

The Implications of A Recessionary Trend in An Economy and The Role That Monetary Policy, Through Government Intervention, Helps Rectify The Same

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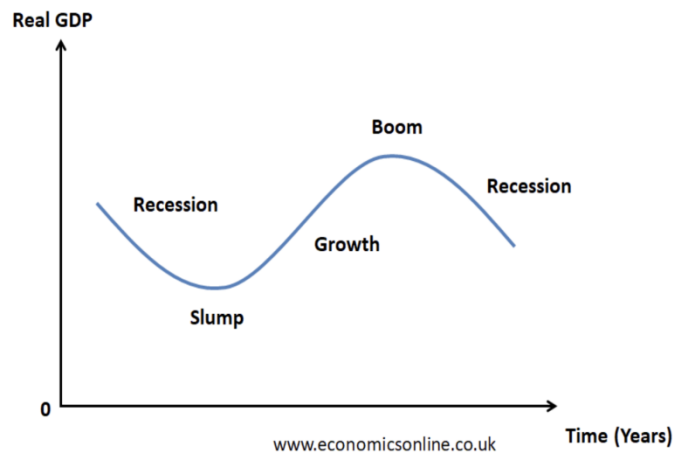
ABSTRACT

This paper delves into the different consequences of a recession and economic downturns through different case studies such as the lost decades in Japan and the Stock market crash in the USA in 2007. Moreover through these case studies the paper establishes a link between financial markets and monetary policy as most recent recession have either been caused by financial crisis or have been preceded by them."As such it explores how the prevalent theoretical framework of monetary policy during the times of Friedman, which tasked monetary policy with fluctuating short term interest rates to meet inflation targets and further be stable in the long term to foster economic growth and feed consumer expectation, has now been usurped by governments to act as a stabiliser of economic downturns such as a recession. Through these case studies it offers a critique of recent expansionary policies undertaken in Japan that have often ignored the long time gap inconsistency problem of Japan which has lead to unconventional yet inconsistent monetary actions in Japan being unable to solve the recession. This critique is furthered through its comparison tot he actions of the FED that suggest monetary policy is best used aggressively over the long term to foster consumer expectations and thus return confidence in the economy and the credit system after a recession. This is supported by different IMF investigations discussed in the paper which reveal the importance of aggressive monetary policy with the support of fiscal stimulus to best solve a recession. Finally this paper then seeks to determine the implications of a recessionary trend in an economy and the role that Monetary policy, through government intervention, helps rectify the same.

Introduction

The world's economy is an intricate and evolving entity prone to variability, encompassing downturn periods such as recessions. Recessions are often identified by a marked decrease in economic operations, leading to escalating unemployment rates, reduced expenditure by

consumers, and the shutting down of businesses. To counteract the adverse effects of these economic downturns and foster growth, governments frequently step in. A critical instrument at their disposal for such interventions is monetary policy. This strategy involves adjusting interest rates and regulating the quantity of money through actions taken by central banks. The ensuing discussion will delve into how recessions impact different segments within the economy while assessing the significance of monetary policy in governmental efforts to surmount these challenges. Through evaluating how effectively monetary policy can promote recuperation and ensure economic steadiness, insights can be garnered regarding strategies policymakers might employ to maneuver through upcoming economic contractions.



Recessions are defined by economists as two consecutive periods (six months) of contraction, i.e. negative growth. They are an inevitable part of the business cycle starting when the cycle reaches its peak and ending when the cycle reaches its lowest point called the trough.

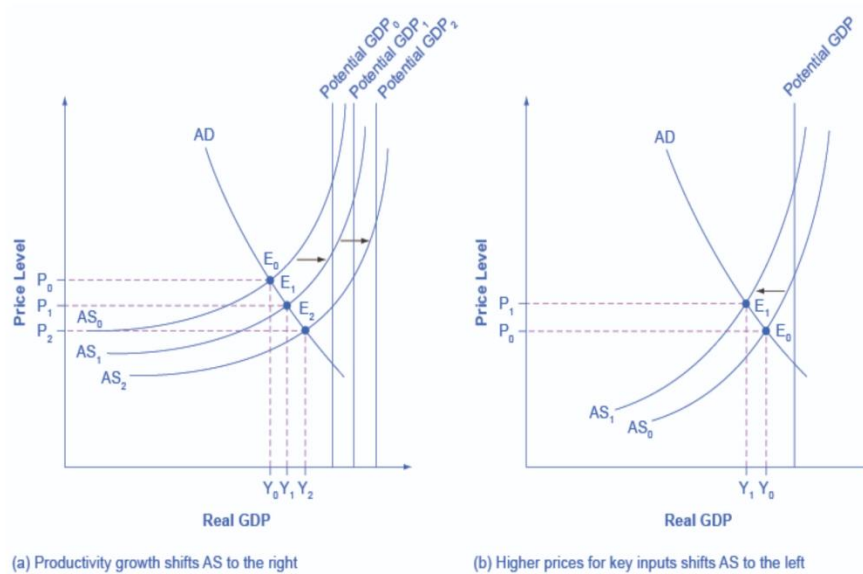
A recession may be caused by many factors, many often including the financial sector such as the bursting of asset price bubbles that lead to balance sheet recessions. Many other economic disruptions such as excessive deflation, and supply shocks can also cause recessions, leading to debts, losses and a loss of consumer confidence that makes it important to stimulate aggregate demand in the economy otherwise the recession could have deeper consequences and last much longer.

Consequences of a recession include loss of output leading to high unemployment rates, lower aggregate demand due to high debt build ups and losses for companies that disincentivizes investments. To solve these recessionary periods and prevent them from lasting a long time, many central bankers place emphasis on monetary policy (expansionary monetary policy) as a tool to stabilize the economy during a recessionary period. However, Keynes once stated that

monetary policy may be ineffective in solving a recessionary period due to its inability to peg down interest rates and unemployment rates.

Thus the purpose of this paper is to determine a conclusive analysis to the question : *what are the implications of a recessionary trend in an economy and the role that Monetary policy, through government intervention, helps rectify the same.*

The analysis can be discussed with respect to the graphical analysis explained below.



Source: www. Lumen learning

Shifts in Aggregate Supply (a) The rise in productivity causes the AS curve to shift to the right. The original equilibrium E_0 is at the intersection of AD and AS_0 . When AS shifts right, then the new equilibrium E_1 is at the intersection of AD and AS_1 , and then yet another equilibrium, E_2 , is at the intersection of AD and AS_2 . Shifts in AS to the right, lead to a greater level of output and to downward pressure on the price level. (b) A higher price for inputs means that at any given price level for outputs, a lower quantity will be produced so aggregate supply will shift to the left from AS_0 to AS_1 . The new equilibrium, E_1 , has a reduced quantity of output and a higher price level than the original equilibrium (E_0).

Analysis

Primarily, the lost decades in Japan beginning from 1989 exemplify the importance of monetary policy as a tool to stabilize the economy, particularly during a recessionary trend. In the 1980's monetary policy was expansive in Japan with low interest rates that helped keep

consumption and confidence in the economy high. This facilitated stable growth in Japan as due to this high confidence and expansionary monetary policy the Japanese economy experienced an average GDP growth rate of 4.4% in the 1980's with a stable inflation growth rate of 2.6%. ***During this time period, an asset-price bubble began to form in Japan, with some economists critiquing excessively expansionary monetary policy as the cause as it led to higher confidence and investment in these assets which also promoted excessive risk taking in the economy.***

This bubble eventually burst leading to a balance sheet recession in Japan caused by fall in asset prices. These assets were paid for through loans at low interest rates, which now led to a high debt build up. Furthermore the Bank of Japan chose to clean up the costs of this bursting of the bubble through expansionary monetary policy rather than lean against the wind.

This is because the lean strategy would require the BOJ to identify the build up of the bubble, raise interest rates to prevent the bubble from forming with doubt of it working as bubbles by definition are deviations from normal consumer behavior and abnormal conditions may not suit monetary policy as the market expects a higher return from these assets and thus higher interest rates may encourage excessive risk taking to improve returns. Thus this crisis exemplifies the dichotomy that existed between monetary and financial stability. Through this crisis many economists concluded that monetary and financial stability are intrinsically linked and that financial disruptions can cause large scale impacts on the economy. This is because after the bursting of the asset price bubble, Japan experienced the worst recession in its history that lasted for more than 30 years. During the 1990's the Japanese economy stagnated with an average yearly growth of 0.8% with it also experiencing deflation in many years. (Kuttner, 2014)

Additionally economists critique the Bank of Japan for its inaction and conservatism in its usage of monetary policy tools which were required to be much more aggressive to solve the recessionary trends. This is because the BOJ only chose unusual and aggressive practices nearly a decade after the crisis began, with the zero interest rate policy coming into effect in 1998, soon after which the Bank of Japan started purchasing government bonds and asset backed securities in order to increase the value of its balance sheet as well as beginning quantitative easing. The economy showed signs of recovery after 2004 as it reached a growth rate of 2% by 2005.

However the BOJ stopped quantitative easing in 2005, leading to inconsistent and unaggressive monetary policy tools which did not help the economy recover and grow. The recessionary crisis then continued due to the global crisis of 2007 with the economy contracting by 5.5% in 2009. However the Kuroda regime in 2013 chose aggressive and consistent monetary tools such as the setting of a long term inflation target of 2% and a commitment to achieve it using open ended monetary easing. Through such long term and consistent monetary tools Kuroda challenged the tenets of monetary policy, namely:

- Sole reliance on the short-term policy interest rate.
- Complete independence of the central bank from the government.
- Lack of coordination between monetary and other policies (fiscal, regulatory)

These measures correspond to the aggressive and long term expansionary monetary policy tools used by the FED to solve the recessionary financial crisis in the US in 2007. Through such case studies this paper aims to determine the effectiveness of monetary tools as used by the central banks to determine the situations in which it is most efficient.

As monetary policy is defined as the control by central banks over the money supply and interest rates and how they choose to manipulate these to stimulate or contract aggregate demand during different periods, during a recessionary period central banker must be loyal to the nine key principles of monetary policy globally: recognising inflation as a monetary phenomenon, emphasizing the importance of price stability, understanding the role of expectations, and acknowledging the impact of financial frictions on business cycles, real interest rates need to rise with higher inflation, i.e., the Taylor Principle; monetary policy is subject to the time-inconsistency problem; central bank independence helps improve the efficiency of monetary policy; commitment to a strong nominal anchor is central to producing good monetary policy outcomes.

Current connections

Recently, financial crises have preceded recessionary periods, indicating that financial disruptions can disrupt and decrease aggregate demand in an economy, leading to deflationary periods and recessions. Specifically, financial disruptions like the bursting of asset price bubbles can cause balance sheet recessions, where the value of a firm's assets rapidly depletes after a period of excessive risk-taking and credit to purchase them. This often leads to increased debt overhang and the inability to repay loans taken with the assumption that asset prices would continue to increase, allowing the loans to be repaid. Such a financial disruption can lead to defaults and bankruptcies, with increased debt overhangs resulting in less investment from firms and lower confidence due to the surprising bubble burst. Additionally, to increase their margins and reduce costs on the balance sheet, firms may choose to lay off workers to save salary costs. Regardless of the cause of a recession, it usually involves a fall in aggregate demand due to lower business and consumer confidence and uncertainty about future financial security, encouraging people to save more money rather than spend and invest.

As aggregate demand falls, firms in the economy are not encouraged to produce potential output at the long term equilibrium where AS,LRAS and AD curves meet. Hence less output than

potential is produced leading to long term losses of output and inefficient allocation and utilisation of resources. As firms now produce lower output, they require a lesser workforce and thus job cuts take place due to which the unemployment rate becomes greater than the natural rate of unemployment. This is called cyclical unemployment or demand deficient unemployment which occurs due to a fall in aggregate demand as explained above.

As more people become unemployed their income decreases as they might be forced to survive off of government unemployment benefits. This reduced income due to the loss of wages leads to lesser consumer expenditure and confidence. This combined with the loss of business confidence and debt overhang for firms in light of financial disruptions lead to a fall in Aggregate demand in the economy due lower consumer expenditure and business investment which are often an important component of aggregate demand. Furthermore a fall in aggregate demand may lead to deflationary pressures as at current prices less output than equilibrium/ potential output is demanded by the different components of AD, and thus a new equilibrium settles at a lower quantity produced and bought at lower prices.

Moreover such a recessionary trend may have disadvantageous outcomes for the government budget. This is due to the unemployment in a recession requiring an increased number of unemployment benefits being paid by the government, financed through its budget. At the same time the tax revenue for the government falls as less people pay income taxes and lesser consumption leading to lesser indirect taxes as well. Thus a budget deficit may be experienced by the government leading to greater government debt as increased expenditure may be financed through loans and selling of government bonds.

Theoretical analysis

In addition one key macroeconomic tool is that of monetary policy. It is defined as the manipulations by the central bank of the interest rates and money supply in the economy to solve and reduce the fluctuations of business cycles to promote economic stability in order to increase business and consumer confidence such that they can anticipate future trends to plan and coordinate their actions. This is particularly important for firms as they need to be confident about future stability and economic trends in order to plan their activities such as investments into capital as well as R and D.

Central banks play an essential role in exercising control over monetary policy, and their actions are crucial in achieving economic welfare and meeting monetary targets such as inflation targets and price stabilization. They obtain monetary targets from their governments and use key monetary tools, such as interest rates, open market operations, and quantitative easing, to achieve

these objectives. By implementing these tools, central banks aim to attain the goals set by the governing financial bodies.

Central banks regulate the money supply to control interest rates. To decrease interest rates, they increase the money supply through tools like open market operations, reducing the minimum lending rate, and reducing reserve requirements. This increases borrowing and the money supply. Contractionary policy involves selling government bonds and increasing rates and reserve requirements. Quantitative easing involves buying loss-making private business assets to reduce debt and increase the central bank's balance sheet.

The central bank can use monetary tools to stimulate economic recovery by increasing money supply and lowering interest rates, which makes it cheaper for firms and consumers to take loans. This may lead to increased spending and investment, which can help reduce the negative output gap and stabilize the business cycle.

Furthermore as money supply increases, the availability of credit also increases as commercial banks now may have increased reserves and may be more liquid, hence would choose to lend more. The low interest rates, increased spending and aggregate demand all indicate an increase in business and consumer confidence such that they would choose to avail more credit and increase their spending due it now being more cheaper and readily available.

However monetary policy is often criticised by many economists for its inability to peg down interest rates for more than very limited periods. One argument is that in recessions, due to the existence of absolute liquidity preferences interest rates cannot be further lowered and it is ineffective to lower them. Additionally as increases in money supply lead to more spending, they may cause inflationary pressures such that the interest rate increases pass its earlier standards.

Furthermore its impact on financial markets may also be similar as due to increased credit availability and lower interest rates economic agents such as individuals and firms may choose to finance their purchases of assets through loans. It is feared that due to this loose and expansionary monetary policy through increasing the money supply may lead to financial excesses in the asset markets. Specifically there is a threat that credit premiums fall to low levels and underwriting standards for loans drop significantly, lulling economic agents into thinking that there is less actual risk in the economy. Moreover due to this the prices of the assets keep on increasing which stimulates an increased demand for them. With such low interest rates they are seen as a viable financial opportunity leading economic agents to start behaving abnormally such that they're not able to recognise the tail risk prevalent in their investments which is greater than what is implied by a gaussian distribution. Hence this reveals how expansionary monetary policy is often the cause of the build up of asset price bubbles.

Is monetary Policy effective?

As per the data from the “federal reserve, history department(*Fedreservehistory.org*)

Particularly, monetary policy has been hailed for its recent effectiveness in solving the worst US recession to date since the Great depression of the 1930’s. In 2006 financial excesses increased to such an extent that subprime mortgages became the norm and housing prices peaked as to indicate the forming of an asset bubble specifically in the housing market. However the economies worst fears came to fruition as the bubble burst and over the next four years (2007-2011) house prices dropped by nearly 20%. This was a major shock considering that mortgage debts of households in the US made up to 97% of the GDP in 2006. The decline in home prices soon caused the financial crisis of 2007-09 as financial market participants faced considerable uncertainty about the incidence of losses on mortgage-related assets. This sparked the 50% decrease in the US stock market up to 2009 which further led to a decrease in gdp on an average of 3.5% from 2007-09.. This is because during the financial crisis, market participants faced heightened uncertainty regarding their counterparties' financial strength, asset values, and their own capital and liquidity needs.

This led to a flight to safety and liquidity, causing interbank markets to seize up. Consequently, direct lending through the discount window became crucial. However, banks were hesitant to borrow from the Federal Reserve due to concerns about revealing their financial weaknesses. The crisis also disrupted vital funding markets for other institutions. Commercial paper markets dried up, investment banks struggled to borrow even with collateral, and overseas banks faced challenges funding dollar assets. Money market mutual funds saw investor withdrawals, and securitization markets virtually halted. These disruptions mirrored the threats to credit availability seen in historical bank-centric financial systems. Institutions unable to secure funding were forced to sell assets, driving prices down and worsening the crisis. Additionally, they were unwilling to take on the risks necessary to facilitate markets for debt and securitization instruments, further hindering borrowing by households and businesses, thus deepening the recession.

To solve such a liquidity crisis, the federal reserve took unusual, aggressive and long term monetary policy actions to restore the stability of the financial markets in order to feed the anticipation of economic decision makers. Its first move was to reduce the spread between the discount rate and the federal funds rate and increase maximum loan maturity from overnight to 90 days. Furthermore it oversaw the provision of dollar liquidity to other central banks rto alleviate pressure on US money markets. Furthermore the FED created emergency liquidity facilities for non bank market participants. Moreover it introduced the zero level interest rate and committed to it for a long period in order to keep expectations constant and return confidence in

the economy. Other aggressive actions included the marketisation and buying of securities whose previous deficiencies and risks were exposed during the crisis. It is common knowledge that due to banks unwillingness to take risks and supply credit the securities market collapsed during the financial crisis. However, to restart the securities market the FED collaborated with the treasury to establish Term Asset-Backed Securities Loan Facility (TALF). It is clear that these aggressive policies were effective in solving the financial crisis as the recession ended in June 2009 when the economy hit its trough even though for the first four years post recession recovery was weak as economic growth was only about 2% per year on average.

However monetary policy does face its own unique challenges. One of these has been named the time gap inconsistency problem. This is when there are often notable time gaps between the intended consequences of monetary policy and the enactment of these policies. Sometimes it may take a long duration for the economy to reap in the expected outcomes of a monetary policy tool. It is important that during this duration the monetary authority keeps a steady course for policy and keeps it in order to maintain expectations and anticipations of economic decision makers. This is prioritised to such an extent that economists argue that the targeted rate growth for a monetary decision is not as important as the policy's long term consistency. As put by Milton Friedman "By setting itself a steady course and keeping to it, the monetary authority could make a major contribution to promoting economic stability. By making that course one of steady but moderate growth in the quantity of money, it would make a major contribution to avoidance of either inflation or deflation of prices.". However, in many cases monetary authorities do not abide by this and often take erratic decisions as they are not able to recognise the delayed and prospective arrival of their policies. Hence this leads them to consistently roll out monetary reforms in anticipation of its positive consequences yet their inability to recognise the delay in expected consequences of monetary policy uproots economic stability. In addition, monetary authorities often take too much time in recognising and debating on the need for monetary tools which leads to most of the policies being too late.

Case studies

However, recent events have shown that monetary policy is more complex than just the overnight interest rate. Debt The effectiveness of Japan's monetary policy during the lost decades and the global experience after the 2007-09 financial crisis raise doubts about the validity of several key tenets of the existing central banking framework. Traditionally, policy is implemented solely through the short-term policy interest rate, the central bank is expected to be fully independent from the elected government and finance ministry, and there is no attempt to coordinate monetary policy with other fiscal or regulatory policies.

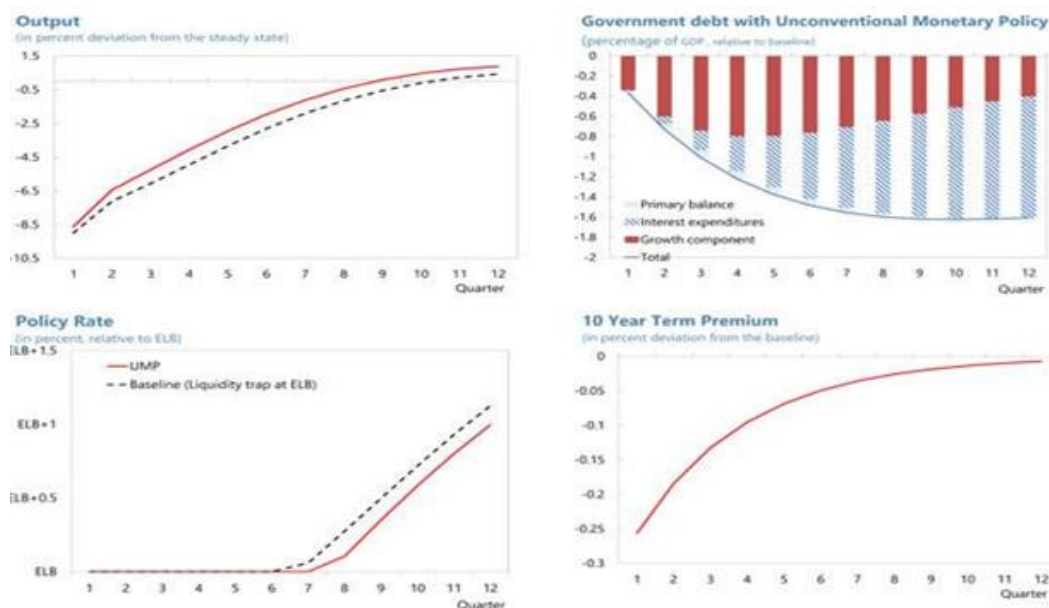
management, such as adjusting the maturity distribution of government securities, is a potentially valuable tool that the Bank of Japan overlooked during the lost decades. Purchases of securities other than government debt have also proven to be effective in reducing interest rates in the private sector. Additionally, non-interest rate policy instruments like reserve requirements and maximum loan-to-value ratios are gaining renewed interest as measures to curb asset price bubbles that were a major contributor to Japan's economic stagnation.

In short the economic and financial instability caused by recessions uproots their confidence leading to liquidity traps where even when interest rates fall to the zero bound level, there is not much demand for credit and economic decision makers choose not to borrow. As such economic decision makers still do not want to borrow at even the zero bound lower levels which is the lowest level interest rates can fall to IE 0%. There remain high levels of savings and holding of cash during these liquidity traps which seems to perpetuate economic stagnation. Furthermore other threats of loose and expansionary monetary policy have already been discussed above such as the tendency of asset price bubbles to form due to expansionary monetary stimulus.

- Case study

However , the figure below shows the decreasing efficiency of the use of monetary policy tools to combat a recession.

Figure 2: What can monetary policy do alone to fight the recession



Citation: IMF Working Papers 2022, 170; 10.5089/9798400218880.001.A001

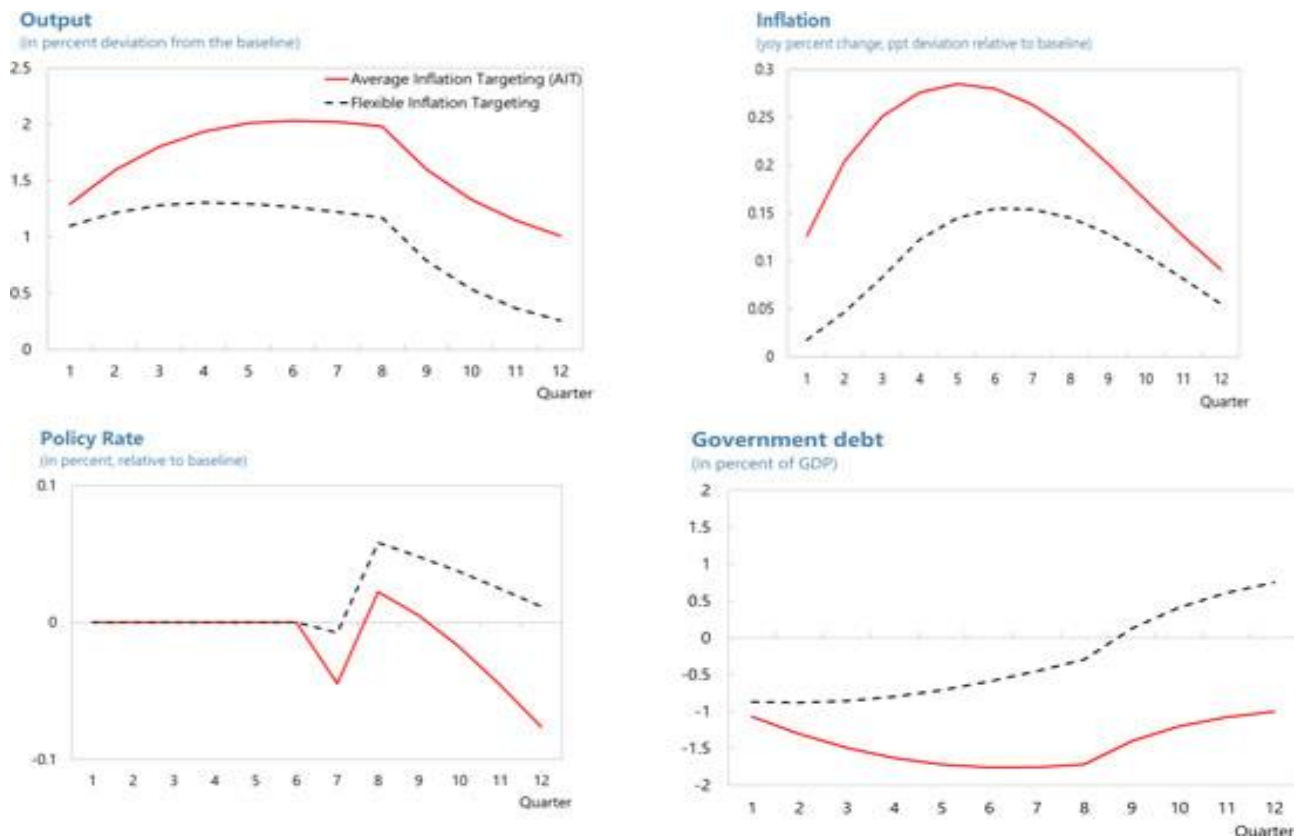
A macroeconomic model was created to combat severe economic downturn by implementing expansionary monetary stimulus. The model included quantitative readings of large scale asset purchases, but it only resulted in a 0.5% increase in GDP over the next two years. Empirical studies suggest that asset purchases of around 10-15% of GDP are required to reduce long term yields by 100 basis points and boost GDP by 1-2%. The Phillips curve shows that such measures to reduce unemployment and foster economic recovery can only increase inflation by 0.1-0.2%.

A recession can lead to negative impacts like reduced consumer and firm confidence, causing a liquidity trap. Aggressive monetary policy creates space for fiscal stimulus and reduces government debt to GDP ratio. However, central banks alone cannot recover from economic downturns, and fiscal policies are needed. A model was created assuming fiscal stimulus worth 1% of GDP for 2 years and 2.5% of baseline GDP over the next 4 years, coinciding with the central bank's commitment to ELB.

Moreover this fiscal stimulus crowds out private consumption and investment due to government expenditure financed through loans increasing the demand for money coming through as high interest rates for borrowers. Thus output only slightly increases by 1.25% on average for the first two years. Fiscal stimulus here attempts to bridge the output gap and bring output and inflation to par by returning to the long term equilibrium and potential output. For this to happen many assumptions are made such as the country being physically solvent which does not lead to a rise in public debts. Furthermore the bank would have to commit to a long term policy at the ELB despite resulting inflation and output gaps and will only be able to do so if the increase in inflation is within their target inflation levels. If this is not the case contractionary monetary policy may work to reverse the positive output effects of the fiscal stimulus. It is also important whether the monetary policy welcomes or leans against the fiscal stimulus. An accommodative monetary policy results in the debt to gdp ratio being decreased as output increases and interest rates on debt remain low. The effects of a fiscal stimulus on output and inflation can be reversed if the central bank decides to use contractionary monetary tools. However, an alternate monetary strategy known as average inflation targeting is considered for more flexible inflation targeting. The model assumes the central bank targets the 5-year average annual inflation rate, and the economy is initially at a situation where this average inflation gap is minus 0.5 percent.

The results of such a flexible inflation targeting strategy are shown in the figure below:

Figure 2: Transient government spending hike in liquidity trap under alternative monetary strategies



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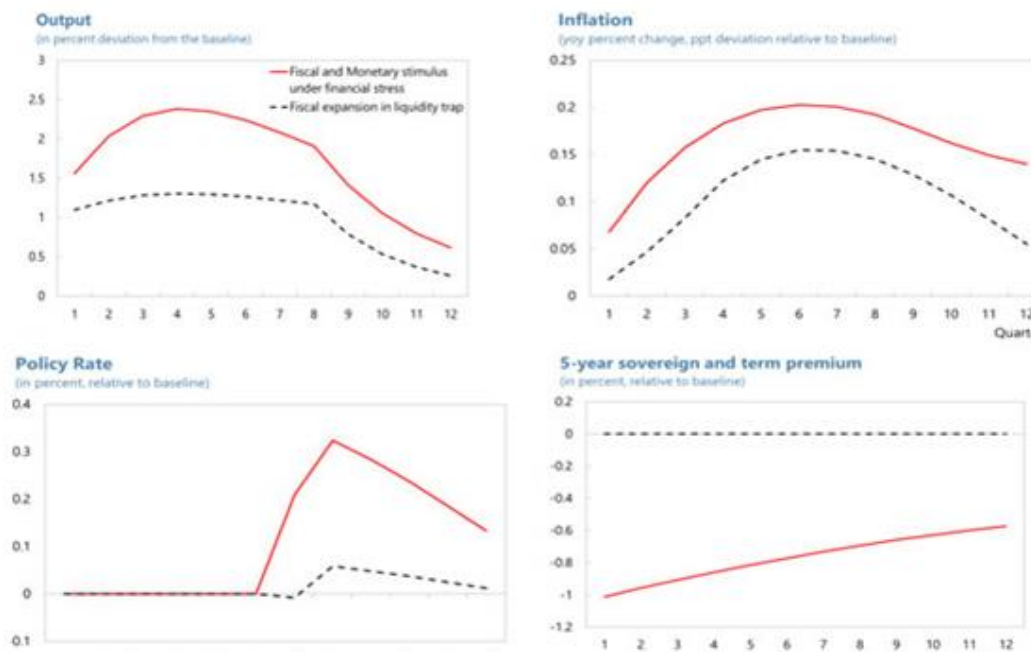
This shows how the ELB leads to higher actual inflation, generating high inflation expectations and lower real interest rates. These help reduce the budgetary costs of the fiscal stimulus as the reduction in lower real interest rates lead to a higher impact on inflation and output than expected by the inflation target. Essentially this reduced the government debt to GDP ratio back to the baseline, providing further evidence to Keynes theory of the possibility of a fiscal free lunch during a liquidity trap. However it is important to point out the limitation that if there was no negative AIT gap, the alternate monetary strategy would have a very limited effect on the debt composition.

A last experiment was conducted by the IMF to realize the potential effectiveness of monetary and fiscal stimulus to help stem recovery during a period of financial market turbulence. This financial disruption causes a contraction in output that is deeper than the baseline considered in figure 3 which drags inflation further below the inflation target of central banks. In response the

central bank undertakes large scale asset purchases and leans against fiscal stimulus to boost output and inflation closer to the target. The acquisition of e-assets leads to a decrease in the 5-year term premium of local bonds, as depicted in Figure 4 (spreads decline by 100 basis points). This prompts increased investment and spending, consequently elevating inflation compared to the baseline. Moreover, a trustworthy pledge to uphold an accommodative short-term monetary policy stance which restrains anticipations of an imminent policy rate increase from the Effective Lower Bound (ELB). as such expansionary monetary policy through an increase in nominal output and easing of financial conditions help sustain debt with a credible short term fiscal plan.

In particular, the simulation maintains identical fiscal expenditure to previously considered models. However, owing to Quantitative Easing (QE), the output growth illustrated in figure 4 nearly doubles that caused by the fiscal stimulus of the second model. This phenomenon arises from the positive feedback loops generated by reliable expansionary monetary and fiscal measures. It's crucial to highlight that while the primary deficit experiences a slight increase due to elevated government expenditure, the government debt as a proportion of GDP declines as nominal GDP increases. The results are shown by the diagram below:

Figure 4 : Credible monetary and fiscal stimulus at the ELB under financial market stress



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The real life examples of Belgium and South Africa are an ode to the above analysis proving the effectiveness of credible, flexible and well communicated monetary and fiscal stimulus into creating consistent anticipations regarding the stability and presence of the ELB to stem economic recovery.

Conclusion

To conclude, the consequences of an economic slump emphasize the essential function of fiscal intervention through monetary policy. This study has shown that tools of monetary policy, like adjusting interest rates, conducting open market operations, and implementing quantitative easing are fundamental in ensuring economic equilibrium during periods of financial decline. Specifically, this investigation underlines the significance of prompt and cohesive responses via monetary policy to soften the harsh impacts on consumption, investment, and job numbers resulting from a downturn. Furthermore, how effectively monetary policies overcome recession-related hurdles depends greatly on straightforward communication practices as well as transparent and anticipatory approaches. As policymakers wade through the intricacies of economic fluctuations, they must put a heavy emphasis on harmonizing fiscal with monetary strategies to promote enduring stability and expansion in economies over time.

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