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The FED's Strategy on a Targets-based Monetary Policy Framework

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ABSTRACT

Major economic and financial contractions usually go hand-in-hand with muted inflation. This has been true for the Great Depression, the Global Financial Crisis, as well as the Covid-19 crisis. In this paper, we theoretically highlight and discuss the evolution of instruments and approaches monetary-policy decision makers at the Federal Reserve have in lifting inflation to desired levels in times of the zero-lower bound, paying particular focus on more rigorous developments like asymmetric average inflation and temporary price-level targeting.

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1. Introduction

The economy is a fickle creature, prone to growth and subsequent contractionary periods. During times of its expansion, the majority of individuals seems to benefit: households see their disposable income rise, workers experience growth in real wage rates and a wider selection of job opportunities, firms enjoy higher profits and lower funding costs, and governments see their tax income to increase. On the contrary, during downturns, everyone needs to tighten their belts. Indeed, as the famous Austrian economist Schumpeter stated almost a hundred years ago, only the strong will survive during recession, Schumpeter (1947). What he alluded to was not the fight for human survival, but rather the survival of firms and ultimately economic activity. Without them, people do not have work and consequently must forgo consumption and certainly their quality of life.

In order to lessen the likelihood of recession and to support the stakeholders within an economy should they occur, two branches of policy making have evolved. The first one is fiscal policy. That is, direct government interference into the economy through public consumption, public investment and taxation. Should domestic production start to falter, the government tries, through any of its tools, to dampen its downward trajectory. However, some critics claim that governments are not always interested in the long-term benefits of the economy. Rather, short-sighted politicians might target public opinion concerning their upcoming elections. As a result, the second public institution evolved with the ultimate and only goal to support sustainable economic performance. That is, the central bank which is in charge of monetary policy. Given its legal legitimacy by the government, the Congress in the United States, it pursues legally manifested goals by means of intermediary targets and policy tools to maximize the welfare of all of its subjects. Indeed, since the end of the Great Depression in 1933, central banks have become omnipresent in the economic environment.

Since the 2007/08 Global Financial Crisis, starting in the US sub-prime market, however, the efficacy of the Federal Reserve (the central bank of the United States) has come into question. The reason is the Zero-Lower Bound (ZLB) which implies that the Federal Funds Policy Rate, directly controlled by the FED, has reached its effective lower limit of 0%. Therefore, conditional on its conventional toolset, the FED has to readjust its instruments and approach to stimulate sluggish economic growth and prices in the US.

Given the myriad of scientific and highly-technical articles on this issue, this letter is to give a theoretical and tractable overview of instruments and approaches in the toolbox of the Federal Reserve. It not only presents the strategy ultimately chosen, but also its alternatives which might become more suitable should the economic environment fundamentally change. In parts, this letter is an educational complement to the works by Coenen and Warne (2014), Coenen et al. (2021), and Coenen et al. (2022). However, whereas the latter's focus is on the technical aspect given structural macro-models, this paper's less ambitious aim is to merge the current discussions and to give an overview of the trade-offs, opportunities and threats policy makers and economist face during the economic dilemma which was the status quo up until post-Covid-19.

The paper is organized as follows, the current section introduces the paper and states its motivation. Section 2 discusses the general monetary policy framework and goals of the central bank in the US. The following section shows why conventional MP tools in the US have lost their efficacy. Section 4 discusses the main alternatives, their characteristics and the ultimate approach chosen. The last section concludes.

2. Monetary Policy Mandate & Goals

The main goals central banks are entrusted with are diverse—they range from (1) maintaining price stability (low and stable inflation) to (2) maintaining a level of maximum or full employment; (3) the stability of financial markets to (4) guaranteeing stable interested rates and (5) stable exchange rates (the relative price between two currencies) within a narrowed defined band. Even though at first glance it might not seem likely, but an undisputed

and empirically-tested fact is that price stability is the most important goal of all and its violation poses a serious threat to a country's economic welfare and social cohesion, Powell and Wessel (2020). The best example is the economic meltdown during the Great Depression starting in 1929 which spread through the Western world, ultimately culminating in the rise of fascism and the outbreak of the Second World War in 1939. The problem was that the US economy suddenly and harshly contracted—dragging down with it employment and wage income. These contractions consequently led to a drop in demand for goods and services, in the end essential to a fall in the price level. This so called "deflation" started the vicious cycle of postponed consumption, firm closures, rise in unemployment and further drops in consumption. The results were never-before seen unemployment rates and contractions in economic production.[1,2]

To prevent this from happening again, the majority of central banks around the world adopted the goal of price stability either as their main objective or as part of a "dual mandate". This mandate constitutes the belief that goals do not need to be mutually exclusive. Considering the goal of maximum employment, proponents of modern mainstream economic thinking support the idea that monetary policy in the long-run does not have any control over employment. Rather, the structure of the economy, like its productivity dynamics or the growth of the labor force, determine what employment and its corresponding economic activity is going to be. Mainly these underlying reasons led to the Fed being mandated by Congress (the legal decision-making body in the US) with the main goals of i) price stability and ii) maximum employment.[3]

A decisive, fundamental and essential element in the pursuit of price stability is the use of a nominal anchor. That is, a certain nominal quantity being targeted in the long run representing the goal of stable prices. Depending on the strategy used by monetary policy, this quantity can be the value of the inflation rate, the level of nominal GDP, the general price level or the foreign-exchange rate. In any case, this nominal anchor leads to an entrenchment of inflation expectations. That is, the inflation rate that is believed to materialize in the future. Once this is guaranteed, monetary policy makers have the ability to use their policy tools without having to fear that businesses and households change their actions and expectations in turn neutralizing, at least in parts, the actions of the central bank. Hence, to guarantee the efficacy of monetary policy makers, a nominal anchor ought to be established to pin down the expected level of future prices.

Regarding the demand side of the economy, a well-fixed nominal anchor minimizes uncertainty thereby promoting the decision-making process for households, firms and the financial sector. For example, when deciding on a long-term commitment, such as purchasing a house or investing into new capital structures, households and firms take the future developments of prices into account. If the nominal interest rate is, say, 5% and the expected inflation rate is, say, 2%, it is expected that the real interest rate will be 3%. If, on the other hand, inflation turns out to be lower, for instance 1%, either of the parties is going to lose out since the real interest rate has increased from 2 to 3%. As the counterpart in this borrower-lender relationship, banks on the other hand are worried about the opposite case. That is, a rise in the inflation rate—an unexpected increase in inflation would lead to a decrease in the real interest rate and in turn lead to a decrease in the interest instalments measured in purchasing power. Consequently, both parties are interested in maintaining certainty about future price movements. If the nominal

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[1] Other, seemingly less dire but still economically destructive consequences of inflation are increased uncertainty among households and inflation, decreased efficiency in the allocation of resources and the redistribution of wealth from lenders to borrowers, among others.

[2] See Gerth and Otsu (2015, 2018) regarding the world's financial crises experiences since the Great Depression in 1929.

[3] The original legislation also names "moderate long-term interest rates" as one of the goals. However, given the relationship between real interest rates and inflation, the latter being one of the goals, moderate long-term interest rates are indirectly guaranteed.

anchor is set and all parties believe in it, then the allocation of resources is efficient and everyone gains while acting according to their optimal-decision function, Wessel (2019).

3. Conventional Monetary Policy Tools and their Loss in Efficacy

Regardless of the intermediate strategy of the FED, once this nominal anchor is set, monetary policy should be able to use short-term interest rates, its main tool, most effectively and efficiently.[4] For instance, if the economy is heading towards recession, the Fed will decrease nominal interest rates. If the inflation expectations remain constant, the drop in nominal interest rates leads to a direct drop in real rates. These are fundamental for the decision-making process of consumers and firms. Should the real rate drop, consumers today find themselves saving less and consuming more, considering that the relative cost of consumption today has decreased. Furthermore, and most importantly, investors see their cost of investment to decrease. Indeed, lower interest rates mean a lower debt-service burden and therefore before-seen unprofitable investment opportunities become profitable. Both, the increase in consumption and the increase in investment, increase aggregate demand and therefore leads to a pick-up in economic activity and employment.

On the other hand, should the economy overheat, the chain-of-arguments is reversed. This will lead to an increase in interest rates by the central bank, causing an increase in the cost of consumption and investment. This increase leads to a decrease in aggregate demand, in turn causing a drop in economic activity. This cooling down of the economy causes employment to decline, subsequently leading to a slow-down in inflation.

In summary, assuming a strong and credible nominal anchor, the central bank, by way of manipulating short-term interest rates, affects the trajectory of real economic activity. This was certainly true until the Global Financial Crisis. Up until then, short-term nominal rates and above-2% inflation made it possible for the Fed to effectively decrease real rates to jump-start the economy when necessary. However, with the onset of the Great Recession, nominal interest rates have in effect reached their lowest level possible when the FED decided to lower them to 0% by the end of 2008. Figure 1 presents the time series of the FFR, blue line, the inflation rate, orange line, and the corresponding real interest rate, green line from the first quarter in 1991 until the last quarter in 2020. It shows that the FFR hovers between 3 and 6.5% up until mid-2007 (with a short drop in 2004). From this point, it first slowly drops and then suddenly plummets to effectively hit the ZLB by summer 2008. By 2017, the Federal Open Market Committee (the decision-making body of the Federal Reserve System) temporarily raised the FFR to a level above 1%. This, however, was only short-lived since it was cut again with the advent of the economic crisis resulting from the Covid-19 pandemic in mid-2019 giving the FED once more no space to maneuver.[5] In tandem, the real interest rate (calculated as the difference between the FFR and inflation) falls below 0%. Due to a quick spell of deflation, it even turns positive and above the FFR in 2009. It subsequently drops again and levels off at around -0.5 and -1% until the end of the sample period in 2020.

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[4] The short-term interest rate that the Federal Reserve directly controls is the Federal Funds Rate. This is the overnight policy rate which banks charge each other in order to lend or borrow central bank reserves. In effect, changes in the Federal Funds Rate change total reserves within the banking system, and therefore directly affects money supply by way of increased or decreased lending.
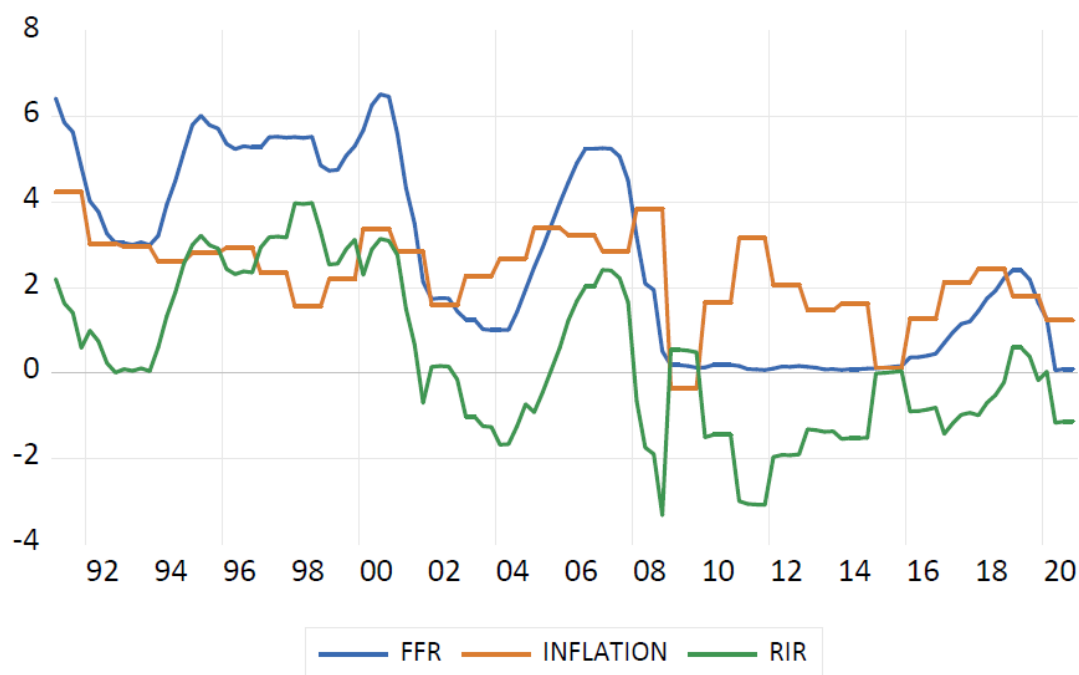[5] See Gerth et al. (2021).

Figure 1. Federal Funds Rate, Inflation and Real Interest Rate in the US.

Source: FRED Databas

4.   Monetary Policy Alternatives

Recognizing the limitations of conventional MP tools, the Fed has two options to regain control over the US economy. Either it expands its set of instruments or it changes its entire monetary policy approach (or both).

4.1. Alternative Instruments

Aside from having control over the short-term policy rate, central banks all around the world have adopted two unconventional tools that either change the expectations about future short-term rates or directly the yields of long-term rates in financial markets. The first of these tools is called Forward Guidance (FG). For the first time discussed by Krugman in 1998, FG is the idea of changing the expectations economic agents have about the future behavior of short-term interest rates. In practice, the Federal Reserve announces its commitment to maintain interest rates lower for longer, implying that even though inflation has started to rise, interest rates will remain at some pre-announced level for some time. This potentially increases inflation expectation at the time of the announcement and hence lowers real interest rates. The second instrument in the toolset of the Fed is Quantitative Easing (QE), also known as Large-Scale Asset Purchases (LSAP). Instead of changing expectations about the behavior if interest rates in the future, this instrument allows the Fed to directly manipulate the yield of public and private long-term financial assets. Conditional on preferences for long-term borrowing, the Fed buys long-term financial assets, thereby decreasing their yield. Lower yields mean lower cost of capital and increasing investment.

4.2. Alternative Approaches

Another way to stimulate the US economy is by raising inflation expectations using alternative MP approaches.

By using an approach that lifts expectations about future prices, investors inevitably will apply a premium on financial assets, thereby raising nominal rates. Once nominal rates are higher, the Fed has more leeway to decrease interest rates to support a struggling economy when necessary.

Until 2020, the strategy that has been used by the Fed to influence inflation expectation is Inflation Targeting. Under this regime, the central bank announces its desired inflation target and commits to rule-based policy to do everything in its power to achieve it. Under the leadership of Alan Greenspan, the Fed unofficially introduced this policy by 1996. In 2012, the back-then Governor of the Fed Ben Bernanke decided to publicly announce its targeted inflation rate, Bernanke (2017). Thereby giving the public transparency in the actions of the CB. This was seen as an evolution of how the Fed operates. By help of these announcements, the Fed attempted to guide inflation expectations and therefore giving itself enough room to lower nominal rates should the economy start to falter.[6]

This strategy has had little success in the last few years. Inflation rates are permanently below 2%, indicating that expectations have settled well below its desired target. Consequently, in 2019 the Fed started an extensive review of its Monetary Policy Strategy. The aim of this review was not to change the Fed's main goals; indeed, they are determined by Congress and part of the Fed's legal framework, but rather to adapt the central bank's intermediate targets to the new economic environment. The review tried to shed light on the question of whether there are alternative strategies that would help lifting inflation expectations up and consequently give more room to pro-active MP action.

Academics, practitioners, policy makers and members of the public met in intellectual discussions in order to find a way to achieve this economically-fundamental goal. Several solutions were discussed. Some of them are novel and some of them have already been formerly discarded by history. The main strategies discussed were the following:[7]

        i)   Price-level targeting,

       ii)   Average inflation targeting,

      iii)   Asymmetric average inflation targeting, and

      iv)   Temporary price-level targeting.

Price-level targeting contains a symmetric and permanent price-level make-up element. That is, the central bank tries to maintain an ever-increasing price-level in line with a pre-determined inflation rate. This implies that during times of a slowdown in the price level, the central bank has to target an inflation rate above this pre-determined rate in order to make up for the loss in inflation in the past. In case of a previously overheating economy, the objective of achieving a pre-determined price level might also lead to an interest rate increase and consequently an increase in unemployment, thereby temporarily harming social well-being, Wessel (2019). Ultimately, this strategy puts importance on the entire history of past-period inflation performances in order to determine future interest rates and therefore might seem economically "unfair".

The second strategy, Average inflation targeting, is similar in the sense that it maintains a symmetric and permanent price-level make-up element. However, compared to taking the entire history of inflation rates into account, it chooses an averaging-window of past inflation rates. The longer this pre-specified window, the more Average inflation targeting (AIT) resembles Price-level targeting (PLT). Is the time frame only a few years, on the other hand, AIT is less restrictive compared to PLT in times of an overheating economy.

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[6] For more information, see the 2012 Statement of Longer-Run Goals and Monetary Policy Strategy published by the Federal Reserve Bank.

[7] For a real-life application of alternative monetary policy approaches to fight the ZLB in a small open economy see Madhou et al. (2021).

Asymmetric average inflation targeting (AAIT) and Temporary price-level targeting (TPLT) are approaches specifically developed to address issues arising from the ZLB. The nature of both is that they assume an asymmetric element which gives the Fed momentum should the inflation rate drop below a certain threshold. In AAIT, the Fed works the policy rate as soon as the average inflation rate drifts below its target. It therefore accepts higher inflation in the future up until the average inflation rate is realigned with its pre-determined level. As soon as the average is achieved, on the other hand, increases in the interest rate are not punished with lower inflation. Rather, that year's target inflation rate will be its pre-determined level. Hence, only below-target inflation rates lead to a switch to AIT, whereas above-target inflation rates simply need to be re-adjusted in the following year and therefore follow inflation targeting.

The strategy that was ultimately chosen and is now part of the in August 2020 revised version of the 2020 Statement on Longer-Run Goals and Monetary Policy Strategy is Temporary Price-Level Targeting. This strategy was engineered and supported by former Fed governor Ben Bernanke, and it consists of two parts; i) price-level targeting in the event where the nominal interest rate reaches the zero lower bound and ii) inflation targeting otherwise. That is, should the nominal interest rate hit its ZLB, the Fed cannot lower policy rates further to stimulate aggregate demand. Consequently, it publicly commits to target a future inflation rate that is above 2% for an extended period of time. The Fed explicitly declares that it will keep rates lower-for-longer. This commitment is targeted towards consumers and investors that are expected to continue their spending behavior and not be deterred by the current economic slowdown. Hence, a priori, nominal rates are believed to reach the ZLB less frequently. On the other hand, should the interest rate be above its ZLB, the Fed commits to simply maintaining a yearly inflation rate of 2%; therefore, maintaining all the advantages of the already implemented inflation-targeting strategy. This strategy is believed to raise inflation expectations in the future and give the Fed more space to "breathe" during the fast-changing economic environment that has arisen with the onset of the Global Financial Crisis. Given the interest-rate environment until March 2022, it was perceived that this new strategy would give the Fed more space to maneuver during the low-inflation-low-interest environment.

5. Discussion and Conclusion

Until March 2022 the US economy, and the world as a whole, was stuck in a low-inflation-low-interest environment. This situation was driven by two factors; a falling neutral real rate of interest and the outbreak of the Global Financial Crisis in 2007/08. The latter forced the Fed to lower interested rates to their ZLB. Since nominal interest rates were, from this point on, fixed at 0%, expected inflation determined the effective real interest rate, making the Fed seemingly powerless. Consequently, to support sluggish economic activity, the central bank had to find a way to lift inflation expectation, thereby decreasing the cost of capital for households and firms. Until 2020, the dominant MP approach was inflation targeting. By using a pre-determined level of inflation, the Fed would work the policy rate to overheat or cool down the economy in line with this target. Since, however, interest rates reached their ZLB, this approach became powerless.

After years of academic, practical and policy discussions, intellectuals came up with a list of old and new approaches that were to help with this issue. Ultimately, two new approaches were discussed, Asymmetric average inflation targeting and Temporary price-level targeting. Both of them have an asymmetric nature in that they more strongly react should inflation fall below some target level. Whereas AAIT assumes average-inflation targeting in times of low inflation, TPLT adopts price-level targeting to raise inflation expectations. Since by that time inflation has been below its desired level for more than a decade, TPLT was chosen since it is much more rigorous compared to AAIT.

The mindful reader will have realized that this paper does not discuss two contemporary issues; first, rising inflation and interest rates following the Covid-19 crisis. Second, the potential solutions of the above-mentioned

approaches to the Inflation and the Forward Guidance Puzzle. Regarding the former, in the interest of space and scope, we leave further elaboration to future research. Respecting the latter, the authors refer to the works by Del Negro et al. (2023) and Coenen et al. (2021). Both papers are fantastic complements and extensions of the current paper.

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