise rapidly; this suggests the level of QE could have had the opposite effect of what the BoE desired. Though as in the Great Recession, the BoE in the COVID-19 Recession justifies the increase in QE by stating it will continue to boost cash flows, similarly described as acting as a stimulus in the Great Recession (Benford et al. 2009).

A major difference between the COVID-19 Recession and the Great Recession is the introduction of quantitative tightening, which Sims and Wu describe as the transition from bond purchases to bond sales (Sims and Wu, 2021). The BoE implemented this tool in February 2022 and would see the central bank stopping its reinvestment into UK government and corporate bonds to reduce the volatility in the economy and bring inflation into line in the medium-term targets (Bank of England 2022).

Policy implications

In this paper, both the Great Recession and COVID-19 Recession have been compared in terms of their use of unconventional monetary policies. Analysis of the Great Recession has shown a reluctance to use significant UMPs at the start of the Recession. In comparison, the later COVID-19 Recession saw a rapid and significant use of UMP. It could be argued, that a more rapid response signals confidence which is beneficial for stabilising inflation expectations. Additionally, this helps with the issue of policy time lag.

Furthermore, the paper shows the increasing use of quantitative easing between the two recessions and how it was used to ease money in the economy and boost it during the recession. However, this paper has highlighted that the UK economy is on the cusp of shifting from quantitative easing to quantitative tightening. This raises two questions. Firstly, should the shift have happened sooner? Secondly, what is the optimal rate of transition? As far as the former is concerned, for instance, the BoE should consider the effect of high-use QE on the exchange rate. Kenourgios et al. (2015) argue that excessive QE has a negative impact on the British pound.

Regarding the second question, Vlieghe (2022) discusses the uncertainty related to the future quantitative easing. Vlieghe suggests that once inflation has been brought back under control by tighter monetary policy, there is a significant risk of returning to low-interest rates in the economy. Importantly, this would limit the ability to use monetary easing in future crises. Vlieghe's argument should be considered when implementing unconventional monetary policies such as QT and whether a temporally or permanently higher inflation rate may be required to allow space for monetary easing in the future.

Conclusion

In conclusion, this paper has highlighted how unconventional monetary policy has been implemented in the UK economy by the BoE in order to maintain price stability during two major recessions. It has been found that there was an increase in the use of UMP tools from the Great Recession to the COVID-19 Recession. At the same time, inflation outcomes were worse during the COVID-19 Recession. This suggests that the greater reaction by the BoE in the use of UMP towards the COVID-19 Recession may not have been as effective in controlling inflation compared to the Great Recession. However, other worldwide events during the COVID-19 Recession, such as the ongoing Russian-Ukraine war, could significantly affect the inflation rate. Therefore, further research into this area is recommended to isolate the variables and true path of inflation during the most recent COVID-19 Recession. As a final remark for future research, it is possible that the use of QE in the Great Recession led to its usage in COVID-19 Recession. As they say, if you have a hammer in your tool kit, then every problem looks like a nail that needs hitting, though this may not be the most efficient tool for every problem.

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