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Working Paper No. 791

Central Bank Independence: Myth and Misunderstanding*

by

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ABSTRACT

It is commonplace to speak of central bank "independence"—as if it were both a reality and a necessity. While the Federal Reserve is subject to the "dual mandate," it has substantial discretion in its interpretation of the vague call for high employment and low inflation. Most important, the Fed's independence is supposed to insulate it from political pressures coming from Congress and the US Treasury to "print money" to finance budget deficits. As in many developed nations, this prohibition was written into US law from the founding of the Fed in 1913. In practice, the prohibition is easy to evade, as we found during World War II, when budget deficits ran up to a quarter of US GDP. If a central bank stands ready to buy government bonds in the secondary market to peg an interest rate, then private banks will buy bonds in the new-issue market and sell them to the central bank at a virtually guaranteed price. Since central bank purchases of securities supply the reserves needed by banks to buy government debt, a virtuous circle is created, so that the treasury faces no financing constraint. That is what the 1951 Accord was supposedly all about: ending the cheap source of US Treasury finance. Since the global financial crisis hit in 2007, these matters have come to the fore in both the United States and the European Monetary Union, with those worried about inflation warning that the central banks are essentially "printing money" to keep sovereign-government borrowing costs low.

This paper argues that the Fed is not, and should not be, independent, at least in the sense in which that term is normally used. The Fed is a "creature of Congress," created by public law that has evolved since 1913 in a way that not only increased the Fed's assigned responsibilities but also strengthened congressional oversight. The paper addresses governance issues, which, a century after the founding of the Fed, remain somewhat unsettled. While the Fed should be, and appears to be, insulated from day-to-day political pressures, it is subject to the will of Congress. Further, the Fed cannot really be independent from the Treasury, because the Fed is the federal government's bank, with almost all payments made by and to the government running through the Fed. As such, there is no "operational independence" that would allow the Fed to refuse to allow the Treasury to spend appropriated funds. Finally, the paper addresses troubling issues raised by the Fed's response to the global financial crisis; namely, questions about transparency, accountability, and democratic governance.

Keywords: Central Bank Independence; 1951 Accord; Fed Independence; Fed Transparency; Fed Governance; Accountability of the Fed; Dodd-Frank; Federal Reserve Act; Dual Mandates; Central Bank Discretion; Modern Money Theory; State Money

JEL Classifications: E5, E58, E63, N2, N22

1. INTRODUCTION

It has been commonplace to speak of central bank independence—as if it were both a reality and a necessity. Discussions of the Fed invariably refer to legislated independence and often to the famous 1951 Accord that apparently settled the matter.¹ While everyone recognizes the Congressionally imposed dual mandate, the Fed has substantial discretion in its interpretation of the vague call for high employment and low inflation. For a long time economists presumed those goals to be in conflict, but in recent years Fed Chairman Alan Greenspan seemed to have successfully argued that pursuit of low inflation rather automatically supports sustainable growth with maximum feasible employment.

In any event, nothing is more sacrosanct than the supposed independence of the central bank from the treasury, with the economics profession as well as policymakers ready to defend the prohibition of central bank "financing" of budget deficits. As in many developed nations, this prohibition was written into US law from the founding of the Fed in 1913. In practice, the prohibition is easy to evade, as we found during World War II in the US when budget deficits ran up to a quarter of GDP. If a central bank stands ready to buy government bonds in the secondary market to peg an interest rate, then private banks will buy bonds in the new-issue market and sell them to the central bank at a virtually guaranteed price. Since central bank purchases of bonds supply the reserves needed by banks to buy bonds, a virtuous circle is created so that the Treasury faces no financing constraint. That is what the 1951 Accord was supposedly all about—ending the cheap source of US Treasury finance.

Since the global financial crisis (GFC) hit in 2007, these matters have come to the fore in both the US and the European Monetary Union (EMU). In the US, discussion of "printing money" to finance burgeoning deficits was somewhat muted, in part because the Fed purportedly undertook quantitative easing (QE) to push banks to lend—not to provide the Treasury with cheap funding. But the impact has been the same as World War II-era finances: very low interest rates on government debt even as a large portion of the debt ended up on the

¹ Thorvald Grung Moe examines the role of Marriner Eccles and the discussions and events that led up to the 1951 Accord. Eccles was a dominant figure in the transformation of the Fed from the relatively weak and decentralized institution that had been created in 1913 to the modern central bank we know now. Moe makes a strong case that the vision of Eccles was instrumental in that evolution; as we will see, modern theories of central banks, however, deviate sharply from the Eccles vision in quite illuminating ways. See: Thorvald Grung Moe "Marriner S. Eccles and the 1951 Treasury – Federal Reserve Accord: Lessons for Central Bank Independence." Working Paper No. 747, Levy Economics Institute of Bard College, January 2013.

books of the Fed, while bank reserves have grown to historic levels (the Fed also purchased and lent against private debt, adding to excess reserves). While hyperinflationists have been pointing to the fact that the Fed is essentially "printing money" (actually reserves) to finance the budget deficits, most other observers have endorsed the Fed's notion that QE might allow it to "push on a string" by spurring private banks to lend—which is thought to be desirable and certainly better than "financing" budget deficits to allow government spending to grow the economy. Growth through fiscal austerity is the new motto as the Fed accumulates ever more federal government debt and suspect mortgage-backed securities.

The other case is in the EMU, where the European Central Bank (ECB) had long been presumed to be prohibited from buying debt of the member governments. By design, these governments were supposed to be disciplined by markets, to keep their deficits and debt within the Maastricht criteria. Needless to say, things have not turned out quite as planned. The ECB's balance sheet has blown up just as the Fed's did—and there is no end in sight in Euroland even as the Fed has begun to taper. It would not be hyperbole to predict that the ECB will end up owning (or at least standing behind) most EMU government debt as it continues to expand its backstop.

It is, then, perhaps a good time to reexamine the thinking behind central bank independence. There are several related issues.

First, can a central bank really be independent? In what sense? Political? Operational? Policy formation?

Second, should a central bank be independent? In a democracy should monetary policy—purportedly as important as or even more important than fiscal policy—be unaccountable? Why?

Finally, what are the potential problems faced if a central bank is not independent? Inflation? Insolvency?

While this working paper will focus on the US and the Fed, the analysis is relevant to general discussions about central bank independence. We will limit our analysis to the questions surrounding what we mean by central bank independence and in what sense is the Fed independent. We leave to other analyses the questions surrounding the wisdom of granting independence to the Fed, democratic accountability, and potential problems. We will argue here that the Fed is independent only in a very narrow sense. We have argued elsewhere that the Fed's crisis response during the global financial crisis does raise serious issues of transparency

and accountability—issues that have not been resolved with the Dodd-Frank legislation.² Finally, it will become apparent that we do not believe that lack of central bank independence raises significant problems with inflation or insolvency of the sovereign government.

For the US case we will draw on an excellent study of the evolution of governance of the Fed by Bernard Shull, one of the foremost authorities on the history of the Fed.³ As we will see, the dominant argument for independence throughout the Fed's history has been that monetary policy should be set to promote the national interest. This requires that it should be free of political influence coming from Congress. Further, it was gradually accepted that even though the Federal Open Market Committee (FOMC) includes participation by regional Federal Reserve banks, the members of the FOMC are to put the national interest first. Shull shows that while governance issues remain unresolved, Congress has asserted its oversight rights, especially after economic or financial crises.

I'll also include summaries of the arguments of two insiders—one from the Treasury and the other from the Fed—who also conclude that the case of the Fed's independence is frequently overstated. The former Treasury official argues that at least within the Treasury there is no presumption that the Fed is *operationally* independent. The Fed official authored a comprehensive statement on the Fed's independence, arguing that the Fed is a creature of Congress. More recently, Chairman Ben Bernanke has said that "of course we'll do whatever Congress tells us to do": if the Congress is not satisfied with the Fed's actions, the Congress can always tell the Fed to behave differently.⁴

In the aftermath of the GFC, Congress has attempted to exert greater control with its Dodd-Frank legislation. The Fed handled most of the US policy response to the Great Recession (or, GFC). As we have documented, most of the rescue was behind closed doors and intended to remain secret (See Felkerson 2012; and Wray 2012)⁵. Much of it at least stretched the law and

² See two annual reports of research conducted with the support of Ford Foundation Grant no. 1110---0184, administered by the University of Missouri–Kansas City. See: L. Randall Wray, 2012. "Improving Governance of the Government Safety Net in Financial Crises," Research Project Report, April 9.

http://www.levyinstitute.org/pubs/rpr_04_12_wray.pdf; and L. Randall Wray, 2013. "The Lender of Last Resort: A Critical Analysis of the Federal Reserve's Unprecedented Intervention after 2007," Research Project Report, April http://www.levyinstitute.org/publications/?docid=1739.

³ Bernard Shull, "Financial crisis resolution and Federal Reserve governance: economic thought and political realities," Jan 4 2014, forthcoming as Levy Institute Working Paper.

⁴ See his statement here: http://www.youtube.com/watch?v=a7XV3vS1hAM.

⁵ See James A. Felkerson, 2012 "A Detailed Look at the Fed's Crisis Response by Funding Facility and Recipient." Public Policy Brief No. 123. Annandale-on-Hudson, NY: Levy Economics Institute of Bard College. http://www.levyinstitute.org/pubs/ppb 123.pdf; and L. Randall Wray, 2012. "Improving Governance of the

perhaps went beyond the now famous section 13(3) that had been invoked for "unusual and exigent" circumstances for the first time since the Great Depression. Congress has demanded greater transparency and has tightened restrictions on the Fed's future crisis response. Paradoxically, Dodd-Frank also increased the Fed's authority and responsibility. However, in some sense this is déjà vu because Congressional reaction to the Fed's poor response to the onset of the Great Depression was similarly paradoxical as Congress simultaneously asserted more control over the Fed while broadening the scope of the Fed's mission.

2. INDEPENDENT OF WHAT?

Most references to central bank independence are little more than vague hand-waves. In the US, the Fed is a "creature of Congress," established by the Federal Reserve Act of 1913, which has been modified a number of times. Elected officials play a role in selecting top Fed officials. And while the Fed is nominally owned by share-holding banks, and while the Fed's budget is separate, profits above 6% on equity are returned to Treasury. Congress also has asserted its authority to mandate that the Fed release detailed information on its operations and budget—and there seems to be nothing but Congressional timidity to stop it from demanding more control over the Fed (indeed, Dodd-Frank sanctions many of the actions taken by the Fed during the GFC, now requiring prior approval by the President, the Treasury Secretary, and/or Congress for various interventions). Further, as we will see, the Fed's operations are necessarily closely coordinated with the Treasury's; the Fed, after all, functions as the Treasury's bank. Finally, as everyone knows, Congress has provided a dual mandate to guide Fed policy although one could easily interpret Congressional will as consisting of four (at least some of which are related) mandates: high employment, low inflation, acceptable growth, and financial stability. Above, I have argued that the Fed is a creature of Congress. The Fed's Bruce MacLaury has put the relationship this way:

Ultimately the [Federal Reserve] System is accountable to congress, not the executive branch, even though Reserve Board members and the chairman are president-appointed. The authority and delegated policy powers are subject to review by the congress not the president, the Treasury Department, nor by banks or other interests. (p. 4)

Government Safety Net in Financial Crises," Research Project Report, April 9. http://www.levyinstitute.org/pubs/rpr_04_12_wray.pdf.

While many supporters and critics alike have stressed the Fed's nominal ownership by member banks as evidence that it is somehow independent of government, MacLaury interprets the independence as follows⁶:

First, let's be clear on what independence does not mean. It does not mean decisions and actions made without accountability. By law and by established procedures, the System is clearly accountable to congress—not only for its monetary policy actions, but also for its regulatory responsibilities and for services to banks and to the public. Nor does independence mean that monetary policy actions should be free from public discussion and criticism—by members of congress, by professional economists in and out of government, by financial, business, and community leaders, and by informed citizens. Nor does it mean that the Fed is independent of the government. Although closely interfaced with commercial banking, the Fed is clearly a public institution, functioning within a discipline of responsibility to the "public interest." It has a degree of independence within the government—which is quite different from being independent of government. Thus, the Federal Reserve System is more appropriately thought of as being "insulated" from, rather than independent of, political—government and banking special interest pressures. Through their 14-year terms and staggered appointments, for example, members of the Board of Governors are insulated from being dependent on or beholden to the current administration or party in power. In this and in other ways, then, the monetary process is insulated—but not isolated—from these influences. In a functional sense, the insulated structure enables monetary policy makers to look beyond short-term pressures and political expedients whenever the long-term goals of sustainable growth and stable prices may require "unpopular" policy actions. Monetary judgments must be able to weigh as objectively as possible the merit of short-term expedients against long-term consequences—in the on-going public interest.

We can take that as our starting point: the Fed is part of government—a public institution—but is insulated from day-to-day politics and other types of special interest pressures. Let's explore this independence in more detail, beginning with a historical perspective.

2.1. Fed Governance: Historical Perspective

Shull⁷ (2014) offers a detailed history of the evolution of Fed governance. He notes that the Fed is an independent government agency like the Federal Trade Commission, the National Labor

⁶ See Bruce K. MacLaury; "Perspectives on Federal Reserve Independence - A Changing Structure for Changing Times"; Published January 1, 1977, The Federal Reserve Bank of Minneapolis, Annual Report 1976, http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=690, which examines Fed independence with respect to Congress, the Executive branch (including the Treasury), member banks, and within itself (for example, relations between the Board of Governors in Washington and the District banks). I will use several quotes from this comprehensive survey.

⁷ Bernard Shull, "Financial crisis resolution and Federal Reserve Governance: Economic Thought and Political Realities", Working Paper No. 784, Levy Economics Institute of Bard College .

Relations Board, and the Securities and Exchange Commission. Each of these has substantial discretion in implementing laws through rules and regulations and in formulating policies. Most independent agencies have an inspector general and are subject to Congressional oversight. The Fed is somewhat unusual in that it is self-financing and in that there is a widely held belief that if its formulation of monetary policy were not independent, the *policy outcome* would be worse. In other words, good monetary policy supposedly depends on independence (from Congress and the Administration). Thus, the Fed's monetary policy is not subject to audit by the Government Accountability Office (GAO)—and courts have refused to hear suits that accuse the Fed of policy mistakes. In recent decades, the Administration has been reluctant even to criticize the Fed's monetary policy. However, as we will see, that has not always been the case.

The movement to create a central bank strengthened after the Panic of 1907. Rival plans were put forward, which ranged from a bank-supported plan which would create a privately owned central bank (like the Bank of England), to a proposal to house the US central bank within the Treasury. The Glass-Owen bill split the difference, with private ownership and a decentralized system, but with the Treasury Secretary and the Comptroller of the Currency sitting on the Board. The decentralized system was supposed to ensure "fair representation of the financial, industrial and commercial interests and geographic divisions of the country," (quoted in Shull p. 4). The Board was to be "a distinctly nonpartisan organization and was to be wholly divorced from politics." (ibid p. 5). According to Paul Warburg, governance was to be maintained by a "system of checks and counter-checks — a paralyzing system which gives powers with one hand and takes them away with the other." (ibid). In other words, the idea was that by ensuring broad representation of interests, the Fed would be stymied by a "clash of interests" that would reduce the damage it might do; as Shull puts it, "The checks and balances thus constituted a form of internal governance."⁸ (ibid p. 5). That of course sounds somewhat familiar as a typically American approach to governance.

When World War I came along, however, the Fed turned its attention to supporting the Treasury's debt issue. In the inflationary period at the end of the war, the regional Feds raised discount rates sharply (up to a marginal 87%) and a deep retraction followed that led to deflation of farm prices. Congress revisited the governance issue as some critics wanted to force

⁸ This is not meant to imply that Warburg supported this approach. According to Shull, Warburg thought it was impractical—as it proved to be.

the Fed to seek Congressional approval in advance of future rate hikes. One of the Board members, Adolph Miller, understood the implication:

The American people will never stand contraction if they know it can be helped. Least of all will they stand contraction if they think it is contraction at the instance, or with the consent of an institution like the Federal Reserve System....The Reserve System cannot 'make' the business situation but it can do an immense deal to make its extremes less pronounced and violent....Discount policy...should always address itself to the phase of the business cycle through which the country happens to be passing. (quoted in Shull, p. 7).

As Shull argues, governance by paralyzing checks and balances conflicted with the need to cooperate to use monetary policy to stabilize the economy. Congress tightened the reins on the Reserve banks but also centralized decision-making at the Board in Washington. The GAO began to audit the Board and there were a number of commissions and committees that investigated new guidelines to control the Reserve Banks. However, the 1927 Pepper-McFadden Act replaced the Reserve banks' original 20-year charter with an indefinite charter, and a Congressional report at the time declared that the Reserve Banks had demonstrated its usefulness. In the end, Congressional anger dissipated and not much was done to constrain the Reserve bank's discretion.

Governance issues again came to the forefront during the Great Depression, with serious consideration given to government ownership of the Reserve banks, to be housed in the Treasury. President Roosevelt (who seemed to have supported such a move), as well as many in Congress, were concerned that the Reserve banks were not sufficiently attuned to the national interest. Title II of the Banking Act of 1935 was a compromise that preserved private ownership but moved to ensure the Board would be more responsive "to participate in the formulation of national economic and monetary policies," focusing on the national interest (Shull, p. 10). As power was further centralized in Washington, the "checks-and-balances" approach to governance continued to fade.

As in World War I, World War II saw the Fed cooperating with the Treasury, in the national interest to keep rates on national debt low. That ended in the famous Accord of 1951, restoring "independence" of the Fed to formulate monetary policy. However, policy was still to be undertaken in the national interest, with the Fed keeping rates very low until the mid 1960s; the Fed mainly operated in short-term Treasury bills so as to have minimum effects on other financial markets. Monetary policy remained on the back burner until the inflation-recession

cycle of the early 1970s. In 1975, Congress decided to exert greater control, in House Resolution 113. As Shull recounts:

The Resolution declared that the Board and the FOMC should: "(1) pursue policies...to encourage lower long term interest rates and expansion in monetary and credit aggregates appropriate to facilitating prompt economic recovery; and (2) maintain the long run growth...[of these aggregates] to promote...maximum employment, stable prices, and moderate long term interest rates." It called on the Board to consult with Congress at semiannual hearings about objectives and plans on the...aggregates in the upcoming 12 months. It concluded by stating that nothing in the resolution should be interpreted to require specific growth or diminution in the aggregates if the Board and the FOMC determined that they cannot or should not meet these objectives. In such cases "they shall report to Congress the reasons.... (Shull p. 12).

In the Federal Reserve Reform Act of 1977, the Senate insisted on the requirement that it confirm the president's appointment of the Fed's chairman and vice-chairman. In addition Congress required that Class B Reserve bank directors had to be "elected to represent the public" (Shull p. 12). The 1978 Humphrey-Hawkins Full Employment and Balanced Growth Act clarified the Fed's mandates and required semi-annual reports to both the Senate and the House. Later, after Chairman Greenspan got caught in "white lies" provided to Chairman Gonzalez, the Fed was required to release its transcripts of FOMC meetings (albeit with a five-year lag).⁹ The Fed also voluntarily agreed to measures designed to increase transparency (including announcing its explicit interest rate target).

The final big changes to governance occurred after the GFC, when Dodd-Frank tightened limits on what the Fed can do in response to a crisis. This was a surprising turn of events, as Chairman Greenspan had become the darling of Congress and the media and his replacement, Chairman Bernanke, had declared the era of the New Moderation in which central bankers could do nothing wrong. However, in the aftermath of the crisis, many elected representatives, as well as the media and the population at large, blamed the Fed for the crisis and for bungling a response that made the downturn worse than it should have been. As we've argued elsewhere, even many of those directly involved agreed that the Fed's crisis response "stunk" and that it should never be repeated.¹⁰ The Dodd-Frank legislation was designed in part to ensure it would not happen again.

⁹ See L. Randall Wray, "The Fed and the New Monetary Consensus: The Case for Rate Hikes, Part Two," Public Policy Brief No. 80, December 2004, p. 14 for a discussion of this episode.

¹⁰ See Wray 2013, the second report of this Ford Foundation-funded project, cited above.

However, yet again, Congress actually extended Fed responsibility to include authority over large, systemically important non-bank financial institutions. Still, the Act restricted application of Section 13(3) in future crises, and for some actions required approval from the Treasury. It also mandated increased transparency (including a review by the GAO of all the Fed's emergency assistance after the GFC). Congress also created the Financial Stability Oversight Council that is chaired by the Treasury Secretary and includes heads of agencies involved in overlooking the financial sector—including the Fed. In that manner it diluted the Fed's power somewhat. Exactly what difference all this will make for the response in the next crisis cannot be foreseen in advance.

2.2 Independent from Congress: Discretion in Selecting Tools

The strongest case for Fed independence would be in its discretion to choose the tools and targets to pursue those Congressional mandates. Congress has shown little interest in interfering with the details of monetary policy implementation, preferring only to mandate the ultimate goals. The period from 1979 to the mid 1980s was an exception, as Congress had become enamored with Milton Friedman's monetarist focus on the growth of the money supply. Even after the Fed had dropped money growth targets from serious consideration, Congress still wanted the Fed to provide them. However, for the most part, Congress leaves these details to the Fed.

If we recall the old textbooks, there was a distinction among tools, targets, and goals. Goals are usually defined in terms of unemployment, inflation, and growth; in the case of the US, there is the dual (or quadruple) mandate but it is itself vague. The Fed does not set specific goals (i.e., specific inflation rates or unemployment rates), although a number of central banks have adopted narrow ranges for acceptable inflation rates. In that case there is a synthesis of target and goal—the central bank targets an inflation rate that serves as a measure of monetary policy success; employment and output growth are then expected by-products of hitting the inflation target. However, the Fed has not followed that practice, preferring greater discretionary leeway.

Since inflation, by itself, would not seem to be a sufficient goal of policy-making, either the inflation target could be changed if it were inconsistent with other goals, or the other goals would be moved to the sphere of fiscal policy. The less extreme policy (and the one adopted in the US) is to target "the" interest rate to hit the goals. In practice there are many interest rates, so

central banks typically target the overnight interbank rate (fed funds rate in the US) with a view to affecting other market rates. However, as there is no close correspondence between "the" interest rate and the Congressionally mandated goals (that are themselves vague), the Fed has a great deal of discretion over its setting of the interest rate target. In practice, almost any rate target could be justified as consistent with the goals.

The old monetarist preference was instead for a quantitative target (reserves) that would allow the central bank to control money growth. That was then supposed to allow the central bank to keep inflation low—although monetarists tended to argue against accelerating inflation rather than against inflation, as the economic costs of a low-to-moderate but stable inflation rate were not believed to be high. In any case, except where legislative mandate sets an inflation target, central banks are typically left to choose their targets (except when it comes to war finance—as discussed below). Modern central banks have dropped monetary (quantitative) targets in favor of interest rate (price) targets—both because they are easier to hit and because the current thinking is that they are more reliably linked to the goals.

That then leaves the following policy tools available: open market operations and discount window lending rates. Again, these typically are seen to be within the discretion of the central bank. In the case of the US, the early Fed relied on the discount window until it "discovered" open market effects on bank reserves; there was a debate in the early postwar period about the relative advantages of each (with Hyman Minsky arguing forcefully for reliance on the discount window rather than open market operations—and monetarists taking the opposite position), largely decided in favor of open market operations.

The dominance of that "market" approach was all the more obvious in the GFC as the Fed created an alphabet soup of facilities to provide reserves "to the market" through auctions rather than lending them to banks at the discount window. The argument has long been that forcing banks to the discount window penalizes them through demonstration effects or "frown costs." (Canada has for some time offered an alternative, in which the central bank pays interest on positive reserve balances and charges an overdraft fee for banks that are short; there are presumably no "frown costs.") During the debate in the 1960s, monetarists preferred open market operations on the argument that this better protects market forces—to allocate reserves and also to determine interest rates. However, if the Fed sets the discount rate and announces a fed funds rate target, the market is not setting those rates. Still, the way the Fed auctioned reserves during the crisis would seem more consistent with the market-based approach.

In conclusion, "independence" could refer to choice of tools—discount window versus open market purchases to supply reserves, discount window or overnight markets to determine interest rates, and required reserve ratios to determine deposit multipliers.

2.3 Independence from the Treasury: Fiscal and Monetary Policy Operations

The US got its central bank only in 1913, although it had brief experiments with the First and Second banks of the United States and as well with special rights granted to national banks. With those exceptions, the Treasury, itself, provided most of the central banking functions until the Federal Reserve Act of 1913 (FRA) created the Fed.¹¹ MacLaury summarizes the evolution of Fed and Treasury sharing of responsibilities as follows:

The central bank is in constant contact with the Treasury Department which, among other things, is responsible for the management of the public debt and its various cash accounts. Prior to the existence of the Federal Reserve System, the Treasury actually carried out many monetary functions. And even since, the Treasury has often been deeply involved in monetary functions, especially during the earlier years. At the beginning of World War II, it appeared desirable that the Treasury be able to issue debt at relatively low interest cost and also on a basis that assured purchasers that securities would be marketable at near face value. Because of the urgency of this need, the policy was agreed to and continued after the war until 1951. During this period, the Treasury was, in effect, deciding the monetary policy of the country as it made its decisions as to how much debt needed to be funded. Because the central bank supported the market for government securities, it was forced to purchase amounts of securities necessary to maintain low interest rates and the par value of securities. Thus, as the Treasury issued additional debt, the central bank was forced to acquire part of that debt. This process resulted in direct addition to bank reserves. Following the 1951 accord between the Treasury and the Federal Reserve System, the central bank was no longer required to support the securities market at any particular level. In effect, the accord established that the central bank would act independently and exercise its own judgment as to the most appropriate monetary policy. But it would also work closely with the Treasury and would be fully informed of and sympathetic to the Treasury's needs in managing and financing the public debt. In fact, in special circumstances the Federal Reserve would support financing if unusual conditions in the market caused an issue to be poorly accepted by private investors. The Treasury and the central bank also work closely in the Treasury's management of its substantial cash payments and withdrawals of Treasury Tax and Loan account balances deposited in commercial banks, since these cash flows affect bank reserves.¹²

¹¹ In 1933-34, the Treasury again assumed some of the functions of a central bank in the absence of Fed initiative. ¹² See Bruce K. MacLaury; "Perspectives on Federal Reserve Independence - A Changing Structure for Changing Times"; Published January 1, 1977, The Federal Reserve Bank of Minneapolis, Annual Report 1976, http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=690

In modern theory, central bank independence seems to refer additionally to operational independence. As discussed, the central bank of a developed nation is often prohibited from directly financing government budget deficits—as in the US where the FRA mandated a separation of fiscal finances from central bank operations. This is a deviation from the traditional role of the first central banks, which was quite explicitly created to provide state finance. And as MacLaury explains above, the Fed returned to that central role in World War II (as it had done in World War I), but the Treasury Accord restored the separation. So, in the US, the Treasury is required to make deposits to its account at the Fed before it can write checks (today, Treasury spending is increasingly accomplished through electronic payments, but that amounts to the same thing). Still, as MacLaury makes clear, the Fed works closely with the Treasury to ensure that fiscal operations proceed smoothly. If they did not, one can presume that the Fed and Treasury would cooperate to change the procedures.

The Treasury and the central bank also work closely in the Treasury's management of its substantial cash payments and withdrawals of Treasury Tax and Loan account balances deposited in commercial banks, since these cash flows affect bank reserves. Most economists seem to think that this constrains the Treasury—since it cannot spend unless it has deposits at the Fed.

Frank N. Newman, former Deputy Secretary of the U.S. Treasury, shed light on the way the Treasury views constraints on financing its deficits:

I recall from my time at the Treasury Department that the assumption was always that there was money in the fed account to start with. Nobody seemed to know where it came from originally or when; perhaps it was established in biblical times. But as a matter of practice, if the treasury wanted to disburse \$20bn a given day, it started with at least that much in its fed account. Then later would issue new treasuries and rebuild its account at the fed. (I do not recall ever using an overdraft.) In my view, this is still consistent with the MMT [Modern Money Theory] perspective that you mentioned, and in my own book the explanation starts the cycle with government spending, thus adding to the money supply, and then issuing treasuries for roughly equivalent amount, thus restoring the money supply and the Treasury's Fed account to the levels they were prior to that round of spending. Every cycle is: spend first, then issue treasuries to replenish the fed account. The fact that Treasury started the

period with some legacy funds in its Fed account is not really relevant to understanding the current flow of funds in any year.

(In practice, Treasury varies its issuance not only to match outlays, but also to deal with seasonal factors, and to avoid wide swings in new-issue sizes; so at one point of a year, treasury might actually issue some extra securities because the next month was expected

to have low tax revenues, or might not fully replenish recent spending because the next month was expected to have high tax revenues. That seasonal process doesn't really affect the overall flow of funds over a year. The substance of the cycle is still: spend then replenish. Debating that would seem highly philosophical, and would miss the practical aspects of the flows.)

In any case, the treasury can always raise money by issuing securities. The bond vigilantes really have it backwards. There is always more demand for treasuries than can be allocated from a limited supply of new issues in each auction; the winners in the auctions get to place their funds in the safest most liquid form of instrument there is for US dollars; the losers are stuck keeping some of their funds in banks, with bank risk. (I even try to avoid using the expression "borrow" when the treasury issues securities; the treasury is providing an opportunity for investors to move funds from risky banks to safe and liquid treasuries.)¹³

The precise operating procedures used have actually changed substantially over the years, and there is no reason to suppose that these changes were not made to facilitate fiscal operations. Generally speaking, the Treasury receives payments (mostly taxes) in its deposit accounts held at private banks and then shifts them to the Fed in order to spend. The Fed debits the reserves of the private banks when the deposits are shifted. Treasury spending reverses that as reserves are credited to banks receiving deposits (recipients of Treasury spending). If all of this were accomplished instantaneously, it is obvious that the operations net-out if Treasury's spending equals its tax receipts. In that case, there is no impact on private bank reserves or deposits. If however tax receipts are less than government spending, bank deposits and reserves would be net credited. When tax receipts are greater than government spending, there need not be any net impact on private bank reserves and deposits so long as the Treasury does not move its extra receipts to the Fed. In practice, the Treasury attempts to maintain a constant (small) positive account balance at the Fed, which ensures that fiscal operations do not affect private bank and reserve balances.

According to MacLaury,

When the balance between spending and taxation results in government deficits, the Treasury has to issue additional public debt. In a monetary sense, the failure to tax adequately to cover the expenditures of the Federal government is an invitation for "printing money" through the issuance of federal debt. Depending on the phase of the business cycle, this tends to increase the money supply and, without offsetting action by the central bank, can result in an inflationary rise in prices. The result is "hidden

¹³ From Stephanie Kelton, "Former Dept. Secretary of the U.S. Treasury Says Critics of MMT are 'Reaching'", New Economic Perspectives, October 30, 2013, http://neweconomicperspectives.org/2013/10/former-dept-secretary-u-s-treasury-says-critics-mmt-reaching.html.

taxation"— which takes away from taxpayers in the form of lower purchasing power (higher prices) what they would have paid in additional taxes had the expended funds been obtained through that source. Thus there is an important linkage between the taxing and spending powers of Congress and the monetary powers as delegated to the Federal Reserve System. In principle, it is the job of Congress and the executive branch jointly to define the economic policy objectives of our national government, and to support those objectives with appropriate fiscal measures. Then the central bank can coordinate monetary policy in a manner which serves those national objectives. When fiscal policy does not match spending appropriately to tax revenues, then the monetary authority is faced with a difficult choice: (a) how severely should it restrain the inflationary forces that may develop, and (b) to what extent should it permit inflationary forces to have their effect in higher prices? When the failure to provide appropriate tax revenues generates acute forces of inflation, then even the best compromise may require severe monetary restraint. This has the effect of appearing to be at cross-purposes with congressional intent and can also produce severe disruptions in some areas of the private sector such as housing. (p. 8).

Note that MacLaury does not imply that the Fed might try to prevent the Treasury from deficit spending; rather the Fed's "independence" is strictly limited to its decision over whether to tighten monetary policy to fight any inflationary pressures that the deficits might fuel. While MacLaury was writing in a time in which it was believed that tight policy means slowing money growth, we now associate policy tightening with raising the interest rate target. Still, the important point is that when read together with the previous quotes from MacLaury and Newman, we presume that the Fed is to cooperate with the Treasury so that the fiscal operations proceed smoothly. The Fed's choice is not to refuse to "cut checks" so that the Treasury can spend funds allocated by Congress, but rather to tighten policy if it believes fiscal policy is too expansive.

How do the Treasury and Fed ensure that budget deficits over a time period (spending greater than receipts) do not affect bank reserves and deposits? The key is "debt management": new issues of Treasuries by the Treasury and/or open market sales by the Fed. As mentioned, there have been significant operational changes over the years, but conceptually, it is not difficult to understand the balance sheet operations that need to take place. To spend more than tax receipts, the Treasury needs additional deposits in its accounts at private banks—to be shifted to the Fed before spending. That can be accomplished by selling new Treasuries to banks, which would credit the Treasury's deposits. However, when the Treasury shifts deposits, the Fed needs to debit bank reserves. Since in normal times banks do not operate with excess reserves (today of course they have massive excess reserves as a result of three phases of

Quantitative Easing), they do not have the extra reserves needed. The Fed can either lend the reserves or it can buy Treasuries in open market operations.

Note that if it were to buy treasuries, it would need to buy the quantity of treasuries the Treasury had just sold! While the Fed would not have violated the "independence" provided by the prohibition on direct purchases of Treasury debt, it would end up with the Treasury's debt anyway. While the Fed can choose whether to use open market operations or the discount window, it really cannot refuse to supply the reserves. First, that would cause bank reserves to go below desired or required reserves (assuming they were operating without excess reserve positions). But more importantly, it would cause the fed funds rate to rise above target. If a central bank targets overnight rates, it must accommodate demand for reserves. In other words, the central bank's "independent" interest rate-setting conflicts with its "independence" from fiscal operations, in the sense that it must provide the reserves banks will need when the Treasury moves the proceeds from a bond sale to its account at the Fed in order to make payments.

When the Treasury does spend these proceeds, the deposits and reserves of banks are restored. At this point, the Fed will need to reverse its previous operation: banks will now have excess reserves that can be drained either through an open market sale of Treasuries by the Fed (that is, the Fed sells the Treasuries it just bought) or the Fed and banks wind down discount window loans. (Note the Fed for some time has used repos and reverse repos rather than outright sales and purchases—which ensures actions can be quickly reversed to minimize the Treasury's operational impacts on bank reserves.)

At the end of this process we find that deficit spending by the Treasury results in higher private bank deposits as well as greater Treasury holdings. (Note it does not matter whether banks sell the Treasuries to households—in that case, bank holdings of treasuries as well as bank liabilities to households are reduced by the amount of the sale; the treasuries will be in household portfolios rather than in bank portfolios.) All of this is just a logical explication of the balance sheet operations that would need to occur given the twin constraints that treasury cannot sell bonds directly to the central bank and that it needs to move deposits from private banks to the central bank before spending.

In practice, there are many other ways fiscal operations could be accomplished. If the Treasury sold bonds directly to the Fed, the private banks would not need to act as intermediaries: the Fed would credit the Treasury's account directly, and Treasury spending

would lead to private bank deposits and reserves increasing. To drain the reserves created, the Fed would sell on the bonds it had just bought. The end result would be as described above. Note the same thing could be accomplished if the Fed allowed the Treasury to run an "overdraft" on its account. In that case, the Treasury would cut a check and a private bank would credit the account of the recipient and the Fed would credit the bank's reserves. At that point there would be excess reserves in the banks that could be drained by a bond sale by the Treasury (new issue) or an open market sale by the Fed. The first would allow the Treasury to eliminate its overdraft; the second would move the Treasury debt off the Fed's balance sheet and into the nongovernment sector.

Or, the Fed could provide the overdrafts to banks by allowing "float" to simplify the process. In that case, the banks buy bonds issued by Treasury and credit the Treasury's account; when the Treasury transfers its funds to the Fed, the Fed does not debit bank reserves on the presumption that they'll be restored as soon as the Treasury spends. The point is that there are different ways to "skin the cat" that are consistent with the legal mandates. Over the years the actual operating procedures adopted have changed substantially as the Fed is substantially "independent" to choose the exact procedures adopted. Further, the general requirements or prohibitions mandated in the Federal Reserve Act can be changed by Congress. For example, Congress could allow the Treasury to sell bonds to the Fed—which would simplify procedures.

A final point to note is that so long as the central bank targets interest rates, its options are limited no matter which procedures are adopted, in the sense that it must operate to minimize fiscal policy effects on reserves and hence on overnight rates. Conforming to the FRA, the Treasury needs to sell treasuries to private banks when its deposit account at the Fed is insufficient, but banks need reserves to allow the Treasury to shift its deposits. If the Fed provides those in an open market purchase, it will need to reverse that once the Treasury does spend. The result of deficit spending by Treasury will normally lead to a nearly equivalent increase of bank holdings of bonds when all is said and done. This will be true no matter what operating procedures the Fed adopts and regardless of the prohibitions written into the FRA.

3. A CONSOLIDATED GOVERNMENT BALANCE SHEET: IMPLICATIONS FOR MONETARY OPERATIONS

It has been common in the Modern Money Theory (MMT) literature to begin with a simplified analysis that consolidates the central bank and treasury into a "sovereign government." Effectively this eliminates any operational independence. Presume the sovereign government issues "currency" when it spends (this can be metallic coins, paper money, wooden tally sticks, or electronic bank entries; note that if currency is an electronic entry then banks must have accounts at the government to be credited—which is the central bank "department" of government). From the vantage point of the nongovernment sector, government payments inject currency into the economy. Further presume government accepts only currency in tax payment (receiving metal coins, paper money, or wooden tally sticks in payment, or debiting electronic bank entries). Deficit spending means net currency emission; budget surpluses mean net currency outstanding is reduced. If the nonbanks (households and firms) do not want to hold currency, it flows into the banks (as reserves) and they issue deposits held by the nonbanks.

If government operates with a positive overnight target, it needs an instrument on which it pays interest (if interest is paid on currency, then to achieve an overnight target that is higher, government needs to issue an instrument that pays a rate higher than what it pays on currency). Hence, government can issue bonds as an interest-earning alternative to currency (including reserves). Whether there are separate roles to be played by the central bank "department" or the treasury "department," that is entirely within the "sovereign government" and of no consequence to the nongovernment. Note if the nonbank sector (households and firms) wants to hold bonds rather than currency, then banks will hold the currency (in the form of reserves). (New) bank deposits outstanding at the end of the fiscal process equal bank holdings of currency (reserves) plus government bonds; nonbanks hold a combination of currency, demand deposits, and bonds; the quantity of demand deposits held by households and firms equals bank holdings of government bonds and currency (reserves)—which equals the government's deficit spending.

This simplified exposition has been criticized on the argument that it is unrealistic—in the real world, the treasury and central bank are operationally separate, and each has a different kind of relation with the private banks. Banks hold reserves at the central bank; only the treasury has deposits at private banks. So the Fed deals with banks on their asset side while the treasury operates on the liability side of banks. However, of course, banks also hold treasury debt on

their asset side and the central bank also accepts bank liabilities at the discount window. But as discussed, operational rules (as well as the law derived from the FRA in the US) maintain a sharp separation such that private banks intermediate between the central bank and the treasury—as the treasury can sell bonds directly to private banks but *not* to its own bank (the central bank on whose account it draws to spend). Likewise, the instrument typically used in monetary policy to maintain positive interest rates is treasury debt, not central bank debt. (Only recently did the Fed begin to pay interest on its own debt—reserves—effectively eliminating its reliance on Treasury debt to keep the target rate above zero.) It is this complicated bifurcation that introduces private banks directly into operational procedures now required to accomplish sovereign government spending.

The question is whether all of this complexity really matters. If we had the simplified, consolidated government, a budget deficit would lead the nongovernment sector to net accumulate claims on the government. Initially, these would be in the form of currency, but if government offers bonds as an interest-earning alternative, then given portfolio preferences at least some (and probably most) of the currency would be exchanged for bonds. If we separate the Treasury and central bank and impose operational rules like those in the US, then deficit spending will lead to the same results. While bonds might be sold first, and deposits transferred from private banks to the Fed before the Treasury spends, at the end of the spending process banks have issued more deposits and hold some combination of more bonds and more reserves. Just as in the consolidated example above, bank deposits outstanding at the end of the process equal bank holdings of currency (reserves) plus government bonds; nonbanks hold a combination of currency, demand deposits, and bonds; and the quantity of demand deposits held by households and firms equals bank holdings of government bonds and currency (reserves)—which equals the government's deficit spending.

We conclude this section with the finding that the legislated "operational independence" of the central bank is limited in practice because the actual procedures adopted ensure the central bank cooperates with the treasury as it implements fiscal policy. It is true that the central bank can choose to keep the interest rate paid by treasury on its debt higher, or lower, which impacts overall government spending (since interest is a cost covered by spending).

4. POLITICAL INDEPENDENCE

That brings us to the final category, political independence, which is linked to operational independence. The question is whether the (limited) operational independence—the "non-consolidation" of the treasury and central bank—allows the central bank to "just say no" to the Treasury. That is, could a resolute Fed prevent the Treasury from spending (up to the budgeted amount authorized by Congress)? That would seem to be the only argument that the critics have against consolidation (since the end result in terms of balance sheets is the same).

Let us go through the steps of the process. On current requirements, if the Treasury does not have sufficient deposits in the private banks (tax and loan accounts) to transfer to cover mandated spending, it must first sell bonds. The question is this: will the banks buy them? The answer is pretty simple. We know that even if the banking system has no excess reserves, the Fed will respond to any pressure on interest rates that might be created by banks trying to buy the bonds. If banks are short desired reserves, the Fed supplies them to keep the rate on target. With an interest rate target the Fed always accommodates. That is the macro level answer. At the micro level, special banks—dealers—stand ready to buy bonds. To maintain their relationship with the Treasury, they will not refuse. (In the US there are 21 primary dealers obligated to bid at US government debt auctions—there is literally no chance that the US Treasury could fail to sell bonds.) The dealers would then try to place the bonds into markets. For a sovereign currency issuer that will make interest payments as they come due, there is no fear of involuntary default. It is conceivable that the Treasury has offered maturities that do not match the market's desires. In that case, prices need to adjust to place the treasuries—or the dealers will get stuck with the bonds.

In any case, this mismatch is easily resolved if the Treasury offers only very short maturities. This might not seem obvious unless one realizes that short-maturity treasuries are operationally equivalent to bank reserves that pay a slightly higher interest. As the Fed (like most central banks) targets the overnight rate, reserves can be obtained at that rate. Assuming the central bank is not running an "operation twist" policy (buying longer maturities to target longer term interest rates), it lets the "market" determine rates on longer maturities. (Do not be misled by use of the term "market," as banks can and do collude to set interest rates—remember the LIBOR scandal. The point is that central banks normally set the shortest term interest rates "exogenously" in the policy sense while other rates are determined "endogenously" although

perhaps not competitively.) The Treasury can always issue short-term bonds at a small marketdetermined mark-up above the overnight target.

The question is not really "will the banks buy treasuries", but "at what price." Very short-term Treasury debt is a nearly perfect substitute for reserves on which the Fed (now) pays interest. Hence, a slight advantage given to Treasury debt will ensure that (non-dealer) banks will exchange reserves for treasuries. If the Treasury is obstinate, insisting on selling only long maturities, then portfolio preferences can increase rates—perhaps beyond what the Treasury wants to pay. The solution, of course, is to offer maturities the market prefers—or to pay rates necessary to induce the market to take what the Treasury prefers to issue. Clearly this is a very easy "coordination problem" to resolve.

The second step requires that the Treasury move deposits from private banks to the Fed. At the same time, the private bank reserves are debited. The Fed does not and will not prevent this from occurring. If the transfer should leave banks short of reserves, the Fed accommodates—either through a temporary bond purchase or by lending at the discount window. In practice the Treasury coordinates with the Fed so that the Fed is ready to provide reserves as needed. Again, operating with an overnight target rate requires accommodation of the demand for reserves—it is not a choice if the central bank wants to hit its target. In the third step, the Treasury writes a check (or tells the Fed to credit the reserves of the recipient's bank, which credits the recipient's account). Again, the Fed does not and will not prevent this. Note that this will add to banking system reserves and hence normally creates excess reserves in the system.

In the fourth step, the Fed removes the excess reserves through an open market sale (or by winding down discount window loans). Of course, this simply reverses the second step. A central bank that is targeting overnight interest rates cannot (normally) leave excess reserves in the system (unless the target is ZIRP—zero—or the central bank already pays interest rates on reserves). In a ZIRP environment (or where the central bank pays the target rate on reserves), excess reserves can remain in the system with the result that interest rates fall to the rate paid on reserves.

In conclusion, we see that there is no place in the current operating procedures for the Fed to prevent the Treasury from spending budgeted amounts. Presumably even if the Treasury tried to spend beyond budgeted amounts—perhaps in an attempt to replicate the experience of the Weimar Republic or Zimbabwe—the Fed would actually be powerless to prevent it

(although the Fed could react by raising interest rates—which would actually increase the Treasury's spending on interest, and hence increase the budget deficit). While the current operating procedures—some guided by the FRA of 1913—are believed to have been created to ensure that a runaway Treasury could not finance spending by "running the printing presses," there is actually nothing in those procedures to prevent it.

During World War II the Fed agreed to keep interest rates low on treasuries. It subjugated monetary policy to the war effort—keeping rates low meant that even as the outstanding stock of federal government debt grew quickly, government spending on interest rates did not explode. That is the main fear of deficit worriers: government can get stuck in a debt trap whereby budget deficits increase the outstanding debt on which interest must be paid; as interest payments grow, the deficit itself increases. Even if other spending were not growing fast enough to cause the debt-to-GDP ratio to grow, if interest rates on debt exceed the growth rate of GDP, the debt ratio will generally grow (unless the rest of the budget is in surplus). Fed policy in World War II and through to 1951 ensured that would not happen. The Treasury Accord released the Fed from that commitment, although the Fed's interest rate policy kept the short-term rates very low for another decade. As GDP continued to grow, the federal government debt-to-GDP ratio fell quickly in the postwar period.

What do we learn from that experience? Even with budget deficits of 25% of GDP, a central bank can keep interest rates very low across the maturity structure. As a creature of Congress, this policy could be mandated if it became necessary. Alternatively, the Treasury can restrict its new issues to short-term maturities. In that case, the rate on Treasury bills will closely track the Fed's policy rate. So long as the policy rate is kept below the GDP growth rate, the "debt trap" dynamics can be controlled by Congressional budgeting that would rein in non-interest spending or raise tax rates. (To be sure, a Zimbabwe-bound Congress could try to keep debt growing faster than GDP by accelerating the growth of budget allocations, and the Fed would not be able to prevent that as raising rates higher would just hasten the explosive growth of the debt ratio.) If the Fed insisted on keeping interest rates above GDP growth, it not only would cause government debt ratios to grow, but would also cause private debt ratios to grow. Sooner or later the economy would probably crash, causing the Fed to relent.

Bad policy—whether monetary or fiscal—is always possible and painful. Fortunately, there is nothing in the post-Great Depression experience to warrant unduly pessimistic views of the motives of either Congress or the Fed. Even the extremes of the Volcker years—short-term

rates driven above 20%—were eventually reversed and, one hopes, lessons were learned from the experience. And there is nothing approaching a Congressional consensus that the US government ought to budget to produce hyperinflation.

If anything, all the budgeting errors are on the other side: insufficient fiscal stimulus in the GFC, partisan silliness over expanding the debt limits, tying compromises to sequestration, and an unhealthy fear of budget deficits. While the Fed has a great deal of independence in setting its interest rate target, it appears unlikely that in a crisis (whether induced by excessively high rates on private debt or high rates on public debt that create an exploding debt ratio or a major war that requires cooperation between the Fed and Treasury) the Fed would resolutely pursue dangerous policy. And if it did, Congress can intervene.

Finally as we have seen above, Congress has since 1913 continually refined and restated its overriding instruction to the Fed: policy is to be formulated with a view to supporting the national interest. Congress has also shown its willingness to modify the Federal Reserve Act and to (selectively) tighten its control over the Fed. If a growing budget deficit became necessary to support domestic demand or due to external events (such as military threats to the US) it is reasonable to suppose that Congress would yet again expect the Fed to support the Treasury's bond issues. And if it did not, Congress can mandate that it do so.

If all of this is correct, the Fed's independence is limited to its insulation from political pressure and especially freedom from political interference into its rate-setting deliberations.

5. CONCLUSION: MMT AND CENTRAL BANK INDEPENDENCE

One of the greatest fears about continuous budget deficits is that they might push up interest rates, raising deficits and debt ratios in a self-reinforcing spiral. This is based on the ISLM model where—except in a liquidity trap with a horizontal LM curve, rising government spending raises interest rates. The result is similar to the loanable funds model, in which it is the government's demand for loanable funds to finance a deficit that causes rates to rise. This belief in deficits pressuring interest rates is nearly universal even though it is wrong. Indeed, unless compensating operations are undertaken, budget deficits push rates down since they lead to reserve credits in the banking system.

As MMT teaches, the operational function of selling Treasuries is to offer a higher interest earning alternative to low earning reserves (recall that until the GFC reserves paid zero;

now they pay a positive rate chosen by the Fed). How much higher? Well that depends on the maturity of the debt issued and the state of liquidity preference. As Keynes's "square" rule implies, when we adopt ZIRP, the Treasury will generally have to pay about 200 basis points to get banks or others to give up liquidity to hold longer maturities. When short-term rates are higher and are expected to fall, the premium required on long term maturities is lower (we can even invert the yield curve structure, with short rates above long rates).

Most "Keynesians" are not worried now about this, believing we are in a liquidity trap as Paul Krugman continually argues. In current conditions, neither deficit spending nor QE is expected to drive up interest rates or inflation. However, many argue that if the government continues to run sustained budget deficits even after recovery, it could get into a debt trap. Trying to finance those deficits supposedly pushes up interest rates paid by government, which increases debt service costs, which accelerates the growth of budget deficits and raises interest rates more. This creates a vicious cycle that increases the debt-to-GDP ratio. Eventually the bond vigilantes foreclose on the US government which is forced to grovel like the Greek government before the IMF and the ECB.

But that argument misses the point. Short-term rates are determined by monetary policy. The Fed can pay what it wants on reserves and charge what it wants on lending at the discount window. It targets the fed funds rate and keeps it within the bounds more-or-less set by the other two rates. When the economy begins to expand, the Fed will most likely raise rates. (And while it might raise rates in response to budget deficits, that is clearly a policy decision, and not something that markets do to a sovereign nation.)

Deficits increase bank reserves, and sustained deficits will result in excess reserve positions unless countervailing action is taken. Excess reserves put downward pressure on the fed funds rate. The Fed can sell government bonds (open market sale) to relieve that pressure, or the Treasury can sell new bonds. In either case, the operational impact is to substitute Treasuries for excess reserves (it is the opposite of QE). And note that if no such action is taken, budget deficits push interest rates down, not up.

What interest rate will Treasury need to pay to sell those treasuries? Well, it depends on the maturity of the issues and the state of liquidity preference at the time. The Treasury could choose to sell short term obligations (bills) at a rate that tracks the Fed's target rate; or it can sell longer maturities. This is part of Treasury "debt management." But note that it is a policy choice, not a bond vigilante choice. Markets cannot force the Treasury to sell long maturities.

Could the Fed try to make the US grovel like Greeks have had to do in the EMU crisis? Yes, it could implement a Volcker-style shock, pushing rates above 20%, which could get the US government into a vicious interest rate-growing debt cycle. It would of course do the same to the private sector—whose debt ratio is already a lot higher than that of the federal government. As the currency issuer, the federal government can probably hold out a lot longer than the private sector. It is not likely that the Fed would be able to pursue such policy long enough to put the sovereign government into a Weimar deficit situation, because it would kill the private sector first by causing massive insolvency and cascading defaults. That is what Volcker did. And note that the private sector crashed and was eventually pulled out of recession by rising Reagan budget deficits. Volcker vigilantism did not cause the Reagan government to retrench. Rather, it cut taxes and increased military spending.

One cannot completely rule out bad policy. That is the weakness of democracy. And every other form of government. The good thing about democracy is that voters can throw the elected officials out every now and then. While the Fed is not directly responsible to voters, it is subject to Congressional action.

The problem is that most people think Fed independence is natural, desirable, and immutable. But in reality, the Fed is a branch of government and a creature of Congress. So the question comes down to this: Can the Fed go vigilante without Congress putting it back into its proper place? Those who adopt MMT believe that such a fear represents poor understanding of political economy, and in addition of the Fed's mandate as defined by Congress.

Let us conclude with a quick summary of the alternative MMT perspective on Fed "independence."

Modern money is a state money: the state chooses the money of account, imposes taxes in that unit, and accepts payment in that unit. The state usually issues its own IOUs denominated in the same unit, and accepts its own IOUs in payment. Other entities typically also issue IOUs denominated in the state's money of account; issuers must accept their own IOUs in redemption. There is a hierarchy of monetary IOUs with the state's currency (including central bank reserves) at the top and used for clearing among financial institutions. State and bank IOUs must be issued first before they can be returned to their issuers in payment (redemption). Logically, the state must issue its currency through its spending or through lending before it can receive its currency in payment. The same is true of banks taken as a whole: they must lend their notes or deposits into existence before their creditors (note holders or depositors) can make payments to

the banks. Unlike banks, however, the sovereign can ensure demand for its currency by imposing obligatory payments—such as taxes—that have to be paid in the sovereign's currency.

All of this was more transparent when sovereigns spent by "raising a tally" or by minting new coin to finance a war. It became a bit more obscure when they would offer exchequer bills for discounting by private banks, obtaining notes they would spend and collect in taxes. And after one bank was given monopoly power to become the state's own bank—a central bank matters apparently became opaque to many observers. The state no longer spent its IOUs, but rather ran its fiscal operations through its central bank, issuing bills, receiving credits to its account, spending central bank IOUs and receiving the same in tax payments. Much later, the private banks were brought into a triangle, with treasury spending leading to credits to private bank deposits, and taxes paid out of private bank accounts—with the central bank then intermediating between the private banks and the Treasury to facilitate these fiscal operations. All of this obscured sovereign finances, making it easier to suppose that the sovereign currency issuer operates like a household, receiving income (taxes), spending out of its receipts and "borrowing" if it was short.

Problems with excessive bank note issue—due to wartime spending, or note issues to finance speculative excesses, or issues of counterfeit notes—led to attempts to tie paper money to precious metal. The relatively brief experience with a gold standard changed thinking about sovereign finance and about "paper money" more generally. An alternative view evolved that maintained that it is necessary to tie the currency (and private bank notes) to metal. In the 1920s, the deposit multiplier was discovered, linking private deposit expansion to central bank reserves (themselves backed by gold). Gold was abandoned in the Great Depression and replaced with Bretton Woods and a Keynesian approach to fiscal finances. However, in the 1950s the quantity theory was "restated" by M. Friedman, bringing the money stock to prominence but ironically consigning money to a bit part, determining nominal values. The understanding of sovereign finance discussed above was lost. In the late 1960s the microeconomic household budget constraint was applied to government budgets (spending is "financed" by taxes, borrowing, or money printing). We've essentially been stuck with that view ever since. A sovereign's budget is "just like a household's," so it must adopt "sound finance."

In the MMT view, that is precisely wrong. A sovereign currency issuer is nothing like a household user of the currency. Indeed, our understanding of sovereign finance is better informed by returning to the tally sticks or coins that sovereigns "spent" into circulation and

then collected in taxes. Modern operational procedures obscure but do not substantially modify the logic.

Before concluding, let us return to the issue of central bank independence. There are a number of indices that claim to rank central banks according to degree of independence, and some studies link that to inflation. These typically rank the US Fed (and the Bundesbank before unification, or the ECB after unification) as relatively independent. Even if we dismiss the claim that bond market vigilantes can push up sovereign interest rates by arguing that the central bank can control rates, there is the possibility that, say, the Fed would refuse to relieve pressure on the Federal government's finances. However, the claims for Fed independence are overstated. First, for the reasons discussed above, the Fed must coordinate with Treasury operations to ensure it can hit overnight rate targets. Second, the Fed is a "creature of Congress," created by public law that has been amended several times. This is recognized by the Fed, itself. As already discussed above, MacLaury put it this way:

the Federal Reserve System is more appropriately thought of as being "insulated" from, rather than independent of, political—government and banking—special interest pressures.

In effect, the [1951] accord established that the central bank would act independently and exercise its own judgment as to the most appropriate monetary policy. But it would also work closely with the Treasury and would be fully informed of and sympathetic to the Treasury's needs in managing and financing the public debt. In fact, in special circumstances the Federal Reserve would support financing if unusual conditions in the market caused an issue to be poorly accepted by private investors.¹⁴

Our understanding of policy, of the policy space available to the sovereign, and of the operational realities of fiscal and monetary policy would be improved if we abandoned the myth of central bank independence.

¹⁴ See Bruce K. MacLaury; "Perspectives on Federal Reserve Independence - A Changing Structure for Changing Times"; Published January 1, 1977, The Federal Reserve Bank of Minneapolis, Annual Report 1976, http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=690

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