

A NEW DIRECTION FOR THE FEDERAL RESERVE

Expanding the Monetary Policy Toolkit

REPORT BY **MIKE KONCZAL AND J.W. MASON**
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Executive Summary

The Great Recession forced the Federal Reserve to think beyond conventional monetary policy tools—primarily adjusting the overnight federal funds rate target—to reverse the economic downturn and steer the economy toward healthy demand. With rates close to zero, the Fed turned to what was viewed as unconventional monetary policy, most notably by purchasing longer-term assets, like treasuries and mortgage securities, a strategy known as quantitative easing (QE). Even with these changes, there is strong evidence—including low labor force participation and wage stagnation—that the Fed has not brought us back to full employment or brought the economy back to its historical path of growth. Most of the recovery has come not from a genuine increase in output, but from a reduced expectation of the economy’s potential.

There are many reasons why monetary policy can’t go back to the status quo. When the next recession happens, it’s unlikely that reducing the short-term interest rate will be enough to stabilize demand, simply because rates will almost certainly not be high enough for a big enough rate reduction to give the economy the boost it will need. In addition, monetary policy always has effects on the distribution of income and wealth and on the direction of credit, as well as its volume. We should adopt a more expansive view of the central bank’s role in providing appropriate credit conditions. This is less of a challenge, however, as we are also remembering old tools. It was universally understood in the past that it was necessary for the Fed to intervene across the entire distribution of interest rates—setting multiple rates (both long- and short-term rates, for instance) and playing a more active role in managing credit creation in order to maintain full employment.

Though changes to the Federal Reserve’s current target, to either a new one or a higher inflation target, are worth investigating, we believe that this change is unlikely to work outside a broader conceptual shift. There are institutional reasons why the Federal Reserve hasn’t been able to hit its target. In addition, the link between conventional monetary policy and real economic activity is weakening. There is not a single “interest rate,” but many interest rates, many asset markets, and many different kinds of institutions participating in them. It has become increasingly clear that effective macroeconomic policy cannot be conducted on the basis of a single unique target.

Following the example set by the Bank of Japan (BOJ), the Fed should target long-term interest rates in addition to the overnight rate that is the current focus of monetary policy. The Fed should be explicit about support for public borrowing, allowing the government to employ countercyclical fiscal policy along with monetary policy. The Fed should purchase state and local debt, thus combating the pro-cyclical pressure of state and local spending



cuts during recessions. The Fed and the Treasury should better coordinate bond rates, ensuring that these two arms of the government are not at cross-purposes. The Federal Reserve should purchase a broader range of private liabilities, which will be necessary to make the transmission of routine monetary policy more reliable. We must also shift how Fed officials view their own role as well as how Congress thinks of—and legislates for—the Fed. While the Fed must adopt a broader view of its responsibilities, Congress must also take action in areas that were traditionally delegated to the central bank.

This list is not meant to be exclusive, exhaustive, or definitive. But we hope that it can begin a broader discussion of expanding the scope and scale of interventions by the Fed. The Federal Reserve may be uncomfortable redefining its role in the macroeconomy. But whether it likes it or not, the central bank is a central planner that can shape both the character and the level of economic activity in the U.S. The Fed should embrace this role—and the democratic accountability that goes with it—and exercise its power toward the public good.



Introduction

The Great Recession changed everything, especially the way the Federal Reserve (the Fed) carried out monetary policy. In December of 2008, during a period of the Great Recession in which the United States was losing around 700,000 jobs each month, the Fed lowered the overnight federal funds rate target to between zero and 0.25 percent to boost the economy. Controlling this overnight rate, and solely this rate, to fight economic recessions and overheating has been the basis of “conventional” policy in the years leading up to 2008. With rates close to zero, however, the Fed, couldn’t continue to lower the target to a negative value to reverse the Great Recession. Instead, they turned to what—at the time—was viewed as unconventional monetary policy, most notably by purchasing longer-term assets, like treasuries and mortgage securities, a strategy known as quantitative easing (QE).

The Fed’s strategy was less new than it was generally believed to be at the time, as these “new” tools had actually been part of the monetary policy toolkit for much of the 20th century. However, as the Fed embarked on its QE strategy, this approach was considered brand new and triggered considerable debate in the field of monetary economics. The ways that the Federal Reserve can conduct policy at the zero lower bound—when the short-term federal funds interest rate is at or near zero percent—has inspired a research agenda to expand and diversify the tools within the central bank’s disposal to reverse inevitable downturns in our economy. For the first time in many years, the appropriate instruments and targets for monetary policy are up for debate.

It is an open question today whether there has been a full recovery from the Great Recession, and how much slack still remains in the economy. Labor force participation still remains low. Meanwhile, wages remain slack. Most of the recovery has come not from a genuine increase in output, but from a reduced expectation of the economy’s potential (Mason 2017). By 2019, it is likely that our recovery over the past 12 years will have been slower than the comparable period after 1929 (Leonhardt 2017). Nonetheless, central bankers seem prepared to declare victory and go home. By ending the third and final round of QE in September of 2014 and raising interest rates in December of 2015, the Federal Reserve has moved away from its unconventional policy regime of QE. As Bernanke (2017) observes, officials at the Fed and other central bankers “believe they see the light at the end of the tunnel” and, for the most part, are no longer worried about their ability to achieve their macroeconomic goals with the existing tools.

It is nearly certain that when the next recession comes, the Fed will again be forced to resort to unconventional policy remedies. And even before then, there are substantial questions about the extent to which demand management—i.e., the ways in which the Federal



Reserve stimulates the economy by hitting the gas pedal or brake through the instrument of increasing or decreasing the single interest rate—is consistent with larger goals for the economy, including financial stability, fostering productive investment and good jobs, and directing society’s resources toward urgent social problems, such as climate change.

There are substantial policy questions about the ways in which the Federal Reserve stimulates the economy by hitting the gas pedal or brake, by way of increasing or decreasing the single interest rate, is consistent with larger economic goals, including ensuring financial stability, fostering productive investment and good jobs, and directing society’s resources toward urgent social problems, such as climate change.

Historically, macroeconomic demand management by central banks has involved a much broader range of both goals and tools compared to what is used today (Epstein 2006). And while the narrow approach based on a single interest rate appeared to work reasonably well in the U.S. and other developed countries in the two decades or so before 2007, today it is an inadequate description of what central banks have been doing or what they should be doing. In the words of IMF Chief Economist Olivier Blanchard (2011):

“Before the crisis, mainstream economists and policymakers had converged on a beautiful construction for monetary policy. To caricature just a bit: we had convinced ourselves that there was one target, inflation. There was one instrument, the policy rate. And that was basically enough to get things done. If there is one lesson to be drawn from this crisis, it is that this construction wasn’t right, that beauty is unfortunately not always synonymous with truth. The fact is that there are many targets and there are many instruments.”

The goal of this paper is to begin to develop a new monetary policy toolkit—one that will broaden the set of countercyclical tools and flesh out some of the “many instruments” that Blanchard thinks central banks should be exploring.

In **Section One**, we discuss why, in response to the Great Recession, it is essential that the Federal Reserve develop a broader monetary policy toolkit. We then, in **Section Two**, discuss some of the most widely discussed monetary policy reforms currently being considered to stimulate post-recession growth. In particular, we review recent proposals



for modifying the inflation target of monetary policy and for allowing the overnight interest rate to move below zero. We explain why we believe these changes to the conduct of monetary policy are not sufficient by themselves to reliably maintain full employment. Finally, in **Section Three**, we suggest other approaches that we believe the Federal Reserve should explore and adopt as part of their toolkit. Six stand out for us:

1. Setting long-term interest rates
2. Increasing support for public borrowing
3. Purchasing state and local debt
4. Coordinating Treasury and Federal Reserve policy
5. Purchasing a greater range of private debt
6. Shifting from a monetary policy to a credit policy framework

This list is not meant to be exhaustive or definitive, but we hope that it can begin a broader discussion of expanding the scope and scale of interventions by the Fed. The economy's ability to weather recessions, and to meet human needs even in good times, depends on the Fed getting out of the narrow box it trapped itself in before 2008 and is only just finding its way out of today.



SECTION ONE

Why We Need a New Toolkit

In this paper, we argue that the Fed should consider a broad conceptual shift in its mandate from a focus on inflation targeting to broader credit policy. This requires a more extensive set of tools than what is currently on offer in “conventional” monetary policy. In this section, we outline why this shift is needed.

The Fed should consider a broad conceptual shift in its mandate from a focus on inflation targeting to broader credit policy. This requires a more extensive set of tools than what is currently on offer in “conventional” monetary policy.

It’s important to be clear on what we mean by conventional monetary policy. Let’s define the conventional view, which dominated finance in the decades before the Great Recession, as follows: Monetary policy consisted of the manipulation of a single instrument—an overnight interbank interest rate instrument. This instrument was meant to manage one or, at most, two targets: a single inflation rate and perhaps also an unemployment rate. (In practice, the Fed has treated “full employment” as simply meaning whatever level of unemployment is consistent with its inflation target, so the notional two targets are really just one.) In the consensus view, setting a single overnight interest rate at the appropriate level would be sufficient to stabilize inflation, output, and unemployment at socially desirable levels, and this would be consistent with stable trajectories for debt and asset prices, as well. Macroeconomists believed that the economy was characterized by something close to the “divine coincidence”—that full employment, maximum sustainable growth, and stable inflation go together with no trade-offs between them (Blanchard 2016). In theory, if the policy interest rate was set at the right level, the central bank would achieve all that could be asked from it as far as the macroeconomy was concerned.

In the wake of the Great Recession, it’s clear that these promises were not fulfilled. It is universally agreed that the single interest-rate instrument is insufficient to reliably stabilize demand—most obviously because of the zero lower bound, but also because changes in the policy interest rate are not reliably transmitted to the larger economy. It is also increasingly recognized that the central bank’s macroeconomic goals cannot be reduced to a single target. In part, this is because the “divine coincidence” may not hold



in reality—stable inflation, full employment, and maximum sustainable growth may each require a different level of aggregate demand. In addition, central banks often need to think about other targets—financial stability, and perhaps also income distribution and the sustainability of public debt. Finally, the immediate response to a financial crisis on the scale of 2007-2009 requires extensive intervention in the financial system, often in new ways, which may have lasting implications for the conduct of monetary policy even in normal times. It's clear that the central bank's tools are weaker, and its job is bigger, than most people believed a decade ago.

The “unconventional” monetary policy of the past decade largely consisted of the central bank directly purchasing long-term debt and other securities from the market through the QE program, guiding the financial markets on the future path of those purchases, and, during the initial liquidity crisis, providing emergency loans to the financial sector so it could weather the economic storm during the initial liquidity crisis.

Today, many inside and outside the Fed hope that it will be possible to fight the next recession by relying on conventional policy, supplemented by the handful of unconventional tools that were tried after 2007. We disagree. We believe new tools for monetary policy are still urgently needed for the following reasons:

REASON 1: EXPERIMENTAL TOOLS AREN'T SO EXPERIMENTAL.

A larger monetary policy toolkit is not as radical as it might seem. Tools that seem unconventional today in fact have a long history in monetary policy in the U.S. and elsewhere. In the words of the former Bank of England Monetary Policy Committee member Adam Posen (2012):

“... you only need to look back at monetary history to see the obvious: central banks have engaged in extended periods of administrative guidance, of doing very active directed lending in particular sectors, and especially of engaging in market operations on financial assets other than government securities... It is quite literally a prehistoric argument to assert that central banks are engaged in experimental, unprecedented, or somehow scandalous and dangerous policy maneuvers today.”

Indeed, it was universally understood in the past that it was necessary for the Federal Reserve to intervene across the entire distribution of interest rates—setting both long- and short-term rates, for instance—and playing a more active role in managing credit creation in order to maintain full employment. New research from the Federal Reserve



Board emphasizes this for the 1920s. In the 1920s, the Federal Reserve targeted a number of different interest rates, as well as using their balance sheets, to drive monetary policy. Several notable tools included the purchasing of bankers' acceptances, which set prices for money market instruments, as well as aggressive open market operations in government securities (Carlson and Duygan-Bump 2016).

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During World War II, the Fed directly set long-term interest rates. This was like QE, but the Fed announced a target price for securities rather than a specific amount to be purchased. Starting in 1942, the Fed successfully committed to a 2.5 percent ceiling on long-term government bonds, which was maintained until 1947 (Hetzel 2001). In the postwar decades, Fed staff promoted a broad range of credit-direction tools to developing countries, establishing new central banks as part of monetary policy best practice (Epstein 2013). Given this, there is no reason to exclude a broader range of instruments for actively directing credit from the Fed's toolkit going forward, nor should we treat a more expansive toolkit as some radical measure that should be considered only as a last resort.

REASON 2: THE TOOLS RELIED ON IN RECENT YEARS WON'T BE ENOUGH TO DEAL WITH THE NEXT CRISIS—AND THERE WILL BE A NEXT CRISIS.

Sooner or later, the U.S. will experience another recession. When that happens, it's unlikely that reducing the short-term interest rate will be enough to stabilize demand, simply because rates will almost certainly not be high enough for a big enough reduction. Figure 1 shows the federal funds rates since 1988. In the recession of 1990 to 1991, the federal funds rate fell from 8.25 percent to 3 percent, a fall of 5.25 percent. In the recession of 2001, the federal funds rate fell from 6.5 percent to 1.0 percent, a fall of 5.5 percent. Before the much more severe Great Recession, interest rates were at 5.25 percent and then taken to zero, where they remained until December 2015.



NOT ENOUGH ROOM FOR NEXT RECESSION

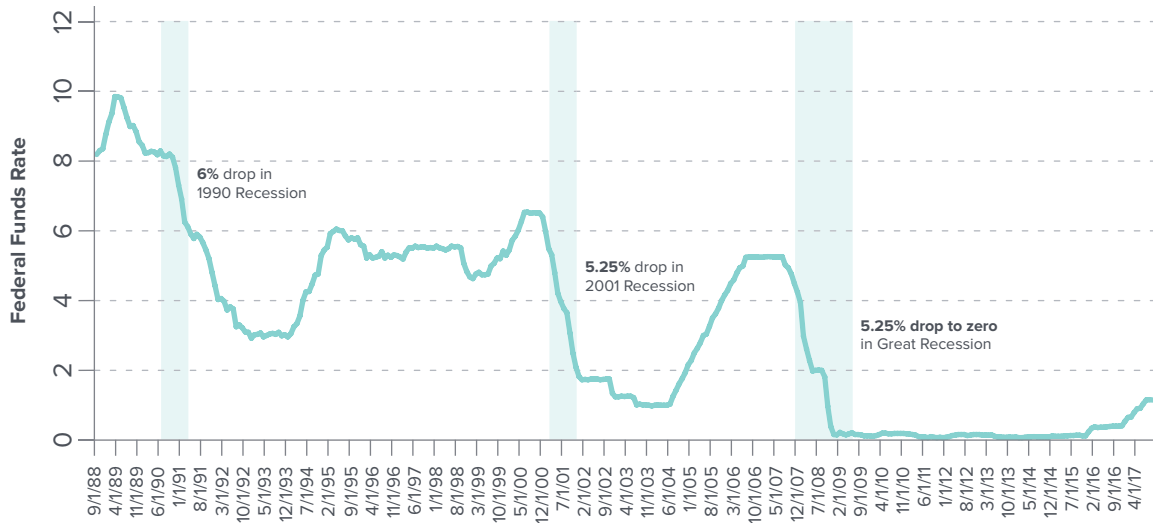


FIGURE 1 Source: St. Louis Fed, FRED Economic Data: <https://fred.stlouisfed.org/series/FEDFUNDS>

During the summer of 2017, the federal fund rate was at 1.15 percent. In June of 2017, Fed officials estimated that the federal funds rate will only be at 2.9 percent during 2019, with a longer-run estimate of 3 percent. These estimates have generally been too optimistic about the recovery, but even if they are true, it shows that there may be little space for conventional interest rate setting policy to respond to any negative shock to demand. If the next recession requires a fall in the federal funds rate of 5.5 percent, as it did in the 1990 and 2001 recessions, there simply won't be the room to carry it out with current estimates.

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The larger problem here is twofold. First, there are widespread arguments that demand is persistently weaker today than in the past. Whether this is because investment is depressed by a lack of major new technologies or by corporate short-termism, or whether consumption is depressed by higher inequality or other factors, the effect is the same: It takes a lower interest rate to reach the economy's potential even in normal times. Second,

there is good reason to doubt that the interest rate controlled by the Fed is as tightly linked to macroeconomic outcomes—such as growth and employment—as it once was. Thanks to deregulation and to institutional changes in the financial system, neither market interest rates nor credit volumes respond as strongly to monetary policy changes as they did in the postwar era. The result is that dealing with the next recession through conventional interest rate policy would require a larger fall in interest rates than in the past, while rates are likely to already be quite low.

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The unconventional policies adopted so far—primarily QE—are a step in the right direction, but inadequate to deliver the growth and job creation that the economy needs. Today's low rates by themselves are a strong case for alternative tools. The failure of seven years of overnight interest rates at zero to spark more than a weak and halting recovery shows that the interest rate setting tool is less reliable than it was formerly believed to be. This may be because changes in the overnight rate don't get passed through to the longer market rates that matter for private borrowers (Mason and Jayadev 2015). Or it may be because investment, hiring, and other real economic activities are not responsive to interest rates—or to credit conditions generally—when demand is weak. This is the old idea that “you can't push on a string.” Either way, the failure of the Fed's ultra-expansionary policy to produce a strong recovery from the recession gives us reason to doubt the power of existing tools.

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REASON 3: HITTING MULTIPLE TARGETS REQUIRES MULTIPLE INSTRUMENTS.

It is increasingly clear that effective macroeconomic policy cannot be conducted on the basis of a single instrument and a single target. For many years, macroeconomic policy was based on the idea of “divine coincidence,” in which it was assumed that the same level of output that fully utilized the economy’s productive potential would also generate full employment and price stability. Both empirical and real-world evidence makes it increasingly clear that this is not the case (Blanchard 2016).

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At the same time, the range of outcomes that macroeconomic policy needs to address has broadened to include financial stability and the distribution of income and wealth. These outcomes have become increasingly prominent on central bank agendas over the past decade. As Tinbergen (1952) pointed out long ago, a single macroeconomic policy instrument cannot control more than one independent target. For the moment, central banks seem to be trying to achieve adequate outcomes on all targets with the single instrument of an overnight interest rate. But such an approach is likely to lead to, at best, mediocre outcomes—it’s a compromise rate, which is too low to rein in financial exuberance while too high to generate full employment or fully utilize the economy’s productive potential.

It is increasingly clear that even if the central bank’s objective is defined myopically as price stability, the overnight interest rate is an inadequate interest rate to achieve even that. Despite an overnight rate at zero, the Fed has undershot its inflation target almost every month since 2008. During the recession and the immediate post-recession period, Fed officials recognized the inadequacy of the short-term interest rate and worked to develop a set of alternative tools—mainly QE and forward guidance—that could more effectively boost desired spending by the private sector. The effectiveness of these tools is, at least, questionable; though QE probably achieved more than forward guidance, neither were able to stimulate private sector borrowing on a large scale (Friedman 2014).



REASON 4: THE FINANCIAL CRISIS SHOWED THAT ALL LIQUIDITY IS NOT CREATED EQUAL.

A fourth reason to explore a broader toolkit comes from the extraordinary actions taken by the Fed and other central banks in response to the financial crisis of 2007-2009. While the Fed's function as lender of last resort in crises and its role in macroeconomic stabilization are conceptually distinct, the crisis response has implications for macroeconomic policy in general.

The response to the crisis both demonstrated and reinforced the Fed's deep involvement in financial markets. While many of the special facilities to shift risk out of the banking system have been wound down, some remain in place. Even today, the Fed is the final purchaser of 10-20 percent of new residential mortgages in the U.S., as it rolls over its existing stock of mortgage-backed securities. Even if demand management and economic stabilization were not the original goals of these asset purchases, they still have important effects on aggregate demand—in this case, by supporting mortgage lending. The crisis response also demonstrated the range of actions available to the Fed in an emergency. Fed leadership should not be allowed to plead helplessness in an emergency of mass unemployment or urgent, unmet social needs, but should show the same creativity in addressing them they brought to the financial crisis.

Conversely, while the crisis was a lesson in the speed and flexibility with which the central bank can act when it wishes to, it was also a lesson in the shortcomings of financial markets. A narrow definition of monetary policy made sense when it seemed that, if the Fed simply set the overall level of liquidity or credit creation in the economy, private markets would allocate it to the most socially beneficial uses. The mortgage bubble and the ensuing collapse of the securitized-mortgage market make that claim less defensible. If we can't count on private finance to efficiently allocate credit, it is the responsibility of policymakers to take a more active role in steering credit through the economy. Paul Krugman (2016) suggests that this broader point about the efficiency of financial markets should be one of the main lessons of the crisis. The experience of the past decade suggests:

“... a broader rationale for policy activism than most macroeconomists—even self-proclaimed Keynesians—have generally offered in recent decades. Most of them... have seen the role for policy as pretty much limited to stabilizing aggregate demand. Correcting asset markets when they go wrong wasn't part of the mandate, because who were policymakers to claim that they were smarter than private investors? Once we admit that there can be big asset mispricing due to liquidity and collateral constraints, however, the case for intervention becomes much stronger...There is more potential for and power in intervention than was dreamed of in efficient-market models.”



REASON 5: MONETARY POLICY CHOICES AFFECT THE DISTRIBUTION OF INCOME AND WEALTH.

A fifth reason to be exploring alternative tools is that monetary policy, in both conventional and unconventional forms, always has allocation and distributional effects. Decisions to tighten or loosen policy do not simply raise or lower the overall level of economic activity while leaving its composition of these activities unchanged. Monetary policy inevitably has greater effects on certain sectors, which are more sensitive than others to changes in credit conditions. In the U.S., for instance, monetary policy has operated disproportionately through the housing sector (Leamer 2007).

Monetary policy choices also have important effects on the distribution of income and wealth (Binder 2015). Expansionary policy can raise wages and improve income distribution—there is evidence that in the absence of QE, inequality would have increased in the post-recession period by even more than it did (Bivens 2015). Conversely, weak policy responses can lead to less growth with slower wage gains, reduced productivity growth, and lower labor force participation. Whether this decline in potential economic activity, often referred to as hysteresis, is permanent or simply requires more aggressive effort to combat is a current frontier of debate. Either way, however, it shows us that, contrary to economic models, money is not neutral in the long run, because the state of monetary policy determines how the economy grows towards the long-term.

Finally, higher and lower interest rates redistribute income between debtors and creditors. Indeed, the rise in the long-term household debt-income ratios after 1980 was due not to higher borrowing by households, but by the effect of higher real interest rates on the existing stock of household debt (Mason and Jayadev 2015). Monetary policy decisions must take into account their effects on distribution and allocation of credit, as well as on the level of demand. It is unlikely a single instrument will be sufficient to meet all these goals. Indeed, there is an argument that policymakers should be much more concerned with the effects of their choices on distribution than on long-term growth (Furman 2017).

Some have used distributional impact as an argument against unconventional policy—central bank asset purchases have, in this view, mainly benefited higher-income households that own most financial assets and have been the beneficiaries of whatever rise in asset prices QE has produced. While these concerns should be taken seriously, it's important that the direct distributional effects of unconventional policy can also go the other way—by reducing interest rates faced by lower-income borrowers and through their effect on house prices. In any case, these direct distributional effects have probably been dwarfed by the distributional impact of higher or lower unemployment (Bivens 2015). So, while



distributional concerns are important, it would be wrong to use them to argue against the Fed's efforts to boost demand over the past decade. But they are likely to be important going forward, especially as policymakers must weigh the risks of above-target inflation against slower growth of employment and wages. The inherited framework is unlikely to be adequate here.

REASON 6: LIKE IT OR NOT, THE FED'S POLICY CHOICES STRONGLY INFLUENCE THE DIRECTION OF CREDIT.

Finally, a sixth reason, closely related to the previous three, is that the mix of assets purchased by the central bank inevitably affects the kind of credit created, as well as its volume. This was most visible during the crisis. During 2007 and 2008, it was the decisions of the Fed that determined which troubled financial institutions would survive, which would be absorbed by other institutions, and which, like Lehman Brothers, would be allowed to fail. During the summer of 2008, when the commercial paper market that provides short-term financing to the nation's largest corporations had essentially ceased to function, the Fed stepped in to replace private lenders. By making loans directly to non-financial, as well as financial, businesses that had previously borrowed in the commercial paper market, the Fed effectively replaced private banks as the source of short-term loans for corporate America. During the slow recovery that followed, the Fed continued purchasing large volumes of mortgage-backed securities, as well as longer-dated treasuries through the QE programs. The explicit logic of these policies was to induce private financial institutions to hold a different mix of assets than they would have chosen on their own—ultimately, in the hopes of financing activities that would eventually boost aggregate demand.

We should adopt a more expansive—and thus more realistic and more politically productive—view of the central bank's role in directing credit and shaping outcomes in financial markets.

For many—both inside and outside the Fed—these kinds of large-scale asset purchases represent undesirable “distortions” of financial markets. But, as Bernanke (2017) notes, these criticisms are incoherent. The goal of all monetary policy is to “set financial conditions consistent with full employment and stable prices.” So, it is always going to produce a different pattern of asset prices and yields than it would have obtained otherwise.



And in any case, there is no such thing as “undistorted” values of interest rates, term, and risk premia, etc.—these are always influenced by the policy choices of both the central bank and the elected government. In this paper, we suggest that the interventions of the crisis should not be seen as anomalous, but rather should lead us to adjust our view of central banking in “normal” times. We should adopt a more expansive—and thus more realistic and more politically productive—view of the central bank’s role in directing credit and shaping outcomes in financial markets. The crisis and the response to it are not exceptional. They reflect the need for, and reality of, conscious planning in financial markets. In the words of Bagehot: “Money will not manage itself.”



SECTION TWO

Why the Current Toolkit Is Insufficient

This paper joins an ongoing debate over how the Federal Reserve responded to the Great Recession and how it should react to future recessions. The assumption in most of these discussions is that monetary policy will continue to be conducted using a single instrument. The focus is on extending the range of this instrument via negative rates and forward guidance, and/or changing the target that guides its use. A number of alternative targets have been suggested. Major examples include a higher inflation target; the path of the price level, rather than the inflation rate; nominal gross domestic product (NGDP)—either its rate of change or its level path; nominal wage growth; and asset prices. Hybrid targets are also of course possible, such as adopting a price level target during periods when the interest rate is at zero and the current inflation target the rest of the time.¹

NOT HITTING THE TARGET: WHY THE 2 PERCENT INFLATION TARGET ISN'T WORKING

Many economists and policymakers suggest that a major reason for the central bank's failure to restore normal levels of economic activity and growth in the wake of the financial crisis is the inflation target, which most modern central banks make their main macroeconomic objective.

Going into the Great Recession, it was understood that the Fed had a 2 percent inflation target. This was made explicit in January 2012, when the Fed announced, “[T]he Committee judges that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve’s statutory mandate.” This target or judgment behind it hasn’t changed since (Federal Reserve 2012). In fact, of course, the 2 percent inflation target had guided Fed policy since at least the late 1990s and was embedded in widely used models of monetary policymaking, such as the Taylor Rule.

¹ Binder and Rodrigue (2016) give a good overview of many of these alternatives. An asset price target is most forcefully advocated by Roger Farmer (2009). The hybrid inflation/price-level target was recently proposed by former Federal Reserve Chair Ben Bernanke (Bernanke 2017).



INFLATION IS CONSISTENTLY BELOW TARGET

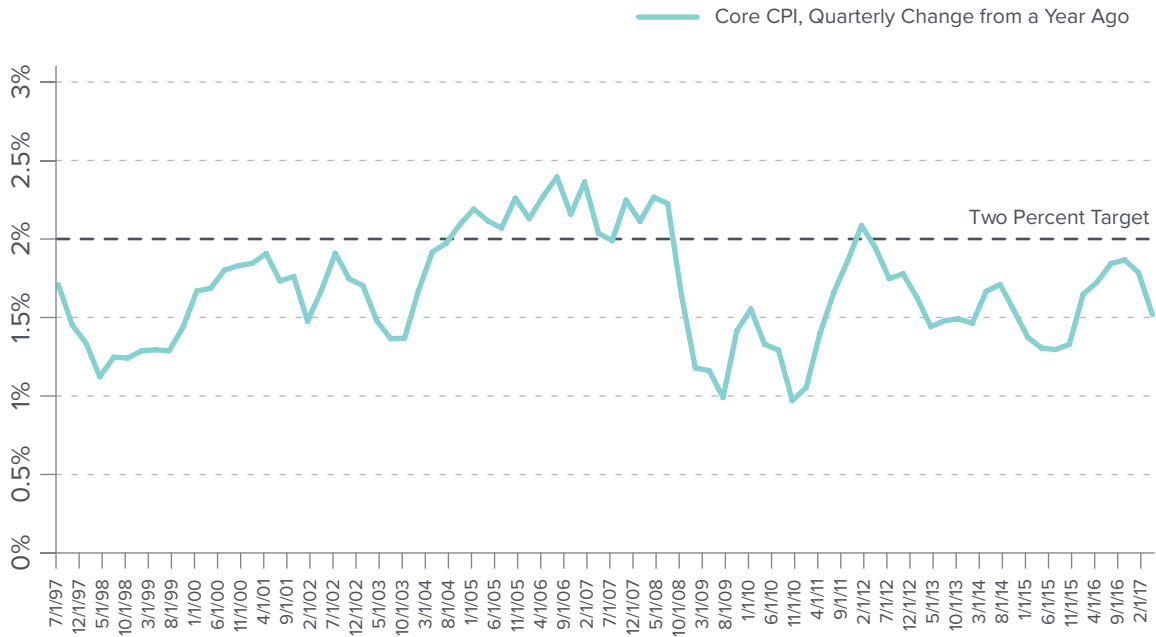


FIGURE 2 Source: St. Louis Fed, FRED Economic Data: <https://fred.stlouisfed.org/series/PCEPILFE>

As seen in Figure 2 above, the Fed has undershot this target consistently during the Great Recession. This has led to a significant debate about the role of targets in deep recessions. Does communicating a target matter, independent of the central bank's actions to reach it? And does—or should—missing a target imply that the miss will later be “made up for” by missing in the opposite direction?

There are several arguments why the Federal Reserve hasn't been able to hit its target. The first is institutional. The Fed, by its nature, will be cautious and place too big a weight on inflation versus full employment. Many have noted that Ben Bernanke as an academic described Japan as being in a state of “self-induced paralysis” (Bernanke 2000). Bernanke argued that certain actions, such as setting long-term interest rates, establishing a 3 to 4 percent inflation target, creating money-financed fiscal expansion, or executing currency depreciation, mean that a central bank retains tools even at the zero lower bound. These more aggressive actions do not characterize Bernanke's own tenure, however. Some point to his tenure on the Board of Governors as a period in which Bernanke moderated his more aggressive earlier stances (Ball 2012).

This problem was anticipated by economists like Paul Krugman, who argued that in a deep recession, it would help for “... the central bank to credibly promise to be irresponsible,” but will face difficulty due to the conservative nature of central banks. Such a promise may not be possible in the current institutional setting. The central banker will face great difficulty doing this because it is inherently a conservative institution—an irrational fear of inflation has even been considered a desirable quality of central banks, and this can’t be turned off when it is no longer helpful (Krugman 1998). More generally, the fact that the central bank has already made various explicit or implicit promises in the past, limits its ability to make new promises now.

This institutional conservatism was reflected in earlier discussions of whether or not the Fed would make up a period of low inflation by tolerating higher inflation (Jonas et al. 2003). Some academics argued that policy should “opportunistically” lock-in disinflation during such periods when inflation is lower than anticipated (Haldane 1998). Others emphasized that central bankers should place “too large” of a weight on inflation stabilization, and thus systematically bias away from full employment (Rogoff 1985). All of these threads in inflation targeting led many to worry that the inflation target was a ceiling, rather than a target where the errors would be symmetric around the 2 percent target. As we can see from Figure 2, there has been no period since the Great Recession where inflation was consistently above target.

The Fed tried to demonstrate that they did not see the 2 percent inflation target as a ceiling during the Great Recession. In December 2012, the Federal Reserve announced a policy modeled on the Evans Rule—named for Federal Reserve Bank of Chicago President Charles Evans—that stated rates would remain at zero even if inflation went above 2 percent, to a rate of 2.5 percent inflation. It also announced QE purchases that were open-ended, modeled on criticism of the Fed’s earlier forward guidance of future rate changes (Evans et al. 2012; Woodford 2012).

However, throughout 2013, inflation fell to some of its lowest rates. Inflation expectations were also falling during this time. It is not clear why this happened, but it appears a simple commitment to a symmetric target with action behind it isn’t sufficient to set inflation expectations.



MARKET INTEREST RATES DON'T ALWAYS FOLLOW THE FED

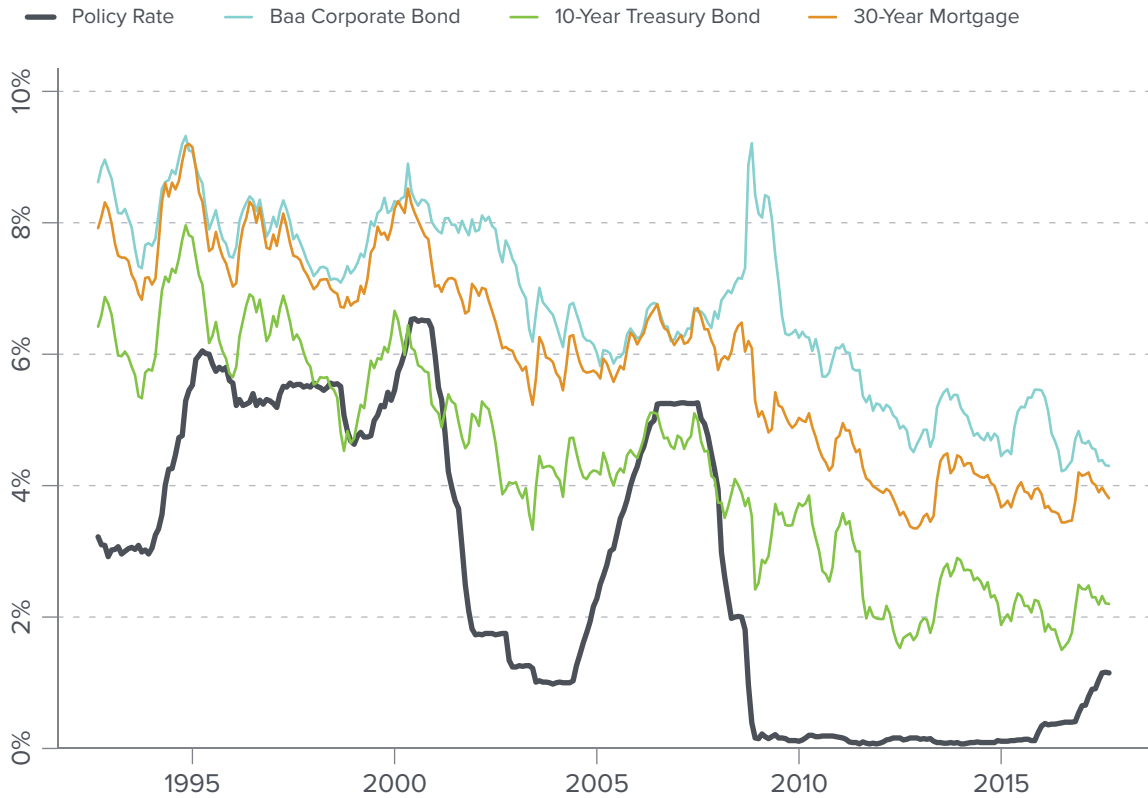


FIGURE 3 Changes in the Fed's policy rate (black) do not always led to proportionate change in the longer interest rates that matter most for the economy. For instance, when the Fed increased the federal funds rate by 4 points between 2004 and 2006, interest rates on corporate bonds, home mortgages and 10-year federal bonds all increased by less than one point. Source: Moody's (Baa corporate bond), Board of Governors of the Federal Reserve System (other rates); retrieved from FRED, Federal Reserve Bank of St. Louis, October 30, 2017

The second explanation for why the Fed has consistently missed its inflation target is economic. The standard interest rate instrument is paralyzed by the zero lower bound, QE remains too weak to play more than a supporting role in macroeconomic stabilization, and expectations of more expansionary policy in the future don't drive private sector decision-making on investment and spending today. Even positive assessments of QE's impact are underwhelming. Gagnon (2016) summarizes the results of 16 studies of QE. The median estimate is that purchases of bonds equal to 10 percent of GDP would reduce long rates by eight tenths of a point—not trivial, but quite small relative to the program's size.

As shown in Figure 3, between July 2007 and December 2008, the target federal funds rate was reduced from 5.25 percent to zero, where it remained until the end of 2015. Yet at the

end of this extraordinary seven-year period of zero rates, the rate on Baa corporate bonds—a good gauge of the interest rate faced by established businesses—fell by only about one point, from around 6.5 to 5.5 percent. Mortgage rates fell by more, but this is the exception that proves the rule—mortgage lending was precisely an area where the Fed intervened directly and did not simply rely on overnight rate changes being passed through to market rates. Most studies find only a modest response of private investment to interest rate changes (Bernanke and Gertler 1995). It is hard to see how single interest rate changes that are passed through so weakly to market rates can be relied on to stabilize the economy, even less to do so fast enough to respond to business-cycle shifts.

WHAT IF WE CHANGE THE FED’S TARGET?

There are certainly good arguments for relaxing the single focus on low inflation that has guided central banks in theory—if not always in practice—for the past 20 or 30 years. For one thing, the notion of a single explicit inflation target is relatively new in the history of central banking. Historically, it is clear that central banks have functioned successfully without an explicit target for inflation, or with inflation as just one macroeconomic goal among others. Even if the single inflation target is retained, there is a case that it should be higher than 2 percent. In an environment where the zero lower bound is a constraint on monetary policy, a higher inflation target would open more space for conventional policy.

Higher inflation would also reduce the burden of existing debt. Historically, the rise and fall in inflation have played a larger role in the evolution of both public and private debt than is often recognized. And in an environment in which inflation expectations are firmly anchored, there may be a significant tradeoff between inflation and unemployment—perhaps not a permanent or reliable tradeoff, but one significant enough that policy should take it into account (Blanchard 2016). There is also an issue, relevant to the current debate, that announcing a higher or different target would give the Federal Reserve latitude to allow the economy to return to something closer to the pre-Recession trend line—an opportunity that may be difficult at just 2 percent. A higher inflation target would also eliminate the concern that 2 percent is actually functioning as a ceiling. So, there are good reasons for the Fed to accept higher inflation as a goal of policy, either directly or via an alternative target, like the price level or NGDP.

It is one thing to say that higher inflation (or some other target) describes a desirable outcome. It is something else to say that adopting a different target would in and of itself do anything to improve the poor economic performance of the past decade or strengthen the Fed’s ability to deal with a future downturn. Despite the claims of some proponents, there are good reasons to doubt that the choice alone of a target has any important effects on the economy, or that the current inflation target is the main problem with monetary policy today.



The obvious first problem with framing the issue in terms of targets is that the Fed, like most other central banks, is not hitting the target it already has. Given that inflation has fallen short of the Fed’s 2 percent target for almost a decade now, it is not clear that they would be more successful at hitting a different target. To be sure, it is easy to imagine a situation in which stable inflation required, say, a negative 3 percent real interest rate. In this case, the Fed would be able to hit a 3 percent inflation target (with the nominal rate at zero, the real rate would be negative 3 percent) but unable to consistently hit a 2 percent inflation target (with nominal rates at zero, the real rate would still be too high). But this argument only tells us that conventional monetary policy may be more effective at maintaining a stable inflation rate when inflation is already higher than it is today; it doesn’t give us any reason to think that the Fed simply announcing a hope for higher inflation will have any real effects.

In addition, many of the proposed targets face substantial challenges in implementation. For example, one problem with NGDP targeting—technical but not trivial—is that GDP data are revised regularly in each of the two months following initial release, and are adjusted more comprehensively every few years. The average revision of initial nominal GDP data is 0.5 percent in the following month and 1.3 percent by the final comprehensive revision.² While not huge, these revisions are large enough to create significant problems for policy that has to be carried out in real time (Posen 2013).

COULD FORWARD GUIDANCE ALLOW FUTURE POLICY TO AFFECT THE ECONOMY TODAY?

Another solution to the weakness of conventional monetary policy is to try to use future policy—which presumably will not be constrained by the zero lower bound—to influence economic conditions today. In various forms, this is known as forward guidance.³ New targets and forward guidance are complementary, since the short-term effectiveness of new targets largely rests on market participants’ beliefs about what the targets imply for future policy.

Doubts about the effectiveness of announcing a new target are reinforced by evidence of central bank experiments with forward guidance. A number of countries—including New Zealand, Canada, Norway, Sweden, and Japan, as well as the United States—have seen central banks experiment with explicit statements about policy actions years into the future, as a way of influencing financial markets today. Empirical evidence to date suggests that this had limited effects on financial markets, failing to consistently move interest rates

² See Comparisons of Revision of GDP (Bureau of Economic Analysis 2016).

³ Discussions of forward guidance often distinguish between “Delphic” forward guidance, in which the central bank simply communicates some belief about policy that is likely to be in the future, and “Odyssean” forward guidance, in which the central bank somehow or another commits itself to specific future policy choices.



or asset prices. Nor did it appear to improve market participants' ability to predict future policy (Kool and Thornton 2015). Conversely, the Bank of England, which declined to make statements about future policy, appears to have achieved comparable results from QE as central banks that gave extensive forward guidance (Posen 2013). Empirically, what central banks actually do appears to matter more than what they say they are going to do.

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More generally, there are several good reasons to doubt the effectiveness of announcing future policy actions as a tool for influencing the economy today. First, economic behavior is not as forward-looking as this approach requires. For the past generation, most academic macroeconomics has been based on models of “intertemporal optimization” by rational agents. That is to say, actors in the economy are imagined to make decisions by weighing outcomes over all future time. Meanwhile, the central bank is assumed to pick a rule once and for all and to stick with it forever. This means that policy a year or ten years from today factors into economic behavior just as much as policy today. But one clear lesson of the past decade is that old Keynesian ideas about financial constraints and conventional expectations are more realistic descriptions of economic behavior than the intertemporal optimization of newer models. Real households and businesses cannot spend future income as easily as current income—that is, they face financial constraints. And their expectations of the future are more likely to be extrapolations from recent trends or shared beliefs with no solid foundation, rather than true reflections of the probabilities of future events. So, even if central banks could make binding commitments about policy several years from now, economic actors today would not necessarily respond to them.

Second, central banks cannot in fact make binding commitments to actions several years from now. Regardless of what today's Federal Open Markets Committee (FOMC) says about the Fed's actions in 2025, actions will in fact be taken by the FOMC in place in that year, as appointed by elected officials between now and then, and on the basis of economic data available at that time. No statement by today's FOMC will constrain them. Economic models that feature permanent policy rules are not useful guides for monetary policy in the real world.⁴ It is not possible, legally or practically, for a central bank to set a rule that will be followed for all time, or even to make a binding commitment for policy actions a year from now. And it is clear that markets recognize this. As Benjamin Friedman (2014) puts it, the idea

⁴ As Bernanke (2017) notes, central banks “are not typically unitary actors, but may include participants of diverse views trying to reach compromise in an uncertain environment.” This kind of institutional realism—rooted, in this case, in first-hand experience—is unfortunately missing from too many discussions of monetary policy rules.



that central banks can influence economic outcomes today by announcing policy changes somewhere in the future is “more theological than practical.” It is based on theoretical models in which agents have qualitatively greater knowledge of the future than is available in the real world, and in which they are able to act freely on this knowledge thanks to the absence of exactly the kinds of financial frictions that make monetary policy necessary in the first place.

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WHAT IF WE COULD SET THE INTEREST RATE BELOW ZERO?

Another policy tool widely discussed in recent years is negative nominal rates. Under current arrangements, such rates are supposed to be off the table because of the zero lower bound, but it is clear that this “bound” is in fact somewhat porous. Several central banks have experimented with negative interest rate targets, and in a number of countries, especially in Europe, private markets have moved rates on longer government bonds into negative territory without any direct action by the central bank. It is not clear how far below zero nominal rates can get without significant institutional changes—one highly-discussed possibility is that moving rates much more below zero would require the abolition of cash. There are other practical problems with implementing negative rates—a tax on reserves (the most common suggested approach) might not be transmitted through to bank deposit and lending rates in the same way as changes in the overnight rate. There are also concerns that if financial institutions, households, and businesses do adjust their balance sheets in response to a negative rate—the only way it can be effective—this will create serious problems if and when rates return to positive levels (Palley 2016).

There are many concerns that might be raised about the radical step of eliminating cash and the impact of negative rates more broadly—on the balance sheets of insurance and pension funds, for example. But the real problem with proposals for negative rates is that they are not radical enough. They remain within the orthodox framework in which there is a single, economy-wide interest rate, which is tightly linked to the rate set by the central

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bank on one side and to the level of real activity on the other. If the Fed's main policy lever is connected weakly, if at all, to the real economy, then simply allowing that lever to move further will not be an effective way to stabilize the economy. It is hard to argue that the extra space provided by negative rates is worth the political and institutional changes needed to make them possible, especially since negative rates do nothing to address the broader goals of policy discussed above.

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The problem with looking toward negative rates as the solution to monetary policy's weakness is that there is not a single "interest rate," but many interest rates, many asset markets, and many different kinds of institutions participating in them. A variety of financial frictions and other institutional features of real-world finance prevent easy arbitrage between these different markets, so different interest rates, prices of different assets, and access to credit of different borrowers may move independently. In a 2012 speech, the fundamental issue was described very clearly by Posen:

"Differentiation of financial assets matters. One of the most foolish mistakes of the last 15 years was that we actively assumed this fact away... One key lesson is that there simply is not one real interest rate for the economy. Households are facing one set of highly differentiated interest rates, small and medium enterprises are facing another set of far from smoothly distributed interest rates, as is the construction sector, and so on... If the persistence of financial fragility and of weak recovery are in large part due to the preferred habitats of asset holders with imperfectly substitutable assets, these problems are not easily addressable by moving the price of one financial asset or the level of one interest rate."

As we have seen, it is quite possible for the policy interest rate to be extremely low while credit remains tight for many non-financial firms and households. Rather than looking for ways to push its old policy instrument farther, the Fed should be looking for new instruments that operate closer to the sectors of the economy that actually face credit or liquidity constraints. There is no assurance that liquidity injected in one place (e.g., through purchases of Treasury bonds) will flow to where it is needed (e.g., small businesses or underwater homeowners). For policy to be effective, it has to first answer



“the key question: where is the bottleneck in the economy?” (Brunnermeier and Sannikov 2013). Otherwise, it is entirely possible that the liquidity created by the central bank will pile up on the balance sheets of a few favored institutions while the rest of the economy continues to suffer from inadequate access to credit.

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Absent another major crisis, the Fed is unlikely to give up its framework based on an aggregate target and a short-term interest rate as the main instrument of policy. So it is important to think about better rules within that framework for sustaining full employment. But, given the weak track record of meeting its targets in the Great Recession and aftermath, and the economic and institutional barriers to rely on the short-run policy rate in future downturns, we also need to look beyond that framework. The remainder of this paper lays out some directions to explore.



A New Direction for Monetary Policy

The most important change that would improve the ability of the Fed to prevent severe downturns and maintain full employment is conceptual: The central bank needs to accept its responsibility for actively directing credit to particular end uses and abandon the idea that macroeconomic management can be carried out by setting one interest rate or any other single, economy-wide variable. Active credit policy is necessary to ensure that liquidity flows to productive, demand-boosting investment and not to asset speculation and unproductive borrowing; to allow the Fed to address distributional and other targets, as well as the level of aggregate demand; and simply to ensure that policy changes actually have traction on the real economy.

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As the start of what we hope will be a larger conversation, **we propose the following six changes in central bank practices.** Some of these describe choices that the Fed can already make under its existing authority. Others may require action by a broader set of policymakers.

1. Setting long-term interest rates
2. Increasing support for public borrowing
3. Purchasing state and local debt
4. Coordinating Treasury and Federal Reserve policy
5. Purchasing a greater range of private debt
6. Shifting from a monetary policy to a credit policy framework

1. SETTING LONG-TERM INTEREST RATES

Following the example set by the Bank of Japan (BOJ), the Fed should target long-term interest rates in addition to the overnight rate, which is the current focus of monetary policy. This is a natural extension of the current monetary policy framework. Unlike many other reforms, it would require no change in either the Fed’s statutory authority or its operating procedures. It would simply be a modification of existing quantitative easing where, instead of announcing the quantity of bonds to be purchased, the Fed would announce a target price for them.⁵

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Currently, quantitative easing works by setting the quantity of purchases of long-term debt. Starting in December 2012, for instance, the Fed started buying \$45 billion a month of long-term treasuries in an open-ended commitment. This was the third, and most aggressive, version of purchases, generally referred to as QE3. This method was chosen as a way to push down longer interest rates and boost the economy. But what if, instead of targeting an amount, QE worked by targeting a price?

The BOJ introduced this strategy in September 2016, under the name “yield curve control.” This is an intervention where the BOJ “will control short-term and long-term interest rates.” They stated that the initial target was to intervene so “that 10-year [Japanese government bond (JGB)] yields will remain more or less at the current level (around zero percent)” (Bank of Japan 2016). There are already several positive signs that show its superiority over targeting the quantity.

⁵ Since the price and yield of a bond vary inversely, fixing the price of, say, 10-year Treasury bonds, is the same as fixing the interest rate on them.



The first sign is straightforward: a reduction in the volatility of rates. Figure 4 compares JGB yield movements in 2016-2017 to U.S. treasuries following the implementation of QE3 in 2013.

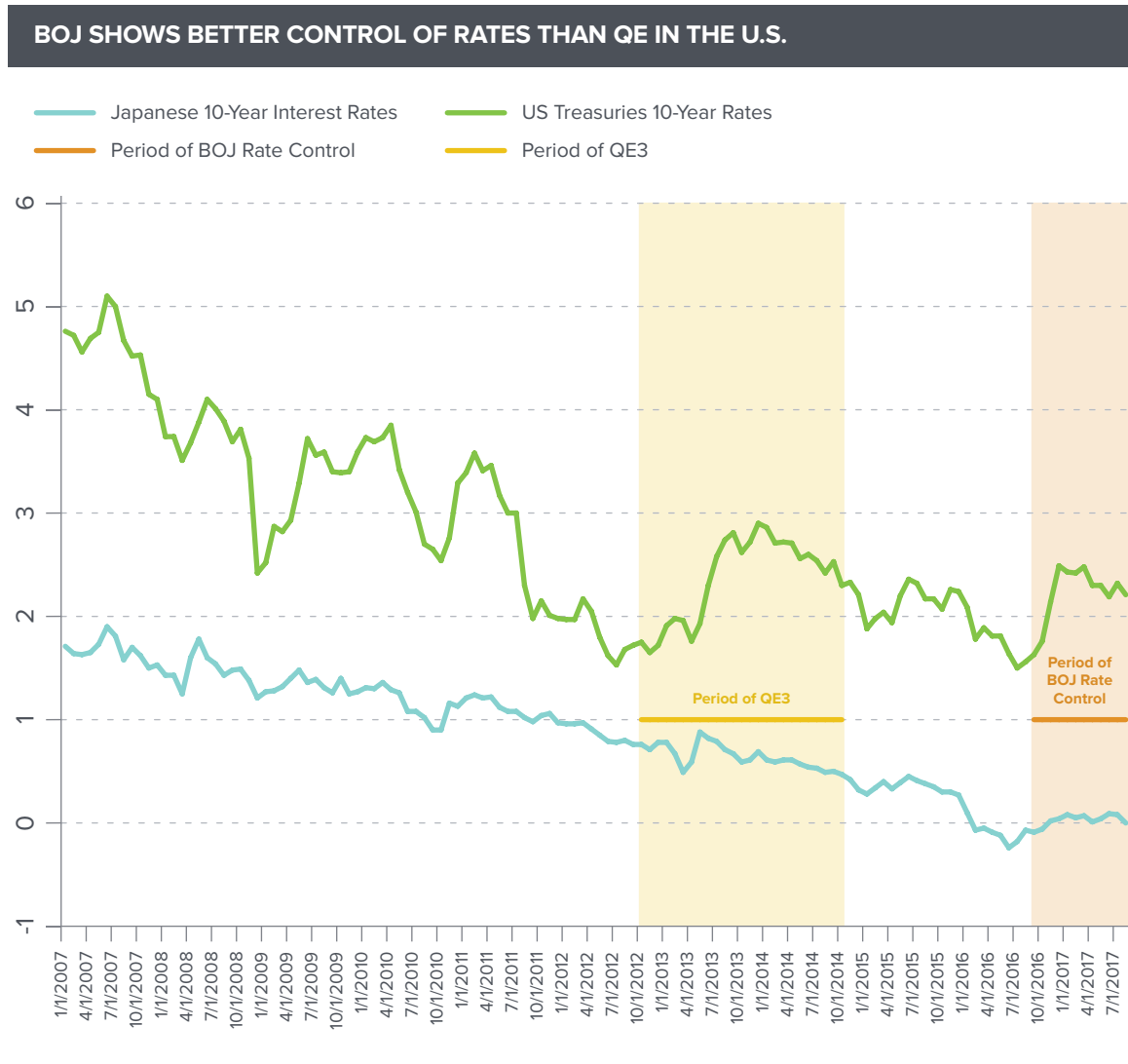


FIGURE 4 Source: St. Louis Fed, FRED Economic Data: <https://fred.stlouisfed.org/series/GS10>

As the figure shows, the JGB remains flat during this time period. Treasuries, however, fluctuate widely. Future Roosevelt Institute work will quantify these changes further. But to start, the volatility of both monthly JGB values and returns drop by half from the year before the announcement to the year after. For 10-year Treasuries, the volatility actually increased in the year after QE3 was announced, compared to the year before.



One reason treasuries fluctuated more was because it was difficult to read and understand the various concerns Federal Reserve officials were raising about the purchases. When officials discussed changing the dates on the purchases, this forward guidance created confusion regarding the ultimate goals of monetary policy.

A second benefit of the price target was that the BOJ has had to purchase fewer assets to achieve the same rate reduction. In the second quarter of 2017, the BOJ purchased 13.5 trillion yen of bonds, compared to 22.3 trillion yen during the same time in 2016. As can be seen from Figure 5, the price target allowed the BOJ to purchase fewer assets while keeping markets more stable. This is an important advantage over traditional QE, where both the public and policymakers hesitate over the necessary increases in the size of the central bank’s balance sheet.

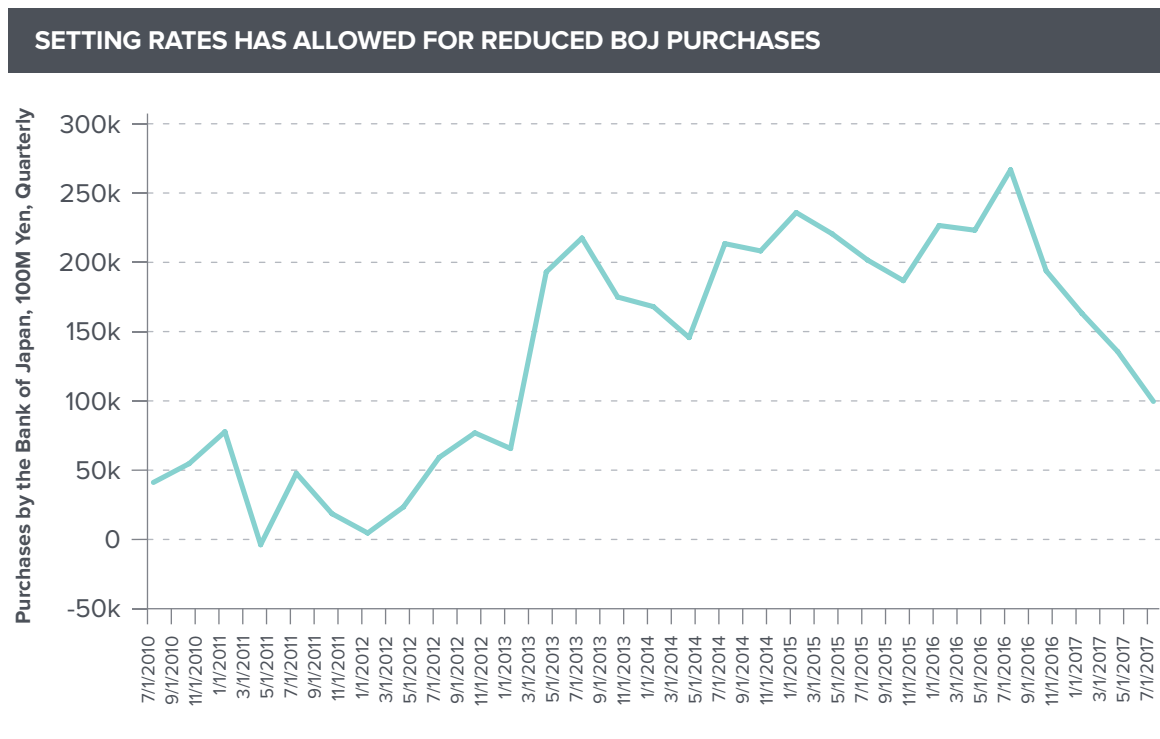


FIGURE 5 Source: St. Louis Fed, FRED Economic Data: <https://fred.stlouisfed.org/series/JPNASSETS>

The smaller required purchases are a direct result of the announcement of a target for the long rate. When rates began to rise towards 0.10 percent, the BOJ took action to communicate that it would buy an unlimited amount to keep rates from going above that. As Grant Lewis, head of research at Daiwa Capital Markets Europe, told *The Wall Street Journal*, the BOJ “... stood up and said yields will be held at these levels. Try and beat me, I’ve got infinite resources. That’s actually allowed them to start purchasing less” (Bird 2017).



This is important going forward. Along with greatly increasing both the size and the scope of their balance sheets, one of the main new tools central banks have adopted in the wake of the 2007-2009 crisis is “forward guidance” about future policy and future targets for macroeconomic aggregates—announcing, for instance, a willingness to accept higher inflation for some period in the future (Friedman 2014). While shifting expectations of future policy may be a powerful tool in formal models, it is unlikely to be an effective or reliable tool in real life.

Announcements of future targets for macroeconomic variables are unlikely to be accepted at face value when the central bank is failing to meet its existing targets, as is the case today and is likely to be the case in any situation where unconventional policy is called for. And, as we discussed in Section II, announcements of future policy are not meaningful since future authorities—appointed by future presidents—will be free to ignore them. But the limited effectiveness of forward guidance doesn’t mean that all central bank communication is impotent.

Announcements of future policy can have a powerful effect when a central bank announces a target price in a market in which it is currently active, and in which it has the demonstrable power to move prices. If the Fed announces that it will buy, let’s say, 10-year Treasuries until their price rises to a certain level, the significance of this statement doesn’t depend on either counterfactual assumptions about the Fed’s ability to move macroeconomic aggregates or the behavior of future bank authorities. And, given the credibility of the promise in this case, it would be irrational for market participants to sell the bonds at any price below the Fed’s target. As this example shows, announcing the goal of the intervention greatly reduces—perhaps almost to zero—the amount that the Fed actually has to buy or sell. As Bernanke (2017) puts it, “A yield target may be enforceable with reduced quantities of purchases by the central bank [compared with QE], because deviations from the target will be arbitrated away by market participants.” This is why yield curve control, such as adopted in Japan, may allow the central bank to produce large changes in market interest rates with only small volumes of transactions.

While the Japanese experiment is still in its early days, there are good reasons to believe that the arbitrage described by Bernanke is effective. In the decades before 2007, the Fed and other central banks set overnight interest rates—linked to an immense volume of lending between financial institutions—with a comparatively tiny volume of transactions in the federal funds market. This was effective because once the Fed announced a target rate, private institutions had every incentive to quickly adopt that rate in their own transactions. It’s worth noting that before the mid-1980s, open-market operations were conducted similar to how QE is today, with the Fed simply buying or selling a certain quantity of securities. The practice of announcing a target rate was adopted precisely because it



gave the Fed much more control over market rates with a much smaller volume of actual transactions (Kripper 2011, p. 122-128). Going back further to World War II, the Fed, like many central banks, pegged the rate on longer-maturity government bonds (at 2.5 percent, in this case). The Fed had no trouble maintaining their target rate without the need for excessively large purchases or sales (Eichengreen and Garber 1991).

2. INCREASING SUPPORT FOR PUBLIC BORROWING

One of the most widely discussed alternatives to conventional monetary policy is “helicopter money.” While this term has been used to refer to a number of different activities, one main usage is direct central bank funding of fiscal expansion. In effect, the government increases public spending in the usual way, but instead of issuing bonds to the public to pay for it, the government issues the bonds directly to the monetary authority, which purchases them with newly created money.

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While the merits of this policy have been extensively debated, the extent to which current U.S. policy already looks like this is much less widely recognized. Between 2010 and 2016, the Fed increased its holdings of Treasury debt by nearly \$2 trillion. This represents approximately 30 percent of total federal borrowing during this period. In other words, while economists debate the theoretical merits of helicopter money, it has already been in substantial use.

The reason that this extraordinary shift toward monetary finance of public spending has received so little attention is that the policy has never been described as such. What quantitative easing actually consists of, is large central bank purchases of public debt, or in other words, central bank loans to the federal government. It follows that, if the federal government faces any kind of financial constraints, QE must have gone a long way to removing them. (There is no need to worry about how much federal debt the bond markets will buy if the Fed is actually buying it.)

This has never been described as the goal of the policy. Rather, it’s described as a roundabout way of influencing the willingness of the financial system to hold private liabilities. What’s



being eased are credit conditions for private borrowers. Whatever reduction QE produces in interest rates on government debt is just a way of reducing rates on private debt. In the language of Borio and Disyatat (2010), QE is always described as credit policy rather than debt-management policy.

The Fed should be explicit about support for public borrowing, encouraging the government to employ countercyclical fiscal policy along with monetary policy. In other words, quantitative easing should be frankly described as what it is: monetary finance of public spending.

We propose that the Fed should be explicit about support for public borrowing, encouraging the government to employ countercyclical fiscal policy along with monetary policy. In other words, quantitative easing should be frankly described as what it is: monetary finance of public spending. Such a change in language would have major benefits, even if the substantive policy did not change. By clarifying that its policy is, in fact, one of supporting the market for government debt, the Fed would assuage any doubts about the sustainability of public finances. This alone would have a stabilizing effect on bond markets and might well lead to lower long rates—the ultimate goal of the policy. Perhaps, more importantly, it would reassure policymakers in the elected branches and clarify discussions of budget questions. One simple step in this direction would be to exclude federal debt held by the Fed from headline measures of government debt.

3. PURCHASING STATE AND LOCAL DEBT

Unlike the federal government, state and local governments do face meaningful financial constraints. Perhaps the single most powerful tool the Fed has to support aggregate demand and direct credit in socially useful directions is to purchase the liabilities of states, cities, and other subnational governments. This would greatly reduce the pressure for pro-cyclical cuts in public spending during recessions.

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The balance sheets of state and local governments are complex—unlike the federal government, most have substantial financial assets, as well as liabilities, and the sector as a whole is a net creditor (Mason, Jayadev, and Page Hoongrajok 2017). But many individual governments do face acute limits on their access to credit, and concerns over credit are a constraint on spending and revenue decisions, even if their access to bond markets is currently unimpaired. These concerns become especially serious during downturns—exactly the period when, from a macroeconomic perspective, state and local governments should be increasing spending and avoiding tax increases.

From a social standpoint, public investment is less costly during a downturn, when a larger fraction of labor and other resources are unemployed. So it is perverse that borrowing constraints cause many governments to cut back investment spending in recessions.

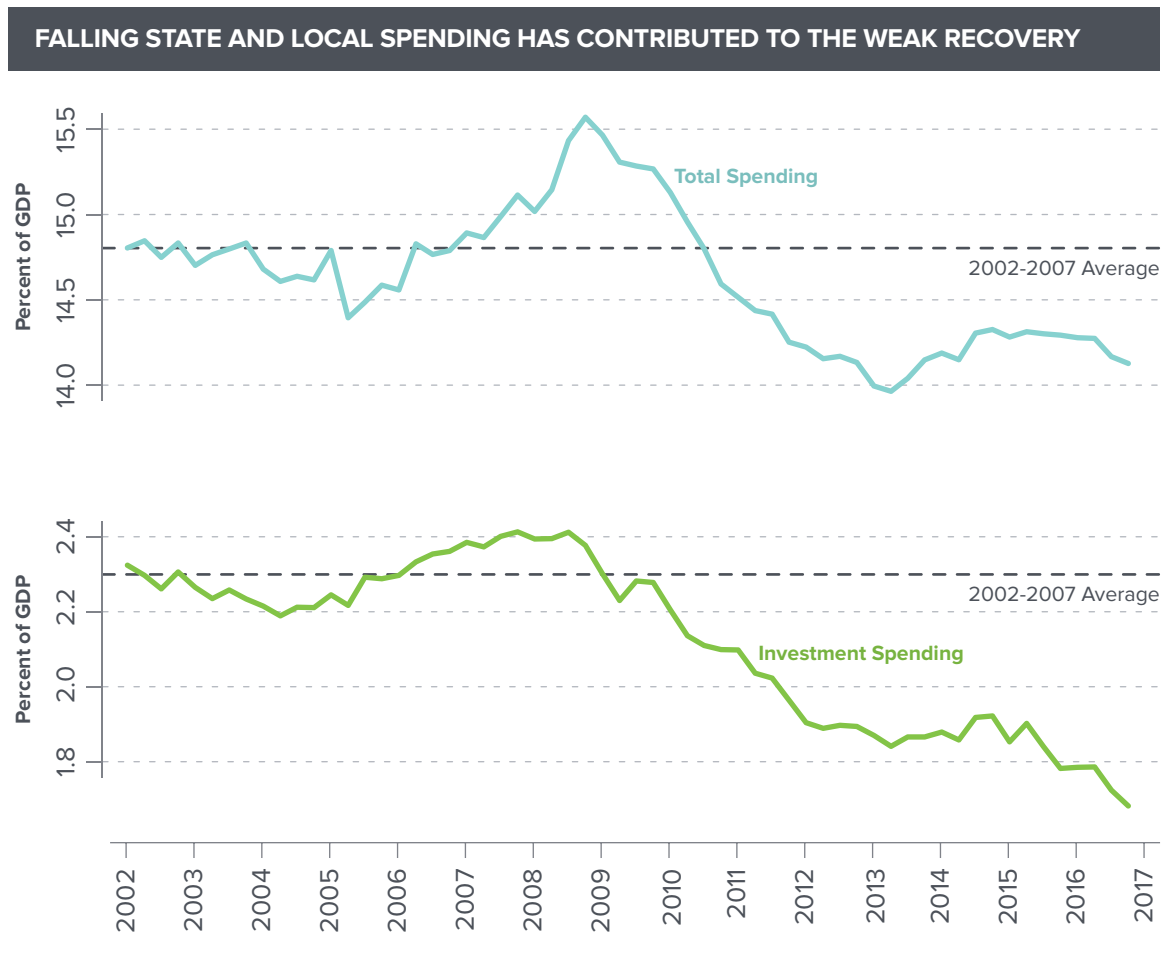


FIGURE 6 Both total spending and investment spending by state and local governments declined steeply between 2007 and 2017. This procyclical behavior of state and local government budgets may be due in part to the cost and availability of credit for these governments. *BEA; retrieved from FRED, Federal Reserve Bank of St. Louis, October 30, 2017*



Financial constraints on state and local governments impart a substantial pro-cyclical component to their budget positions, acting as a kind of “automatic destabilizer” that offsets countercyclical fiscal policy at the federal level. In the most recent recession, the state and local sector did move substantially into deficit in 2009—statutory balanced-budget requirements can be avoided over the short run by shifting payments forward or back in time and running down reserves. But by 2010, the sector had already moved back to surplus. While state and local spending did rise during the recession, it fell even more steeply afterward, and is now about 10 percent lower (as a share of GDP) than it was a decade ago.

As we see from Figure 6, this decline in state and local spending imparted a substantial contractionary impulse to the economy during a period in which a great majority of economists and policymakers believed more expansionary policy was needed, and is one factor in the unusually weak recovery. By purchasing state and local debt, the Fed can relax these credit constraints, ensuring both that vital services and public investment are provided by financially constrained governments and that the overall balance of state and local spending behaves countercyclically rather than pro-cyclically as it does today.

By purchasing state and local debt, the Fed can relax these credit constraints, ensuring both that vital services and public investment are provided by financially constrained governments and that the overall balance of state and local spending behaves countercyclically rather than pro-cyclically as it does today.

In addition to these macroeconomic considerations, certain governments face acute financial difficulties that can lead to the curtailment or interruption of vital public services independent of the condition of the national economy. Recent examples of subnational governments facing acute financing constraints include Detroit and Puerto Rico. While the underlying causes of these crises are complex, at a high level they represent breakdowns of the normal arrangements that allow economic units to make payments and promises and set expenditure independent of current income. As such, they represent financial crises comparable in severity, though more limited in scope, to the one that the Fed intervened in so aggressively in 2007-2009—and they should receive a comparable response from the Fed. It is hard to see why the failure of AIG or Bear Stearns was not acceptable, but the failure of financially-constrained governments to deliver basic public services to millions of Americans is.



It is hard to see why the failure of AIG or Bear Stearns was not acceptable, but the failure of financially-constrained governments to deliver basic public services to millions of Americans is.

Given the two goals of supporting state and local spending during cyclical downturns and providing relief for particular governments facing financial distress, the Fed should develop facilities for purchasing state and local debt. This could involve a standing offer to purchase state and local debt, up to some amount based on a formula involving average revenue over recent years, resident population, or similar metrics. Both the interest rate and quantity of this lending could be varied based on macroeconomic conditions. The Fed might also make clear that it is ready to make emergency loans above this amount to particular governments facing acute financial pressure. In order to avoid undermining democratic government, however, it is important that there be no policy conditionality attached to such emergency loans.

One obstacle to a program of lending to state and local governments is that the Fed is currently authorized to buy their debt with a maturity of six months or less. This law should be changed. But it doesn't represent a major obstacle to a program of Fed purchases of state and local debt. By committing to roll over the debt for a certain number of years at a fixed rate, the Fed can effectively lend to state and local governments at the longer maturities more suited to their needs. Central banks have credibility. Here is a case where that hard-won credibility can be put to practical use. A Fed announcement that it will roll over short-term borrowings a fixed number of times at the same interest rate (say, 20 times, to create the equivalent of a 10-year loan) will be meaningful in a way that an equivalent promise from a private lender would not be. If such a facility is established, its benefits could greatly exceed the actual volume of loans made. A public commitment to stabilize the finances of state and local governments will make them safer borrowers, making it easier for them to issue conventional bonds in private markets.

It's important to note that increased lending to state and local governments is not always the right answer to the problem of financial constraints on public spending. In some cases, outright debt forgiveness may be more appropriate. Puerto Rico may be in that situation today. In other cases, the answer may be increased federal aid, or even in the long run, shifting the burden of some kinds of public services from the state or local level to the federal. In the near term, however, the Fed has a great deal of power to alleviate the acute financial distress faced by some subnational governments and the pro-cyclical fiscal behavior of the sector as a whole. This power should not be dismissed.



4. COORDINATING TREASURY AND FEDERAL RESERVE POLICY

Alongside an acknowledgement of support for public borrowing, it is important to ensure that public borrowing doesn't conflict with Federal Reserve policy. An important element of policymaking at the zero lower bound is the distribution of Treasury debt maturity. The U.S. debt held by the public has ranged from 25 to 48 percent of GDP from the 1970s to right before the crisis. Since the crisis, debt has risen to 70 percent of GDP. From a macroeconomic standpoint, all debt is not equal—longer-term Treasury bonds are closer substitutes for the private debt that finances real activity than are short-term Treasury bills that the Fed normally deals in.

It's the responsibility of Treasury officials to determine the maturity, or length of repayment, for Treasury debt. Though orthodox economic theory (the Modigliani-Miller theorem) implies that market pricing should arbitrage away any major divergence between rates on debt of different maturities, this is not necessarily true in practice. And even if it were, there are important second-order effects from uncertainty and changing economic conditions that accompany the maturity of repayment. The historical average for the maturity of outstanding debt between 1980 and 2014 was 58.7 months (Treasury 2014).

The maturity level of Treasury debt probably has little macroeconomic effect in normal times, and conventional monetary policy can usually offset whatever effect Treasury borrowing choices may have on financial conditions. The Treasury influences the supply of Treasury debt of different maturities, affecting their different interest rates. But the actions of the Federal Reserve should be able to move the whole complex of interest rates together. In theory, if the short-term rate rises, it should move longer-term interest rates up with it, and if the short-term interest rate falls, it should pull longer-term rates down. In practice, as discussed above, the links between shorter- and longer-term rates are not as tight as orthodox theory suggests. But even if they are linked, this is not helpful when short-term rates themselves are stuck at zero. In this case, further expansion must focus on the longer end, where Treasury choices about the maturity structure of debt are likely to matter more.

Since the 1980s, there's been little or no coordination between Treasury and Federal Reserve officials. The U.S. Treasury has handled decisions about the maturity of the debt, thinking through stability, market needs, and uncertainty surrounding economic policymaking. They do not take under consideration macroeconomic effects. That responsibility has fallen to the Federal Reserve, which sets the interest rates with an eye towards full employment and inflation.



However, since the Great Recession, with interest rates at the zero lower bound, these two roles have become blurred. QE, in particular, sets up these two goals to be potentially in conflict. An important channel through which QE works is shortening the maturities of debt available to private market actors. As Janet Yellen has argued, “central bank purchases of longer-term securities work through a portfolio balance channel to depress term premiums and longer-term interest rates” (Yellen 2011). Or, as Ben Bernanke has argued, “changes in the supplies of various assets available to private investors may affect the prices and yields of those assets [...] Declining yields and rising asset prices ease overall financial conditions and stimulate economic activity” (Bernanke 2012). But if the Treasury is meanwhile trying to issue more longer debt, this effect will be canceled out.

Instead of coordinating during the Great Recession, Treasury and Federal Reserve officials pulled in opposite directions. As can be seen from Figure 7, the Treasury lengthened the average maturity above the historical range at exactly the moment in which the Federal Reserve was trying to reduce term premiums and long-term interest rates.

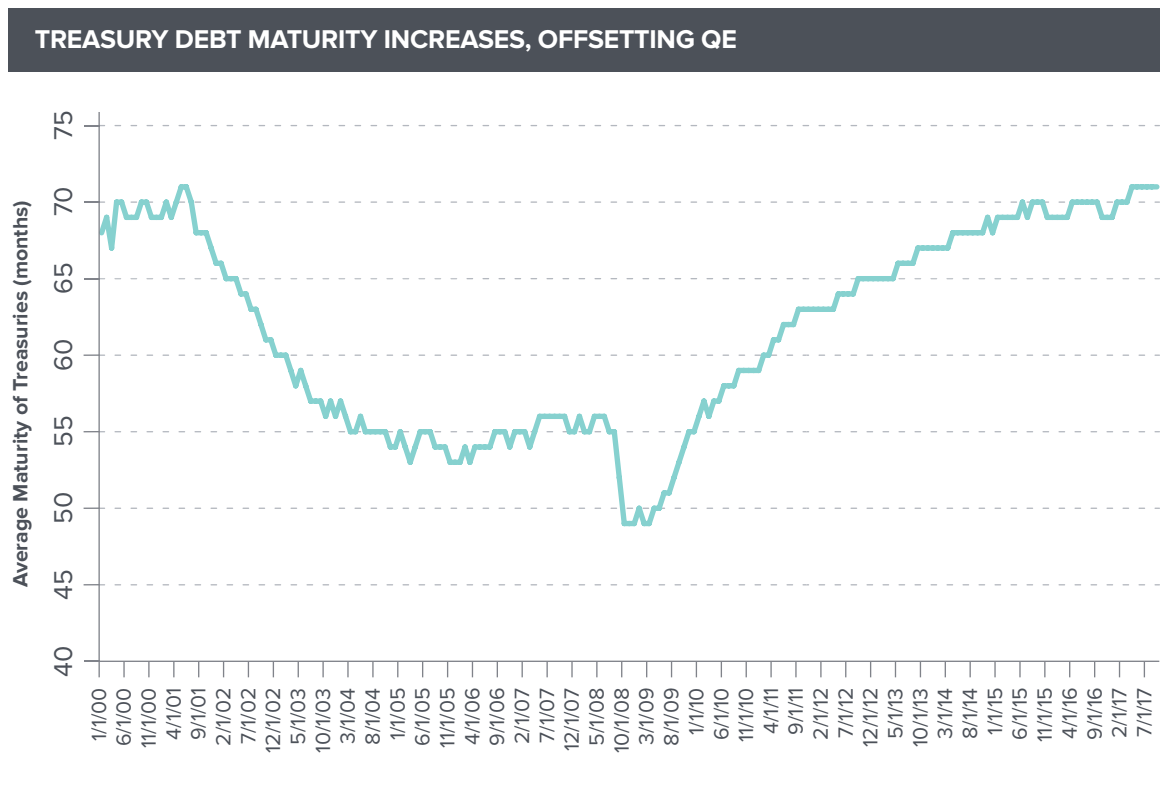


FIGURE 7 U.S. Department of the Treasury, Most Recent Quarterly Refunding Documents: <https://www.treasury.gov/resource-center/data-chart-center/quarterly-refunding/Pages/Latest.aspx>



One influential estimate found that these considerations likely offset a third of the stimulative efforts of QE (Greenwood 2014). This is a substantial offset given the nature of monetary policy at the zero lower bound. Worse, it is one area where Federal Reserve and Treasury officials have not signaled that they are reconsidering their policy in light of the Great Recession.

This is not new policy. During the 1960s, Treasury and Federal Reserve officials coordinated in Operation Twist, an effort to lower long-term rates while leaving short-term rates unchanged.

There are numerous options for coordination. A simple one, suggested by Greenwood and others, is for both the Treasury and the Fed to release joint statements on their plans for the maturity structure of Treasury debt. This would make the decision-making explicit and force both sides to consider each other's objectives. The Federal Reserve would have to understand the fiscal risks that the Treasury understands itself to face, and the Treasury, in turn, would understand the macroeconomic conditions that the Federal Reserve works to navigate. As a baseline, this would align both sides with having to create a determined plan. But given that the Treasury department will be setting maturity, it is impossible for them not to be providing support or a headwind to zero lower bound policy.

This is not a new policy. During the 1960s, Treasury and Federal Reserve officials coordinated in Operation Twist, an effort to lower long-term rates while leaving short-term rates unchanged. Due to the Bretton Woods fixed exchange rate system, policymakers were worried about international gold flows that might result from changes in short-term interest rates. Recent research has found that Operation Twist was successful in reducing long-term Treasury yields by about 0.15 points (Alon 2011).

5. PURCHASING A GREATER RANGE OF PRIVATE DEBT

The widespread belief that low interest rates create a danger of excessive borrowing and asset bubbles is itself a strong argument that the private financial markets do not, in fact, channel liquidity in socially desirable directions, and that these types of programs are needed.

Purchasing a broader range of private liabilities may also be necessary simply to make the transmission of routine monetary policy more reliable. While simple economic models refer to “the” interest rate, in fact there are many interest rates in the economy. Monetary policy that



operates on the market for overnight loans between banks (as in the decades before 2007) or the market for federal debt (as in the post-2007 quantitative easing programs) is not directly affecting longer-term rates for private borrowers. But it is precisely these rates that matter for aggregate demand (Stiglitz 2013). If the various rates all moved together, this would not be a problem. But in fact, the various rates do not move in unison—lowering the overnight rate often simply leads to wider spreads, with longer market rates unaffected (Mason and Jayadev 2015). If we expect the Fed to stabilize demand by shifting interest rates, it will need to operate on a wider range of rates directly, and not simply assume that the whole structure will move in unison. In addition, not all activity is equally sensitive to changes in interest rates. Purchasing the debt of smaller firms in selected sectors not only allows the Fed to channel credit to socially useful activity, it makes it more likely that changes in monetary policy will actually reach the credit-constrained businesses and households whose behavior is most likely to be affected.

If we expect the Fed to stabilize demand by shifting interest rates, it will need to operate on a wider range of rates directly, and not simply assume that the whole structure will move in unison.

During the crisis, the Fed acquired very large holdings of mortgage-backed securities (MBSs). The Fed has followed a policy of maintaining these holdings since the crisis, purchasing an equal volume of new ones as its existing mortgage-backed securities mature. In recent years, these purchases have amounted to about \$30 billion a month, or about 15 percent of total new mortgages issued in the country. (This is down from \$60 billion a month in 2013-2014, the majority of new mortgage backed securities issued during that period.) These purchases were originally undertaken not to support the mortgage market but to revive interbank lending by removing “toxic assets”—MBSs of uncertain value—from bank balance sheets. But the ongoing purchases have also provided support for the market for MBSs, making issuing of new mortgages more attractive to banks. This has made an important contribution to the revival of housing lending since the crisis.

While promoting homeownership is a longstanding goal of monetary policy, home mortgages are far from the only form of lending that serves a socially important goal and that may be underprovided for by private markets. Rather than winding down its purchases of mortgage-backed securities, as currently proposed, the Fed should extend these purchases to other classes of securities. In particular, the Fed should purchase debt issued to finance investments that address climate change, including the development of non-carbon energy sources and building retrofits to reduce energy use.



During the financial crisis of 2007-2009, the Fed created special facilities to support lending in a range of other markets. To support markets for securitized auto loans and credit card loans, the Fed created the Term Asset-Backed Securities Loan Facility (TALF) in November 2008, which purchased nearly \$50 billion of such securities. The Fed also created lending facilities to provide support to commercial paper, money-market funds, and securities broker-dealers (Price 2012). While conceived of as emergency measures, similar programs could be adopted on an ongoing basis if there is reason to believe that the normal allocation of credit is inconsistent with social priorities, or with financial stability, or with the Fed's other macroeconomic objectives.

Similar programs, like the TALF, could be adopted on an ongoing basis if there is reason to believe that the normal allocation of credit is inconsistent with social priorities, or with financial stability, or with the Fed's other macroeconomic objectives.

At present, the Fed is more limited than most central banks in the types of assets it can purchase. Direct lending to non-financial businesses or households might require new legislation. On the other hand, when the Fed has felt forced to act in a crisis, the legal restrictions on its activities have often turned out to be quite elastic. In any case, it is important to have leadership at the Fed that is willing to push its existing authority as far as possible to channel credit toward socially useful activities. Future Fed appointees should be encouraged to adopt an expansive view of their ability to support—directly or indirectly—a broad range of private and public debt markets.

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6. SHIFTING FROM A MONETARY POLICY TO A CREDIT POLICY FRAMEWORK

In the long run, making the Fed a more reliable steward of the macroeconomy is not just a matter of adopting this new instrument or that new target. It will require a reconceptualization of the Fed's place in the financial system. The clean separation of monetary policy, carried out by an independent central bank based on a simple policy rule, from other aspects of macroeconomic policy conducted by the elected government, is no longer viable—if indeed it ever was. While the Fed must adopt a broader view of its responsibilities, Congress also must take action in areas that were traditionally delegated to the central bank.

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It is clear that an environment of abundant liquidity is no guarantee that activities with high social or even private returns will be adequately financed. Many small and medium enterprises may have promising projects but are unable to obtain financing because of information asymmetries or other market failures. Similarly, some households may be excluded from credit markets because of reasons like low current income, while other households may be encouraged to borrow excessively. Recent empirical research on credit markets has documented how partitioned they are, with various asset prices and interest rates moving quite independently based on factors in their own narrow markets. Even if aggregate liquidity or average interest could be reliably set at the “right” level, many individual borrowers would still get too little credit, and a few would get too much. As Stiglitz (2013) puts it, “Governments and central banks need to have explicit programs to encourage lending to certain groups/sectors that are underserved.” This calls for a shift both in how Fed officials think of their own role, and in how Congress thinks of—and legislates for—the Fed and the private financial system.



THE ROLE OF LEGISLATION

The Federal Reserve cannot bear sole responsibility for macroeconomic stability and social consequences of credit creation. The federal government must also take a bigger role in the direction of credit. The federal government already devotes substantial resources to creating, directing, and facilitating credit. The federal government has \$1.24 trillion in direct loan programs and \$2.37 trillion in loans it guarantees (OMB 2017). Table 1 shows some of the major programs:

ESTIMATED FUTURE COST OF OUTSTANDING DIRECT LOANS AND LOAN GUARANTEES	
Programs	Outstanding in 2015 (In billions of dollars)
FHA Mortgage Insurance	1,123
Federal Student Loans	839
VA Mortgages	462
Student Loan Guarantees	220
FHA General and Special Risk Insurance Fund	149

TABLE 1 Source: Office of Management and Budget, Budget of the U.S. Government, Fiscal Year 2018.

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These major credit programs are centered around both student loans and mortgages through the Federal Housing Administration (FHA), each representing more than a trillion dollars of loans. Other notable programs reflect transportation infrastructure financing, disaster assistance, small business loans, and the Export-Import Bank.

As private credit collapsed during the financial crisis and early Great Recession, particularly in the mortgage market, these programs increased in size. We see the importance of these policies most clearly in the mortgage market. In the immediate aftermath of the Great Recession, the federal government took over most of the housing mortgage market. The government-sponsored enterprises of Fannie Mae and Freddie Mac were taken directly on the government books. FHA, in particular, took on a countercyclical role in the Great



Recession. It backed more than 4 million mortgages in 2008. If the FHA was not active in 2011, according to one set of estimates, mortgage interest rates would have more than doubled and new housing construction would have fallen by more than 60 percent. Moody's estimates found that if the FHA had not been active, GDP would have declined by an additional 2 percent (Griffith 2012).

Government policies designed to encourage refinancing also played a role in macroeconomic policy. At the end of 2011, for example, 22.8 percent of residential properties with a mortgage had negative equity in the property. These mortgages are referred to as "underwater" in the mortgage markets, and 22.8 percent translated to 11.1 million properties. This represented \$2.8 trillion in negative equity. Known as near-negative equity, an additional 2.5 million properties had less than 5 percent equity. In total, 27.1 percent of residential properties with mortgages had negative equity (Campbell 2011).

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Empirical and theoretical work from the Great Recession emphasized the contractionary results of so much negative equity. Facing binding leverage constraints resulting from the collapse in home value, consumers began deleveraging by rapidly paying down debts. Pre-2007 consensus would expect this behavior to result in lower interest rates to maintain full employment, yet the zero lower bound was already binding. The theoretical work shows that this can drive down aggregate demand and keep an economy away from full employment (Eggertsson 2010). The empirical results found that areas with higher negative equity suffered significantly worse unemployment. This unemployment couldn't be explained simply by a mismatch of skills or by a negative shock to wealth (Dyan 2012; IMF 2012; Mian 2012 and Mian 2013).

Refinancing at lower interest rates is one way to address this. However, underwater and near-negative equity homes usually can't refinance in traditional ways. During the financial crisis, policymakers addressed this through coordination between the Treasury and the Federal Housing Finance Agency (FHFA), which oversees mortgages owned or guaranteed by Fannie Mae and Freddie Mac in a program called the Home Affordable Refinance Program (HARP).



When launched in 2009, Treasury and FHFA officials estimated that 4 to 5 million homeowners would refinance through the program. Through 2011, however, only 1 million did. After a substantial reworking of the program, 2.4 million homeowners refinanced between 2012 and 2013 (FHFA 2013). Had this program been executed both earlier and more aggressively, more families could have avoided foreclosure and more could have been done to stabilize demand and secure family balance sheets, creating a macroeconomic benefit for everyone.

Taken together, the overall credit portfolio played a large role in countercyclical policy during the Great Recession. One estimate found that the stimulative effect of federal credit programs was close to \$400 billion in 2010 (Lucas 2016). If future recessions occur alongside failures in financial markets that make it difficult to translate macroeconomic policy into credit growth, the federal government will have to play a similar role.



Conclusion: Credit policy at the Fed

Traditional monetary policy works through a single, economy-wide variable—a single interest rate or perhaps the money supply or growth of credit. Credit policy, by contrast, aims at directing credit in specific forms towards specific groups of borrowers. In the words of Borio and Disyatat (2010), credit policy consists of “central bank operations targeting specific segments of the private debt and securities market.” This policy “can be implemented in a number of ways, including through modifications of collateral, maturity and counterparty terms on monetary operations, by providing loans or acquiring private sector claims, including equities... Credit policy derives much of its effectiveness from interposing the central bank (and hence indirectly the government) between private sector lenders and borrowers” (Borio and Disyatat 2010).

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Credit policy has historically been widely used—from Asian central banks directing lending to strategic export and capital-goods industries; to efforts by the Bank of England and others to assist in postwar reconstruction after World War II; to the longstanding U.S. policy of supporting owner-occupied housing (Epstein 2013). Indeed, the creation of the Fed was arguably motivated by a desire to channel credit to certain industries, specifically to support U.S. banks in their effort to compete with British banks in provision of trade finance (Broz 1997). In recent years, the idea of credit policy has gone out of fashion in the U.S. and most other countries, replaced by the idea that the central bank can set borrowing terms for the economy as a whole without considering the credit demand or supply facing particular sectors. But today’s circumstances call for a return to a more active credit policy—indeed, the pendulum is already swinging back under the pressure of recent events.

Fed officials may be uncomfortable redefining their macroeconomic role in terms of credit policy. They are more comfortable thinking of themselves as simply setting one overall interest rate. But it is clear that the existing approach does not yield either macroeconomic stability or reliable financing for productive investment. It is time that the Fed owns its role as “an immense island of central planning ... in the middle of the market economy” (DeLong 2008).



Central bankers like to think of themselves as mere custodians of the financial system, but the social function of finance is to allocate society's scarce resources among investment projects. Finance is responsible for redirecting economic activity—a role that is especially critical at times when major changes in the direction of activity are necessary. Due to the looming threat of climate change, this is such a time. The terms and availability of finance will be a central factor in determining how (or if) carbon-based energy sources are phased out; vulnerable coastal communities are protected or relocated; existing structures are refitted to reduce energy use; land use patterns are reshaped to reduce reliance on the automobile; and the scarce resources of water and arable land are developed, allocated, and safeguarded. All of these choices require large, upfront expenditures to generate even larger, but distant and uncertain, returns: in short, what banks are for.

These questions, and other similar choices about our collective productive activities, will determine whether our grandchildren continue enjoying rising living standards and social stability, or whether they face a new age of conflict and scarcity. As the ultimate arbiter of credit and finance, the Fed has a central role to play here. Like it or not, the central bank is a central planner, shaping both the character and the level of economic activity. It should embrace this role—and the democratic accountability that goes with it—and exercise its power toward the public good.

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