

Is This the Beginning of the End of Central Bank Independence?

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Kenneth Rogoff is Thomas D. Cabot Professor of Public Policy at Harvard University. From 2001 to 2003, Rogoff served as Chief Economist at the International Monetary Fund. His 2009 book with Carmen Reinhart, *This Time is Different: Eight Centuries of Financial Folly*, has been widely cited by academics, policymakers, and journalists. One regularity that Reinhart and Rogoff illustrate in their book is the remarkable quantitative similarities across time and countries in the run-up and the aftermath of severe financial crises. Rogoff's most recent book is *The Curse of Cash*, which looks at the past, present, and future of currency, from the first standardized coinage to negative interest rate policy to the impact of cryptocurrencies on the global financial system. Rogoff is also known for his seminal work on exchange rates and on central bank independence. His treatise *Foundations of International Macroeconomics* (jointly with Maurice Obstfeld) is the standard graduate text in the field worldwide. His monthly syndicated column on global economic issues is published in over 50 countries. He is a member of the Council on Foreign Relations.

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Introduction

Central bank independence in advanced economies stands at a crossroads. Post-financial crisis, the public has come to expect central banks to shoulder responsibilities far beyond their power, and even farther beyond their remit. At the same time, populist leaders have been pressing for having much more direct oversight and control over central bank policy choices. Central banks have long been under assault from the right for expanding their balance sheets too much during the financial crisis, but now they are under attack from the ascendant left for expanding their balance sheets too little.

Just a short while ago, central bank independence had been celebrated as one of the most effective policy innovations of the past four decades, one that has led to a dramatic fall in inflation worldwide. Are today's attacks an aberration or a sign of a deeper malaise? Here I will argue that the case for having independent, technocratically competent central banks is as strong as ever. If independence is taken away and inflation eventually rises back to uncomfortable levels, governments may find it harder to reestablish anti-inflation credibility than many now think, for some of the same reasons as the failure to reestablish the gold standard after World War I. Credibility, once lost, can be difficult to regain.

At the same time, given today's ultralow levels of real interest rates and inflation, there is a need for a major rethink on how to restore the

effectiveness of normal monetary policy at the zero lower bound on interest rates. Today, central banks' reliance on quasi-fiscal policies is not only ineffective, it exacerbates the push toward greater subordination to finance ministries. The last part of this lecture will review what I believe to be the very strong case for making the legal, tax, regulatory, and institutional changes necessary to make monetary policy interest rate cuts as effective in negative interest rate territory as when rates are positive. Following the lead of the previous G30 lecture speaker, Raghuram Rajan, who based his lecture on his book *The Third Pillar*, my comments are based to a significant extent on my book on the past, present, and future of currency and monetary policy, *The Curse of Cash*. I must also commend Paul Tucker's important book, *Unelected Power*, whose theme captures some of the fundamental tensions in central banking I will be discussing. Last but not least, I will refer to the long academic literature on the case for having independent inflation-targeting central banks.^{1,2}

Challenges to Central Banks

Much of the challenge to central banks today comes not from being too powerful, but from struggling to remain relevant. There are four main reasons. First, global inflation has been so low for so long, people have started to forget what it was like in the pre-independence era. Second, monetary paralysis at the zero (or effective) lower bound on interest rates has greatly limited the effectiveness of monetary stabilization policy in normal recessions, despite efforts of some central bankers to claim otherwise. Third, although few seriously question the importance of central bank emergency powers should there ever be another deep systemic financial crisis, the zero bound implies very limited capacity to stimulate a sluggish post-crisis economy, so that central banks would quickly be relegated to the sidelines, for better or for worse. Fourth, there is a growing view that for advanced economies, ultralow interest rates make higher government debt a free lunch, with economic

1 Raghuram Rajan, *The Third Pillar: How Market and the State Leave the Community Behind*, Princeton University Press, 2019; Kenneth Rogoff, *The Curse of Cash*, Princeton University Press, 2016 (extended paperback 2017); Paul Tucker, *Unelected Power: The Quest for Legitimacy in Central Banking and the Regulatory State*, Princeton University Press, 2018.

2 In Kenneth Rogoff, "The Optimal Degree of Commitment to an Intermediate Monetary Target," *Quarterly Journal of Economics* 100, November 1985, I show how, in theory, having central banks that place a high weight on achieving inflation (including a discussion of inflation targeting) can ameliorate the anti-inflation credibility problem governments have faced throughout history.

growth reliably preventing debt-to-income ratios from growing. The implication is that much higher debt can be accommodated without ever raising taxes, much less resorting to inflation, again undermining the case for having central bank independence. I will address each of these four issues in turn.

Role of Central Banks in Controlling Inflation

Perhaps the greatest cause of the discontent is that independent central banks have become victims of their own success, with some questioning whether low inflation is now a hard-wired feature of the 21st century economy, with the services of independent central bankers no longer being required. The complacent dismissal of future risks to inflation is surely a classic example of the recurrent “this time is different mentality” Carmen Reinhart and I chronicled in our 2009 book on the history of debt, inflation, and financial crises.^{3,4} One does not have to travel very far down memory lane to remember that not so long ago, high inflation roamed the earth. As recently as 1992, there were 45 countries with over 40 percent inflation.⁵ In the 1970s, the United Kingdom and Japan experienced inflation in excess of 20 percent, with US inflation also in double digits. What brought this era of epic inflation to an end? Yes, the influx of inexpensive Chinese imports played a role, as did the rise of computers. But if one looks at the timing of when different countries succeeded in bringing down inflation, there is little question that the most important role has to be assigned to the rise of central bank independence.

Starting in the 1980s across much of Europe, and spreading around the world in the 1990s, one country after another granted its central bank a significantly greater degree of independence. In 2019, despite anomalies such as Argentina and Venezuela (both countries where central bank independence was severely compromised), global inflation is now so low—the April 2019 *IMF World Economic Outlook*⁶ forecasts

3 Carmen M. Reinhart and Kenneth Rogoff, *This Time is Different: Eight Centuries of Financial Folly*, Princeton University Press, 2009.

4 An excellent history and overview are provided in *Inflation in Emerging and Developing Economies: Evolution, Drivers and Policies*, edited by Jongrim Ha, M. Ayhan Kose, and Franziska Ohnsorge, World Bank, 2019. A much earlier study is provided in Kenneth Rogoff, “Globalization and Global Disinflation,” Proceedings – Economic Policy Forum – Jackson Hole, Federal Reserve Bank of Kansas City, 2003, pp. 77–112.

5 Kenneth Rogoff, “Rethinking Central Bank Design,” First Annual Karl Brunner lecture, Zurich, MIT Press, forthcoming.

6 *World Economic Outlook: Growth Slowdown, Precarious Recovery*, International Monetary Fund, Washington, D.C., April 2019.

advanced economy inflation at just 1.6 percent—that the question has become whether advanced country central banks have the capacity to generate it again. This has been true since the 1990s in Japan, but is increasingly true around Europe as well. Even in the United States, where trend growth is higher, long-term inflation expectations derived from indexed bonds have inflation expectations going below 2 percent, with survey measures also showing sharp declines.

One might think that long-term expectations of 2 percent inflation or below are proof that central bank credibility has strengthened. But this does not take into account that if there is ever a severe fiscal shock—for example, a major physical or cyber conflict, a pandemic, an environmental catastrophe, or a divisive populist government that pushes fiscal limits deep into vulnerable territory—moderate inflation could be an important safety valve. Even a small chance of inflation being near double digit for a few years would significantly push up expected inflation.

Counterbalancing that, and perhaps helping to explain why long-term expected inflation is so low, is that markets likely recognize a significant chance that inflation will undershoot its target for very long periods. Federal Reserve economists Michael Kiley and John Roberts (2017), for example, find in their simulation that even the United States Federal Reserve is likely to be up against the zero bound 30 percent of the time (of course this estimate is sensitive to model assumptions).⁷

Role of Central Banks in Macroeconomic Stabilization

Aside from maintaining low and stable inflation, a second task of most central banks is to engage in macroeconomic stabilization policy, attempting to smooth out the business cycle. Although there is never-ending controversy in the academic literature, by and large it is widely accepted that activist monetary policy has played an important role in smoothing out post-World War II business cycles. Part of the way they have achieved this is by standing ready to sharply cut interest rates in a recession, by an average of over 5 percent in the case of the United States.⁸ Obviously, with the European Central Bank and the

7 Michael Kiley and John Roberts, “Monetary Policy in a Low Interest Rate World” *Brooking Papers on Economic Activity*, Brookings Institution, Washington, D.C., 2017.

8 See Rogoff, *The Curse of Cash*, 2016; or Janet Yellen, “The Federal Reserve’s Monetary Toolkit: Past, Present and Future,” Federal Reserve Bank of Kansas City, Jackson Hole Symposium, August 2016.

Bank of Japan already at the zero bound, and the US Federal Reserve just 2.5 percent above it, cuts of this magnitude will not be possible in another deep recession.

So, what else can monetary policy do? Much less than most observers think. The contemporary policy debate on central banking has been greatly clouded by crippling confusion over the conceptual distinction between monetary policy and fiscal policy. Central banks have at times played their part in exacerbating this confusion by overselling and mislabeling “alternative monetary policy instruments” that are in the first place not nearly as effective in stimulating output and inflation as normal interest rate policy, and beyond that are really better thought of as quasi-fiscal instruments where, importantly, central banks are junior partners to treasuries and finance ministries.

Early event-based studies seemed to imply that, at the zero-lower bound on interest rates, central bank purchases of long-term government bonds can have significant stimulus effects by pushing down long-term interest rates. Over time it became clear, however, that most of the action in long-term interest rates stemmed from a trend decline that had little to do with quantitative easing (QE), and initially optimistic assessments of the effects of pure QE policies have now been sharply tempered.⁹ In essence, when the central bank purchases long-term government debt by issuing overnight bank reserves that pay the same as very short-term treasury bill interest rates (which both happen to be zero in a liquidity trap), this is not “printing money,” it is maturity transformation of the consolidated government debt balance sheet. This generally has some effect, as short-term debt tends to be lower cost. However, shortening the maturity structure of government debt exposes the government to refinancing risk.¹⁰ In any event, compared to normal interest rate policy, the stimulus effects of maturity transformation on output and inflation appear to be second order. And importantly for our discussion here, the role of the central bank is secondary and, to a first approximation, unnecessary. Treasuries and

9 Hess Chung, Etienne Gagnon, Taisuke Nakata, Matthias Paustian, Bernd Schlusche, James Trevino, Diego Vilan, and Wei Zheng, “Monetary Policy Options at the Effective Lower Bound: Assessing the Federal Reserve’s Current Policy Toolkit,” Finance and Economics Discussion Series 2019–2003, Board of Governors of the Federal Reserve System, Washington, D.C., 2019.

10 Blanchard, in his 2019 American Economic Association Presidential Address, argues that the risk of runs does not much depend on the size of debt, but in the canonical models of Guillermo Calvo (“Servicing the Public Debt: The Role of Expectations,” *The American Economic Review* 78 (4): 647–661, September 1988), and others, it does, and for the same reasons maturity structure greatly matters, as well. See, especially, Farhi and Maggiori, *Quarterly Journal of Economics* 2018.

finance ministries can perfectly well engage in maturity transformation on their own without any help from the central bank, and they do so all the time.¹¹

It is surprising how often one reads economic commentators and even serious policy macroeconomists characterize the quantitative easing policies that central banks engaged in during and after the financial crisis as “money printing,” and how difficult to explain to them how their ingrained knee-jerk understanding of how monetary policy is just wrong at the zero bound on interest rates, or when reserves are issued that pay a rate on par with very short-term (say one-week) Treasury bills, as is the case in the United States today. This incorrect “monetary” characterization of quantitative easing led some to warn that large-scale central bank asset purchases would inevitably cause inflation. In fact, the right way to look at QE purchases of long-dated government bonds is as shortening of the maturity structure of consolidated government debt. Central banks may be involved in debt maturity management, but except for very short frictions, the central banks’ actions are generally dominated by Treasuries, which can command much larger volumes, even compared to massive central bank QE.

After all, even the most independent central bank is a wholly-owned subsidiary of its country’s treasury. At the end of the day, the central bank balance sheet is subsumed in the consolidated government balance sheet. The central bank may earn profits on seigniorage or through its asset trading (or losses), but these are fully passed onto the government after expenses. Thus, any proper definition of government debt should definitely include interest-bearing central bank debt (or interest-bearing bank reserves). Of course, at the zero bound, non-interest-bearing bank reserves are also much better viewed as debt rather than money. Central bank holdings of government debt are just in-house bookkeeping entries; what matters are private sector (including foreign government entities) holdings of government debt. In the United States, the Federal Reserve only issues debt (reserves) to the financial system, but in some countries central bank debt can be more widely held. The main instrument modern central banks genuinely

11 Robin Greenwood, Samuel Gregory Hanson, Joshua S. Rudolph, and Lawrence Summers, “Debt Management Conflicts between the U.S. Treasury and the Federal Reserve,” Chap. 2, in *The \$13 Trillion Question: How America Manages Its Debt*, edited by David Wessel, Brookings Institution Press, 2015, pp. 43–89.

control is the very short-term policy interest rate, the federal funds rate in the case of the United States.¹²

It is, of course, another matter, when the central bank purchases private debt or private assets. In Rogoff (2016),¹³ I refer to such a transaction as “fiscal quantitative easing” as opposed to pure quantitative easing, in which the central bank buys Treasury debt. Fiscal quantitative easing may be looked at as a combination of two actions, the first in which the US Treasury issues government debt and buys private debt (or equivalently guarantees private debt), and the second in which the Fed buys up the government debt (pure quantitative easing). The only difference between the two cases is bookkeeping, as in one case the Fed carries the private sector default risk, while in the other case it the central government carries the risk directly instead of indirectly.

The European Central Bank (ECB) is a special case, because there is no supranational European government with taxing power sufficient to underpin a central bank. When the European central bank does “quantitative easing,” it is in effect using the credit standing of the fiscally stronger Eurozone states to underpin borrowing from the weaker states. This is not a criticism per se, and in fact ECB quantitative easing policy did much to alleviate severe stress at the peak of the Eurozone debt crisis, and by doing so, it benefited all member states. ECB quantitative easing is in many ways akin to using short-maturity Eurobonds to proportionally soak up longer-dated national debts. Put differently, the ECB QE policy of issuing reserves to buy up national debts is equivalent to creating a synthetic (very) short-term Eurobond (recalling again that short-term debt and money pay the same rate at the zero bound.)

Of course, the preceding discussion all focuses on cases where QE does not actually involve engaging in inflationary finance. When interest rates are above the zero bound—in “normal” times—then central bank issuance of reserves certainly will stoke inflation *if* the reserves do not bear interest. In positive interest rate territory, increasing high-powered money to buy up long-term government debt is like printing

12 By tradition, most central banks also control intervention into foreign exchange markets, since otherwise “impossible trinity” implies that central banks and treasuries could be acting at cross-purposes. Of course, in the United States, the postwar Fed-Treasury accord ceded exchange rate policy to the Treasury, but since the United States has generally been passive in its foreign exchange policy (other than verbal statements), this has not really mattered. In principle, there is no reason the Treasury cannot be fully in charge of managing foreign exchange reserves as long as it does not try to manipulate them to control the exchange rate. It should be noted that in principle, if the Treasury flooded the market with very short-term debt, it could impinge on central bank control of the short-term policy rate.

13 Rogoff, *The Curse of Cash*, 2016.

money, and does tend to push up inflation. However, this is not the case if the reserves pay the market rate of interest, which is exactly what is happening today in many countries. For example, the US Federal Reserve now pays 2.4 percent on bank reserves, actually slightly above one-week Treasury bills (which are slightly more liquid). So even though interest rates are at the zero bound, quantitative easing (or quantitative tightening) has only a minor indirect effect on inflation since it is only maturity transformation, not money printing.

Obviously, if the central bank is buying up private debt instead of government debt, the effects are larger, since this involves subsidies to select private sector entities, and creates actuarial liabilities for taxpayers. There is little debate that “fiscal QE” was very important during the financial crisis. However, in most advanced economies, the emergency fiscal powers delegated to the central bank for dealing with financial crises were not intended for routine use in picking winners and losers. Again, the European Central Bank is a different animal, given the severe limitations that remain on Eurozone-wide governance.

Role of Central Banks in Dealing with Financial Crises

This takes us to the third task of central banks, which is dealing with financial crises. There are good reasons why central banks are imbued with emergency powers to buy up certain kinds of private debt in a financial crisis (exactly what kinds of debt depend on the country). Central banks can also backstop some kinds of bank debt directly with guarantees, as the US Federal Reserve did at the height of the 2008 financial crisis. Central banks have several short-term advantages over treasuries in emergencies. First, in most countries, they are given broad latitude to act quickly and decisively, unencumbered by the need to pass legislation. Second, as financial regulators, they have an extensive relationship with and knowledge of the financial sector, again facilitating fast action. Third, central banks tend to have considerable personnel devoted to technical financial issues.¹⁴

Even in a financial crisis, the central bank remains an agent of the government. If there are major losses, for example if the central bank

¹⁴ The third advantage is not necessarily a structural feature of central banks but one that has developed in many countries over recent years. Back in the early 1970s, when the relative pay in the US civil service was much higher than today and Paul Volcker was the undersecretary of the Treasury for international monetary affairs, the United States Treasury was the hotbed of ideas and scholarship in the transition to floating exchange rates, not the Federal Reserve.

purchases massive quantities of private debt that end up in various stages of default, these will ultimately have to be transferred to the government, possibly in special purpose vehicles. This is a routine operation in emerging markets that experience recurrent crises. Most outside observers give the major central banks high marks for how they used their quasi-fiscal powers to manage the initial onslaught of the 2008 financial crisis, and to the European Central Bank for strongly invoking its quasi-fiscal powers to alleviate the Eurozone debt crisis in 2012.

However, in addition to preventing a wholesale collapse of the banking sector in a financial crisis, central banks are also expected to do what they can to promote recovery during the long sluggish growth period that typically follows (Reinhart and Rogoff, 2009). Here the zero-bound on interest rates (or the effective lower bound) is extremely constraining. If central banks typically cut interest rates 5 percent in normal recessions, most models indicate that the needed cuts are perhaps even double in a systemic financial crisis, but of course this is not feasible currently given the current low starting point for policy interest rates. It is true that there are other policies that can help restore recovery after a crisis. There is, of course, fiscal stimulus, but policies to promote debt write-downs can also be very helpful (this would have write-downs subprime mortgages in the case of the United States, and of periphery country debts in the case of the Eurozone).

Fiscal stimulus can take the form of debt-financed government spending and tax cuts, but it can also take the form of redistributive policies that favor low-income individuals with a high marginal propensity to consume. Compared to normal monetary policy, however, fiscal policy is a blunt instrument that is always going to be highly contentious and political. Nothing illustrates this more clearly than the case of the United States where, to a first approximation, a Democratic government would inject stimulus through a massive increase in government spending, while a Republican government would inject stimulus through tax cuts. Debt writedowns, while arguably being the single best targeted and most effective strategy in financial crisis, are even more fraught politically. Such tensions make it difficult to wield fiscal policy with the precision and credibility that well-designed independent central banks can achieve.

Even though there are other tools, the inability of central banks to have a larger role in stimulus policy is a major problem. A number of ideas have been advanced to restore the effectiveness of monetary policy stimulus in a deep systemic financial crisis but, by and large, most work

by attempting to transfer fiscal powers to the central bank that do not sit easily with their limited democratic accountability.

A prime example is “helicopter money,” where the central bank on its own accord issues currency (or bank reserves) and transfers the revenue directly to citizens on a per person basis. It is remarkable how many leading commentators and influencers endorsed this idea in one form or other, even leading financial newspapers.¹⁵ Of course, if central banks had the power to issue helicopter money, there are cases where it would be welcome, particularly in a crisis where the rest of the government might be at loggerheads and unable to act. The problem is that central banks are not endowed with the power to directly distribute or redistribute income to ordinary citizens. This right is reserved by the legislatures, and if central banks were to trespass, they would quickly get reabsorbed into treasuries. In Tucker’s¹⁶ framework, decisions over helicopter money are not a suitable power to give to unelected officials, no matter how earnestly editorials and op-eds cry out for doing so.

There is a perfectly valid and legitimate way to engage in the full equivalent of helicopter money, which is for the legislature to engage in debt-financed transfers, and then have the central bank buy up the resulting debt.¹⁷ (In fact, it would be more or less equivalent to leave the central bank out of it entirely and finance the transfers with one-week debt, which would give virtually the same effect at the zero bound.) If the legislature cannot agree on the transfers, central banks can complain, but if they try to do something about it, their independence will quickly disappear. Yes, there are some political economy arguments that somehow via helicopter money, central banks can break the Gordian knot when fiscal policy is stuck, but a deeper inspection shows unless central banks credibly raise their inflation targets, the effect is zero, and it is not clear they can do so. Bernanke’s suggestion that central banks merely decide the quantity of helicopter money to be issued, but not how it is allocated, does not really solve the problem, since this too is a fundamentally political decision that needs to be

15 For thoughtful attempts to rationalize central bank issuance of helicopter money, see Adair Turner, *Between Debt and the Devil*, Princeton University Press, 2015; and Ben Bernanke, “What Tools Does the Fed have Left? Part 3: Helicopter Money,” April 11, 2016, Brookings Institution.

16 Tucker, *Unelected Power*... 2018.

17 Indeed, one can argue that the Japanese central bank has engaged in helicopter money over the years, in the sense that there have been years where the central government has run large deficits, and the central bank has purchased more than 100 percent of the new issuance.

made by elected officials. Bringing central banks into this territory is a recipe for their demise.

Another similarly dubious idea, suggested by almost as many commentators, is for a central bank stuck at the zero bound to buy up government debt, and then destroy it. The most likely outcome is that this will do absolutely nothing. If one family member tears up debt to another, it has no effect on the family's total assets. When the Fed tears up debt it is owed by the Treasury, there is no effect on the indebtedness of the consolidated government to the private sector.

It is possible having the central bank destroy its government debt will spark investor concerns about internecine government warfare that could end up with higher inflation. Investors may worry that if the central bank ends up technically bankrupt, the government will make recapitalization conditional on higher inflation, or perhaps it might even use the occasion to bring the Fed offices back into the Treasury building. (In the case of the United States, a "bankruptcy" of the central bank would be entirely contrived, because the Fed's liabilities are in dollars and it has the right to print them.¹⁸) To suggest that tearing up debt is a serious policy for dealing with the zero bound is just nonsense. It creates expected inflation in an unpredictable and chaotic manner by playing Russian roulette with central bank independence.

The fact the central bank might not be able to significantly raise inflation in a financial crisis is a problem for many reasons, one of which is that (unexpected) higher inflation provides a simple time-tested mechanism for reducing the real value of private debts; if the Fed had been able to raise inflation to, say, 4 or 5 percent for several years after the financial crisis, it would have been very helpful in taking the edge off of private debt problems that were not easily dealt with otherwise. But at present it lacks the instruments it needs even to fight deflation in a financial crisis, much less increase inflation. We shall return to this point in discussing the case for negative interest rates.

18 Suppose the economy is at the zero bound, and the central bank tears up its holdings of government debt. Since the central bank is not in tightening mode at the zero bound, for a while it does not miss the government debt on its books because it has no need to sell it to pull liquidity out of the system. Now suppose the day finally comes where the central bank needs to sell government bonds, but it doesn't have any, and suppose all the gold and foreign exchange are gone too. Is it helpless? Hardly. First, it can stop passively accommodating the transactions demand for paper currency; the Fed printed over \$90 billion in 2018 (with roughly 80 percent being hundred-dollar bills). And if allowed, it can issue special purpose bank reserves or debt that pay a higher interest than the cash or bank reserves it is buying up. If the Federal government blocks all those channels, the central bank must let inflation rise until the central government decides to recapitalize it.

Role of Central Banks in Dealing with Government Debt

We now come to the fourth and final point on our list of recent challenges to central banks, which is that they are no longer needed as bulwarks against the temptation to inflation away excessive government debt. In some sense, this is a corollary of the first challenge, that inflation has been so low for so long that people have come to believe that it can never come back. Unlike short-term stabilization policy, however, holding down inflation expectations even as debt rises is a long-term one. There are really two separate ideas in the mix here, the first of which is reasonable but debatable, the second of which is dubious.

The first idea is that thanks to the steady decline in long-term real interest rates on “safe” government debt, governments can now issue much more debt than they used to. This, as we have already discussed, makes perfect sense, albeit with important nuances, for example, the question of the maturity structure of debt. And in the case of the United States, the growing centrality of the dollar in the global finance system has likely reinforced America’s “exorbitant privilege” and continued to feed global demand for US dollar assets, despite the United States’ falling share of global output.

A more extreme version of the “debt is completely benign” view was endorsed recently by former International Monetary Fund chief economist Olivier Blanchard in an interesting and provocative paper.¹⁹ In essence, Blanchard argues that the economy is an inefficient equilibrium where, for whatever reason (excessive investment is the classic one), the rate of interest is below the growth of the economy. If this is a long-term steady state, then any one-time rise in government debt, potentially even a very large one, will have no effect on the long-term debt-to-income ratio because the growth outstrips the interest rate. Debt in this instance is a free lunch because the economy is investing too much anyway, and in fact there is no need even to raise taxes to pay for it. This is doubly true if the funds are spent on high-return education or infrastructure investment (although this point tends to be overworked, given that less than 4 percent of government expenditure in advanced economies is dedicated to infrastructure investment).²⁰

19 Olivier Blanchard, “Public Debt and Low Interest Rates,” American Economic Association Presidential Address, January 2019.

20 See *Sovereign Debt – A Guide for Economists and Practitioners*, edited by S. Ali Abbas, Alex Pienkowski, and Kenneth Rogoff, Oxford University Press, forthcoming.

In sum, if high debt places no pressure on fiscal policy, then there will be no pressures on central banks to inflate it away either. And thus, there is one less reason why it is important that they be independent.

There are several debatable points, first that the economy is in an inefficient equilibrium as opposed say, to having an equilibrium where interest rates are very low relative to returns on equity, so that risk drives the wedge, not low returns to investment. Perhaps the most debatable point is the claim that the risk of entering a fragile equilibrium zone where debt runs are more likely, is independent of the level of debt. This is not what standard models suggest—it is surely no accident that investors are more concerned about high-debt countries than low-debt countries in crisis situations—and perhaps it also underestimates the extent to which historically “safe” assets turned out not to be, as shown by Farhi and Maggiori (2018).²¹

This takes us to Modern Monetary Theory (MMT) which, at least as I understand it, adds the twist that the government can pile up debt longer and at lower cost by instructing the central bank to continuously engage in quantitative easing, issuing bank reserves to buy up long-term government debt as it is issued. The effects of such a mandate depend on whether bank reserves bear market interest (as is now the case) or whether they are non-interest-bearing money. We have already argued that there is essentially no meaningful difference between having the central bank expand reserves to buy back newly minted long-term government debt, and simply having the central government issue very short-term debt in the first place. If bank reserves pay interest, then the first-order effect of the MMT prescription is to drastically shorten the maturity structure of government debt. But if the reserves do not pay interest, then as soon as interest rates start rising, banks will rush to withdraw them, and inflation will soar.

From the point of view of the consolidated government balance sheet, the central bank only plays a minor booking role in the MMT plan. Short-term debt is typically the cheapest way to finance government debt, and there is a case to be made that after the financial crisis, the cost savings to issuing short-term debt have been even greater than usual.²² One reason might be that at the zero bound, investors worry

21 Emmanuel Farhi and Matteo Maggiori, “A Model of the International Monetary System,” *Quarterly Journal of Economics* 133 (1): 295–355, 2018.

22 Arvind Krishnamurthy and Annette Vissing-Jorgensen, “The Aggregate Demand for Treasury Debt,” *Journal of Political Economy*, April 2012.

that the potential for capital losses on long-term debt (for example if interest rates rise significantly) is much greater than the potential for capital gains (since there is not much room to go down.).But there is a very good reason why governments don't bet the farm on global real interest rates never rising again, since historically, they have an inconvenient habit of doing so at inconvenient times. Overreliance on short-term debt is risky; if global real interest rates were to rise, there would be immediate pressures to raise taxes and cut government spending. If the government were unable to respond quickly, then suddenly higher risk premia could exacerbate the problem. But nothing can make global interest rates for safe assets go up significantly, right? Wouldn't any conceivable shock make them go down?

If we have learned anything from the past, it is that economies can be subject to severe adverse shocks, and tomorrow's shock may look completely and unpredictably different from the last shock. The model of Farhi and Maggiori (2018)²³ illustrates a very important point. Markets, and policy economists, tend to extrapolate the present events far into the future, and to exhibit "present bias." Put differently, the last big shock that hit raised the demand for government debt; the next one might not. It is one thing for a hedge fund manager to take a big bet on the path of interest rates that she hopes will work for a few years, after which she can retire. It is another thing entirely for a government to engage in this game, especially because it is neither easy nor desirable to quickly unwind high debt levels. Fiscal policy for a country needs to be robust, and debt maturity management is an important element of making it robust.²⁴

To return to our theme of central bank independence, the main decisions over maturity transformation are inevitably going to be made by central government, while the central bank needs to retain control over inflation. If MMT has the central bank simply issuing interest-bearing reserves, then the "added twist" of QE policy is irrelevant. It will neither cause inflation nor give the central government any extra tools to run higher deficits. If, however, the central bank is forced to buy up government debt with non-interest-bearing money, then it is a recipe for inflation.

23 Farhi and Maggiori, "A Model of the International Monetary System," 2018.

24 See Abbas, Pienkowski, and Rogoff, *Sovereign Debt...*, forthcoming.

Instituting Effective Negative Interest Rate Policy as a Means to Restore the Efficacy of Monetary Policy

What can be done to make central banks and monetary policy more relevant in today's low-interest-rate world? I have argued elsewhere that by far the cleanest and most effective idea is to make the institutional changes necessary for *effective* negative interest rate policy. I highlight the word "effective" because even though a number of central banks have engaged in very mild negative interest rate policy, none has tackled the most important issue, which is to discourage wholesale cash hoarding when rates turn too far negative. (A deeper analysis shows bank profitability is not going to be an issue if wholesale cash hoarding is dealt with properly.²⁵)

I apologize that in this short lecture I only sketch the basic arguments, but they are given in detail in part II of my 2016 book on the past, present, and future of currency, on which this lecture is based.²⁶ The absolute cleanest solution, of course, is to move entirely to digital currency, but for many reasons including privacy concerns, this is not advisable into the foreseeable future. I have argued for decades (Rogoff 1998)²⁷ that phasing out large-denomination notes would be a good idea for public finance reasons, and that even if this achieved only a modest benefit in terms of tax evasion and crime, the cost savings would be more than sufficient to compensate for the lost seigniorage that the underground economy currently provides, even for the US dollar, which is by far the most widely used global currency, and certainly for currencies that are almost exclusively held domestically.

Eliminating large bills, say \$50 and above (or equivalents for other countries), should be sufficient to allow negative interest rates of at least 2 to 2.5 percent, given storage and transport costs. Let's remember that we are excluding smaller depositors.²⁸ The central bank only needs to worry about large-scale hoarding by financial firms, insurance

25 See Rogoff, *The Curse of Cash*, 2016; also Ruchir Agarwal and Miles S. Kimball, "Enabling Deep Negative Rates: A Guide," April 2019. As Rogoff (2016) argues, it is straightforward to shield the vast majority of small individual depositors from negative rates on bank accounts.

26 Rogoff, *The Curse of Cash*, 2016. See also Andrew Lilley and Kenneth Rogoff in John Taylor (ed.) *Strategies for Monetary Policy* (forthcoming).

27 Kenneth Rogoff, "Blessing or Curse? Foreign and Underground Demand for Euro Notes," *Economic Policy* 13 (26): 261–303, April 1998.

28 In my 2016 book, I suggest a \$2,000 limit per taxpayer, but it could be somewhat higher. The purpose of negative interest policy is not to raise revenue, but to stimulate inflation and growth, so the foregone income is meaningless. Given modern technology, it would be easy enough to subsidize small retail accounts either directly or through the banking sector.

companies, pension funds, and the like. This is actually quite expensive if one takes into account insurance and storage costs. There are large fixed costs as well, which might be difficult to amortize if the period of very steep negative rates is short-lived. Moreover, it is actually not necessary to have a system that is “watertight” as long as hoarding does not reach high levels.

But there is another idea offered by Eisler (1933)²⁹ that has been conceptually and mathematically analyzed by (Davies 2005)³⁰ and Buiters (2005)³¹ and more recently discussed in great practical detail by Agarwal and Kimball (2019).³² The alternative approach is to create a crawling peg exchange rate between electronic money (bank reserves at the central bank), and paper money. In this approach, the idea would be to move toward an equilibrium where all contracts and taxes were denominated in electronic currency. But transactions could be executed in either paper or electronic currency. During periods where the central bank was setting a negative policy interest rate (which also applies to central bank reserves)—the central bank would no longer accept paper currency at a one-to-one exchange rate with electronic currency. Instead, if the interest rate on electronic currency was -5 percent, then the value of cash in terms of paper currency, when tendered at the central bank, would depreciate at -5 percent as well. This idea is not quite as clean as it sounds, because in fact paper currency and electronic currency are not perfect substitutes, which is why central banks already can set slightly negative interest rates without creating a stampede to cash.

As for bank profits, if small retail depositors are excluded, and if wholesale clients have no way to hold large quantities of cash without great expense and/or being taxed on their facilities, then banks should perfectly well be able to pass through the negative rates. Experience until now where the cash problem has not been taken care of, would not apply. It should be noted that even so, the literature has generally found that bank profits have not suffered from negative interest rate policy in

29 Robert Eisler, *Stable Money: The Remedy for the Economic World Crisis. A Programme of Financial Reconstruction for the International Conference 1933: With a Preface by Vincent C. Vickers*, Search Publishing, London, 1933.

30 Stephen J. Davies, “National Money of Account, with a Second National Money or Local Monies as Means of Payment: A Way of Finessing the Zero Interest Rate Bound,” *Kobe Economic & Business Review*, Research Institute for Economics & Business Administration, Kobe University, 49: 69–91, February 2005.

31 Willem Buiters, “Overcoming the Zero Bound: Gesell vs. Eisler,” mimeo, European Bank for Reconstruction and Development, London, 2005.

32 Agarwal and Kimball, “Enabling Deep Negative Rates...,” IMF, 2019.

most European countries except for small banks³³—which presumably mainly have small depositors that would be excluded under my (2016) proposal. There is a laundry list of other second-order issues, and these are dealt with in my book, and also in the very thorough primer of Agarwal and Kimball (2019).³⁴ The existing experience with negative rates suggests these should not be a problem. In my view, negative rate policy would solve the problem of central bank impotence at the zero bound, which would be of immediate use for Europe and Japan, and could help the United States in a recession. If central banks could reestablish their main role as interest-rate setting institutions, then it might help them push back against efforts to use their balance sheets to make fiscal policy less transparent.

There are other ideas for giving the monetary authorities more scope to cut interest rates, for example, raising inflation targets. But they are far less elegant, and likely far less effective, for reasons explained in Rogoff (2016). For example, raising the inflation target from 2 percent to 4 percent buys a lot less space than it might seem because contracts would almost surely adjust more frequently (meaning larger interest rate cuts were needed to achieve the same effect), and there would be costs of higher inflation (for example, greater dispersion of relative prices) even during normal times. And there are other significant objections such as the cost to central bank credibility of changing long-established targets, not to mention that, without being able to implement unconstrained negative interest rate policy, Europe and Japan have not been able to get inflation to 2 percent, much less 4 percent. (When Japan raised its inflation target to 2 percent in 2013, there was very little impact on longer-term interest rates, and to this date, there still has not been.) Finally, even if inflation were raised to 4 percent, this still might not give nearly enough room for maneuver in a deep recession or financial crisis.

One naïve objection to negative interest rates is that they are unfair to savers. First, it is straightforward with modern technology to exempt small depositors, so that only a very small percentage of retail depositors would be affected. Second, for savers who have more diversified portfolios, effective negative rate policy would push up the prices of equities, housing, and long-lived assets. Or to be precise, negative rates

33 Jose A. Lopez, Andrew K. Rose, and Mark M. Spiegel, “Why Have Negative Nominal Interest Rates Had Such a Small Effect on Bank Performance? Cross Country Evidence,” Working Paper Series 2018–7, Federal Reserve Bank of San Francisco, 2018.

34 Agarwal and Kimball, “Enabling Deep Negative Rates...,” IMF, 2019.

would counter the sharp drop that usually occurs in a deep recession or financial crisis. Third, long-term interest rates should rise, given that effective negative interest rate policy pushes up the trajectory of inflation and growth. Fourth, and most importantly for most workers and families, negative interest rate policy can help restore employment and income growth after a deep recession or crisis.

Let me be clear that I am not saying that negative interest rate policy obviates the need for other forms of stimulus, for example, rises in government spending and tax cuts, during a recession. What it does do is restore the balance between monetary policy and fiscal policy, with the monetary policy response being typically much faster and more reliable than highly politicized fiscal policy. Indeed, if negative interest rate policy feels too radical, it has to be compared to the dozens of outside-the-box ideas that fill the pages of the major economics journals on options for restoring growth in a crisis. All of these also involve severe risks. Deep recessions and financial crises involve severe risks. Unfortunately, time and space constraints prevent a more complete discussion of the issues here, but there is a growing literature on the topic.³⁵

Conclusion

To conclude, central banks face challenges today stemming from their effectiveness in reducing inflation, and their ineffectiveness in finding ways to deal with zero lower bound on interest rates. This has left them vulnerable to populist attacks from the left and the right that threaten to deeply undermine their independence, including some proposals to simply have the central bank be instructed to indefinitely finance massive increases in government debt, and others to lower interest rates into a US economy that already seems to be running hot. The idea that high inflation is a problem of the distant past but is unlikely to recur in 21st century advanced economies, is extremely dubious, and all in all, seems to be a classic case of “This Time is Different” thinking. Instead, the case for having an independent central bank that is hard-wired to place a significant weight on stabilizing inflation, as proposed in Rogoff (1985),³⁶ remains strong, as is very clear from countries where central

35 See Kenneth Rogoff, *The Curse of Cash* (2016) and references therein; also Kenneth Rogoff, “Dealing with Monetary Paralysis at the Zero Bound,” *Journal of Economic Perspectives*, Spring 2017; Lilley and Rogoff, *Strategies for Monetary Policy...*, 2019; and Agarwal and Kimball, “Enabling Deep Negative Rates...,” IMF 2019.

36 Rogoff, “The Optimal Degree of Commitment...,” 1985.

bank independence has been severely compromised. If central bank independence is rescinded and monetary policy politicized, it would only be a matter of time until high inflation followed. And if that happens, it may be even harder to put the inflation genie back in the bottle next time than it was in the 1980s and 1990s. Once trust is broken, it is difficult to reestablish. In the 1920s and 1930s, governments tried to reestablish the prewar gold standard that had been abandoned in World War I so that inflation could be used to help finance the war effort. But one of the great challenges was that once investors learned the bond could be broken, it was difficult to make it fully credible again. The same problem will likely face countries that tear down central bank independence and try to restore it; they will face years of very high interest rates before public trust is restored.

As anyone who has worked at a central bank understands, central bank independence is rarely granted by constitutional decree, and even where it is, the letter of the law has little meaning if political support is lacking. In reality, central bank independence is fragile, and something that has to be earned every day. In this difficult period for central banks, central banks need to look hard for new instruments to restore the effectiveness of normal interest rate policy; here I have suggested giving a much more serious look at taking the steps needed to effectively institute unconstrained negative interest rate policy, and argued that this is far preferable to having central banks engage as junior partners in debt maturity management and quasi-fiscal policy. To maintain their relevance, and to protect the independence of monetary policy during a period of growing populism, central bankers cannot afford to sit on their laurels. Otherwise, what is perhaps the most important institutional development of our time in macroeconomic policy, the rise of independent central banks, risks being seriously undermined.

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