

Commentary on Policy at the Zero Lower Bound

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# COMMENTARY ON POLICY AT THE ZERO LOWER BOUND

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ABSTRACT. Several aspects of the difficulties of policy at the zero lower bound are discussed: The difficulty of credible commitment to higher future inflation, as most New Keynesian models imply is necessary; the need for fiscal and monetary policy coordination; the pitfalls in the taking of quasi-fiscal actions by the central bank.

## I. ROBUST IMPLICATIONS OF CONVENTIONAL NEW KEYNESIAN MODELS FOR POLICY AT THE ZERO LOWER BOUND

Monetary policy has been thought of, at least for several decades up until the fall of 2008, as interest rate policy. Certainly New Keynesian policy models treat it this way. At the zero lower bound (ZLB), the interest rate is stuck, so long as policy makers would like to be taking a more stimulative stance. This would seem on the face of it to imply that monetary policy is paralyzed. New Keynesian models like those in this volume generally agree that monetary policy can be effective, though, if policy can take the form of credible commitments to future interest rate paths. This optimistic

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conclusion was developed by Christiano, Motto, , and Rostagno (2004), Eggertsson and Woodford (2003), and Eggertsson (2008), and emerges in this volume's papers as well

But the conclusion is less optimistic than it looks. In models, it is easy to specify an announced future policy stance and assume the public believes the announcement. In practice, there is inevitably uncertainty about exactly how firm are commitments to future policy, even if the future policy is announced in detail. The uncertainty implies volatility, as newly arriving information shifts the public's perception of how easy it will be to deliver on the commitment.

Central banks in most developed countries have succeeded in convincing the public that they are committed to maintaining low and stable inflation. But this credibility has built up over decades as the central banks have acted to deliver on their commitment. In the presence of a binding ZLB, the result from the models is that the central bank ought to commit to expansionary future policy. A bank that has built up inflation-fighting credibility may find this is a liability if it tries to convince the public that it is temporarily committed to increasing the inflation rate.

Announcements about future policy at a time when the short rates that ordinarily are seen as set by the central bank are stuck at zero are particularly subject to doubt, just because they are accompanied by no current action.

These considerations are mitigated for central banks that have been in a well-established inflation-targeting regime before entering the ZLB period. The regular inflation reports issued by inflation-targeting banks explain the connection of current policy actions to desired future inflation outcomes. The media and the public will have been through periods when identifiable disturbances have pushed inflation away from the target, and the central bank has acted to return inflation to the target path. Such a bank is more likely to be believed if it announces that it wants the inflation rate to rise and that it intends later to stabilize or reduce the inflation rate. A bank that has never in the past announced target paths for the inflation rate or its policy interest rate will have much more difficulty if it tries to begin announcing target paths for inflation for the first time when it hits the ZLB. If (as in the case of the US Federal Reserve) it tries to announce paths of the interest rate without any accompanying target path for inflation, the situation is likely to be even worse. The point of the announcement of a commitment to sustained zero interest rates is to generate expectations of increased inflation. Particularly if there is no history of connecting interest rate paths to target inflation paths in inflation reports, the public is likely to be uncertain how to translate beliefs about future interest rates into beliefs about inflation. Indeed, if the bank (like the US Federal Reserve) is reluctant to accompany its stated commitment to sustained low interest rates with an open discussion of its desired path for inflation and of the risk that inflation will temporarily go above target, the public might rationally perceive that the historical

commitment to a ceiling on inflation visible in past policy is likely to trump an announced commitment to sustained low interest rates. In this case, the announced interest rate commitment will of course be ineffective.

## II. OTHER KINDS OF MONETARY POLICY

Interest rate policy is a weak reed at the ZLB for the reasons we have discussed in the last section. Probably at least in part in recognition of this, most central banks have in the recent crisis undertaken non-standard policy actions. Central banks in many countries have more than doubled their balance sheets over a period of a few months. In the US, the central bank has started paying interest on reserves and has co-ordinated policy with fiscal authorities to a degree not seen in many decades. And central banks have played an active part in discussions of new regulatory regimes that aim to prevent or postpone the next such crisis.

These actions stand out in contrast to the stasis of interest rate policy, but they are not in themselves tied to the presence of the ZLB. They would probably all have arisen in response to the financial crisis even if the crisis had occurred against a background of five per cent inflation and nominal interest rates had therefore stayed positive.

## III. THE ELEPHANT IN THE ROOM

In many countries, and certainly in the US, the biggest deviation of policy from historical norms in the crisis has occurred in fiscal policy, not monetary policy. The papers in this session have no treatment at all of fiscal policy.

This can be justified by assuming that all agents in the economy understand that fiscal policy guarantees that primary surpluses to back nominal debt issue without resort to the inflation tax are in place. Under these conditions, in most models, random changes in the sizes of deficits or of the debt have no impact on the price level — inflation is entirely determined by monetary policy.

But maintaining this assumption during the current crisis makes no sense, for two reasons. One is simply that the past 35 years of US fiscal policy provide no support for the notion that increased real value of the US debt leads reliably to increased primary surpluses, as is required to make fiscal policy irrelevant to inflation. While from 1980 to 2008 US monetary policy grew more stable and was more widely understood, US fiscal policy has been highly unstable. As can be seen from Figure 1, from 1975 to the present the US ran consistent primary surpluses only in the Clinton years, yet sustainability of positive real debt requires that primary surpluses are positive on average over time.

This erratic fiscal policy was not just a matter of numbers buried in a budget. In the 1970's Nixon, a Republican president, declared "we are all Keynesians now". The largest primary deficits relative to outstanding debt during the entire period 1950-2007 occurred during the administration of Gerald Ford, another Republican. Republicans went from being widely perceived as the party of fiscal responsibility to being the party with highest tolerance for deficits. It is simply not plausible to maintain the assumption

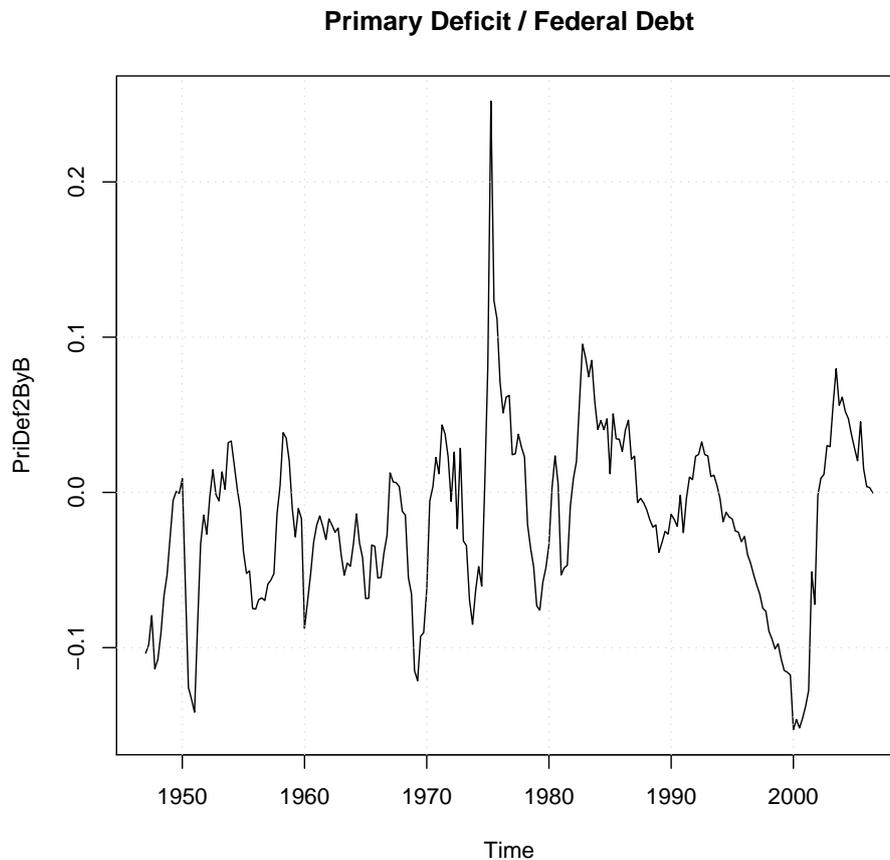


FIGURE 1. US primary deficit at annual rate over total market value of debt

that bond buyers in the 70's and 80's ignored these political developments or the observable history of persistent primary deficits. And if they were concerned about these issues, fiscal policy had an impact on inflation.

The other reason a maintained assumption that fiscal policy is irrelevant to price determination makes no sense in the current circumstances is that it is clear that many, perhaps even most, people believe that large deficits do create a risk of high inflation. As shown by Doepke and Schneider (2006),

a surprise inflation, because so much US nominal debt is held overseas, would be a net benefit to US taxpayers. And the US debt to GDP ratio is approaching levels not previously seen in peacetime. People rightly perceive that fiscal considerations could impact inflation.

Sometimes one hears economists arguing that fiscal policy can impact inflation only if the central bank “monetizes deficits”. This is a misleading expression, as it suggests that increased debt causes inflation only to the extent that the debt is purchased by the central bank. In fact, in simple models a perfectly accommodating monetary policy pegs the nominal interest rate, which results in the money stock rising in *proportion* to the rise in nominal debt. But if money is a small fraction of total outstanding debt, the proportion of deficits financed by central bank purchase can be arbitrarily small, yet still leave price level determination entirely in the hands of the fiscal authorities.<sup>1</sup>

Another, related, limitation of the usual New Keynesian macro models for analyzing policy is that they are often solved by methods that search for *some* equilibrium with little or no consideration of whether this equilibrium is uniquely determined. One version of this approach is calculation of optimal policy directly in terms of objective function variables like output and inflation. One may then construct monetary and fiscal policy reaction functions that support this equilibrium, but uniqueness of the equilibrium under the calculated policy functions is seldom checked. Another version is

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<sup>1</sup>Models that work out these propositions explicitly appear, e.g., in Sims (1994).

the calculation of “Markov perfect” equilibria. Non-uniqueness of the price level takes the form of multiple equilibria, many of which are not Markov perfect. Perhaps the most important aspect of monetary and fiscal policy is that they are chosen to guarantee a unique price level, and this aspect of policy cannot be studied by the shortcut solution methods in wide use.

This point is especially relevant to policy at the ZLB. In the usual textbook configuration of policies, where fiscal policy is irrelevant to price level determination, uniqueness of the price level depends on policy being perceived as reliably raising interest rates more than proportionately in response to increased inflation. It is therefore a problem for monetary policy to commit to an extended period of low interest rates, since this is precisely a commitment not to respond, at least over some span of time or inflation rates, to increased inflation with higher interest rates. Central banks, especially those with no history of issuing inflation reports, may be reluctant to take any risk that the public perceptions about policy that guarantee uniqueness of the price level might come unglued.

#### IV. ARE MONETARY AND FISCAL POLICY DISTINCT?

The Federal Reserve has taken on considerable risk. Historically it has usually held Treasury securities on the asset side of its balance sheet and currency and non-interest-bearing reserves have made up a large part of its liabilities. This was a nearly riskless portfolio, since there was hardly any chance for asset prices and liability prices to move in different directions,

and the assets were earning interest. Starting in the 2008, though, the Federal Reserve system has taken on substantial risk by buying non-Treasury assets. It may therefore make unusual profits or losses, and these will feed in to the overall government budget. In this sense, the central bank is taking policy actions with a fiscal dimension. While this may have been important to containing the financial crisis, it carries with it dangers. Legislators will recognize that the bank is taking actions of a type that are ordinarily legislative business — making purchase from and grants to private sector individuals and firms. It was foreseeable that this would lead to angry second-guessing of the Fed's decisions during the crisis. Furthermore, if the Fed's profits and losses require fiscal adjustment by the legislature, politicians are likely to take a strong interest in how the central bank is run, thereby undermining the independence of the central bank.

Goodfriend (2001) has argued for drawing a sharp line between what he calls "credit policy" and monetary policy per se. Credit policy concerns the composition of the central bank balance sheet, while monetary policy determines its size and/or interest rates on government debt. My own view is that there is no way to draw a sharp line between these realms of policy. In normal times credit policy should be very simple — the Fed should hold only treasury securities. In crisis times it may temporarily need to expand its balance sheet and take on some private securities, but it should keep an eye on risk. The risks it takes on can vary along a continuum, which would

make any attempt to separate monetary from fiscal aspects of Fed policy arbitrary.

#### V. WHAT WOULD GOOD POLICY BE?

It would recognize the need to affect expectations of future inflation. In particular, in models with nominal rigidities the objective of policy is to lift expected values of future inflation. It would recognize that monetary and fiscal policies that affect future inflation are intertwined. In an environment where fiscal pressures are perceived to have potential effects on inflation, the implications of a given monetary policy expressed in terms of interest rates depend on assumptions about fiscal policy. In this kind of crisis situation, therefore, inflation reports or other policy announcements should be joint, with mutually consistent statements being made by fiscal and monetary authorities.

Fiscal policy is important also because it can, if described properly, remedy the problem that announcements of commitments to future monetary policy actions may not be credible if there is no corresponding current policy action. Major fiscal policy interventions, accompanied by a discussion of their implications for inflation and for future monetary policy, might have a better chance at being believed.

In the US recently, and I think also in Japan, discussion of government debt and deficit policy has tended to be in real terms, with no explicit acknowledgment that the debt will be reduced in part by inflation. If the

public becomes convinced that current deficits correspond to large and uncertain future tax increases or budget cuts, then deficits may have little or no stimulative effect.

#### VI. DOES CURRENT POLICY IN THE US RESEMBLE GOOD POLICY?

The expansion of the balance sheet, together with acquisition of the right to pay interest on reserves, is not in itself expansionary. Reserves attracted by high interest rates create no incentive to spend. The balance sheet expansion was undertaken for good reason, and markets seem to understand that there is no significant unwinding problem, because of the right to pay interest. But then, if expectations of higher future inflation are essential to mitigate the crisis, where are those expectations to come from?

In fact, one might argue that US policy is not bad, in part unintentionally. The Fed is willing to say that it does not like deflation, but not to say that it would allow temporary above-2% inflation in the future. At least to first order, it may then be helpful that the US has a legislature with an effective 2/3 majority rule and a significant faction that believes all tax increases are evil. In the US, things may be working out as well as they are — “appetite for risk” is returning — precisely because the long-term returns from US debt are at least uncertain. On the other hand, real, coherent, co-ordinated fiscal and monetary policy with forward guidance could no doubt do better. The current situation creates unnecessary, large amounts of uncertainty about policy.

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