

# Commentary: The Federal Reserve's Balance Sheet as a Financial-Stability Tool

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*Randall S. Kroszner*

## **I. Introduction**

Central banks have been asked to expand their traditional goals, implicitly or explicitly, to encompass financial stability. Rather than simply play their long-established “fire extinguisher” role of providing ample liquidity to dampen the flames of a crisis after the flames have appeared, central banks are being asked to act as “smoke detectors” to identify in advance where risks are heating up and act before smoke turns into flame (see Kroszner 2010 and 2014).

The challenge for central bankers is whether it is possible to use traditional monetary policy tools to achieve not only inflation and employment goals but also financial stability goals. Could fighting deflation and low growth with low interest rates lead to overheating in some asset markets and contribute to financial instability? If so, then using the same set of instruments to achieve potentially conflicting goals will simply end in tears. New macroprudential tools, such as liquidity coverage ratios, supplement capital requirements and caps on risk exposures, thus should be used to achieve financial stability objectives, and monetary policy tools can then be used as they traditionally have been to achieve inflation and employment goals. Others have argued that because monetary policy “gets in all of the cracks” of the financial

system, it is not possible to separate monetary policy from financial stability since macroprudential tools are imperfect and not sufficient to assure financial stability. Financial stability considerations thus must directly inform monetary policy choices, regardless of the regulatory tools at the central bank's disposal.

Robin Greenwood, Samuel G. Hanson and Jeremy C. Stein (in this volume, hereafter GHS) try to cut through this debate by arguing that there is an extra dimension or instrument that exists in the traditional monetary policy toolkit that has gone unnoticed in its ability to mitigate financial instability. In particular, they argue that there is a "tendency for private-sector intermediaries to engage in excessive amounts of maturity transformation, i.e., to finance risky assets using dangerously large volumes of runnable short-term liabilities." To reduce this source of instability, they argue that a central bank can "crowd out" excessive private-sector maturity transformation by supplying a large quantity of safe short-term claims in the form of interest-bearing reserves and reverse repurchase agreements (RRPs).

Expanding upon their earlier work (Greenwood, Hansen and Stein 2015), GHS provide convincing evidence of a negative correlation between the government supply of short-term assets and the private creation of short-term runnable claims. GHS thus argue that using the central bank balance sheet as a tool to crowd out excessive private maturity transformation would make the system safer "without compromising the ability of conventional monetary policy to focus on its traditional dual mandate of promoting maximum employment and stable prices."

Rethinking the uses of the traditional balance sheet and looking for additional dimensions that can address financial stability issues is extremely clever and insightful. GHS make an important original contribution to the policy debate.

But have GHS discovered the proverbial "free lunch" that allows the traditional tools of monetary policy to be used to achieve both financial stability goals and inflation/employment goals without a trade-off between the competing goals? Being a two-handed economist, I will argue yes and no. Yes, in the sense that this extra "dimension" exists in

the balance sheet and, I believe, no one has emphasized this before. GHS deserve a great deal of credit in identifying and thoughtfully exploring a new way to try to address a key source of financial fragility. No, in the sense that I believe we need to do much more cost-benefit analysis before central bankers can be comfortable that using this extra dimension will be effective to enhance financial stability and complement macroprudential tools (Kroszner 2015).

I will organize my comment around five important questions raised by the GHS analysis and that are also related to other papers and the broader themes of this year's conference.

1. *What Is the Optimal Size of the Central Bank's Balance Sheet?*

The appropriate size of the central bank's balance is the subject of heated debate. While the focus of their analysis is not the optimal size of the balance sheet, GHS say that the current \$4.5 trillion size of the Fed's portfolio "strikes us as a plausible baseline." From their perspective, the optimal size will depend upon the degree of crowding out and, thus, reduction in private intermediaries' maturity transformation is appropriate (see the next question below). Maintaining a large balance sheet—roughly five times larger than pre-crisis for the Fed—however, raises concerns beyond those related to maturity transformation.

A large balance sheet naturally draws the attention of politicians and the public. Christopher Sims (in this volume), for example, argues that before 2008, "the liabilities of the Federal Reserve were dominated by currency outstanding ... the Fed's asset portfolio was simple, leaving little room to criticize it for taking on risk or for favoring one type of issuer over another." Because "[l]arge central bank balance sheets, with imperfectly matched earning assets and interest-bearing liabilities and assets ... amplify the fiscal impacts of central bank monetary policy actions and can push discussion of fiscal-monetary policy interaction to the political stage, such balance sheet expansions should eventually be reversed."

Ulrich Bindseil (in this volume) concurs that "a lean balance sheet is a sign of well-functioning financial markets and a healthy economy because the central bank is neither used as intermediary by the banking

system nor does the central bank see a need to engage in special crisis measures such as LSAPs.” The balance sheet, thus, should be simply determined by the size of the currency stock outstanding with only *de minimis* amounts of excess reserves.

While these are sensible arguments in favor of the good old days of “lean and clean” central bank balance sheets, those good old days may not have been so good, GHS would argue, due to excessive private-sector maturity transformation, as evidenced by the financial crisis. Thus, the optimal size of the central bank’s balance sheet involves balancing the potential financial stability benefits against the economic and political arguments described above.

In addition, Marvin Goodfriend (in this volume) and others such as Ken Rogoff (2016) have argued that eliminating non-interest-bearing currency altogether would significantly improve the effectiveness of monetary policy by allowing central banks to drive interest rates deeply negative. Obviously, such proposals are controversial and have radical implications for size and composition of the central bank’s balance sheet.

This discussion underscores the importance of building a cost-benefit framework that encompasses the consideration mentioned above to be able to weigh the competing factors.

## 2. *What Is Optimal Level of Maturity Mismatch/ Private Money Creation?*

GHS argue that there is a tendency for private intermediaries to rely “excessively” on runnable short-term debt. They thoughtfully argue that there is an externality that individual intermediaries do not take into account the systemwide fragility that occurs when everyone is using short-term debt and, hence, exposed to a common risk factor.

Granting that this is a key fragility, we need to grapple with two questions. First, what is the optimal amount of private-sector maturity transformation? Creating a benchmark or metric for assessing “excessive” reliance by intermediaries on short-term runnable debt is an important issue that has received little, if any, empirical analysis. I believe we would not want to eliminate all maturity mismatches. For certain types of risky projects, funders may wish to keep the owners

and managers on a “short leash” and requiring frequent rolling over of debt can provide a useful means of monitoring (see, for example, Calomiris and Kahn 1991). In these circumstances, the “runnability” is design feature rather than a flaw. Thus, we would need to consider the trade-off between the systemwide fragility associated with the maturity mismatch and the benefits of a “short leash” for monitoring.

Second, what is the most effective tool to achieve the optimal amount of mismatch? Monetary policy tools, such as the central bank’s balance sheet, “get in all of the cracks” and tend not to discriminate across different types of activities. As the discussion above suggests, however, the “short leash” of maturity mismatch may be more beneficial for some activities than in others. In principle, macroprudential tools could be targeted to activities where there monitoring benefits are low and the potential for systemwide problems is high. In practice, drawing such distinctions may be quite difficult. Thus, it may be valuable to use both the “dimension” identified by GHS and macroprudential tools as complements.

The two questions, once again, underscore the importance of undertaking some cost-benefit analysis to determine where maturity mismatch fulfills a valuable economic purpose and the amount that would be appropriate in the economy. I would like to see such analysis before concluding as GHS do that “all else equal, the Fed should aim to maximize the amount of short-term government debt available to the public.”

3. *Should the Central Bank or the Treasury Supply the Safe, Short-Term Instrument that Crowds Out the Private Sector Maturity Mismatch?*

GHS argue that the central bank, not the Treasury, should take this role. The Treasury faces a “roll-over” or auction risk that the central bank does not face. I think this is an important distinction. Treasury departments and Finance Ministries rely on periodic auctions of debt securities. Significantly reducing the maturity of the government debt increases the need for frequent, large auctions, thereby increasing the risk a “failed” auction that could have deleterious consequences for the government and the taxpayer. This risk is one of the reasons why

firms don't finance themselves solely with short-term debt, even if there is a steeply upward sloping yield curve.

Since central banks can provide large quantities of short-term claims through bank reserves and RRP's without any roll-over risk, the central bank "can produce short-term safe claims more effectively than the Treasury." While I agree with this, the political-economy issues raised above may temper how far the central bank may wish to go in increasing the size of its balance sheet. There is also the important practical issue of coordination between the central bank and the Treasury to ensure that the maturity choices made by the Treasury do not offset the actions of the central bank to provide short-term safe claims through reserves and RRP's. Weighing the potential political-economy costs to the central bank against the roll-over risk costs to the Treasury might suggest that not all of the short-term claims would come from the central bank.

4. *What Should Be the Mix of Reserves and RRP's and Could There Be Unintended Consequences of the Large-Scale Provision of Instruments Such As RRP's?*

In the United States, bank reserves are now more than \$2.5 trillion, roughly 100 times larger than they were prior to the financial crisis. RRP's effectively didn't exist before the crisis and now vary between roughly \$100 billion and \$500 billion. The Federal Open Market Committee (FOMC) has stated it would like to phase out the use of RRP's as quickly as is feasible. GHS argue the Fed should, instead, embrace the use of RRP's:

*"An advantage of the RRP program is that it creates a set of safe claims that are available to a wide range of investors, including for example money market mutual funds. By contrast, only regulated depository institutions are eligible to earn interest on reserves. If the ultimate goal is to offer a form of short-term government debt that competes effectively as a substitute for short-term private-sector claims, the wider eligibility with the RRP program is a significant advantage."*

What might then account for the Fed's reluctance to continue the use this instrument? I don't believe any FOMC members have articulated their concerns but it would be valuable to have them do so. There are at least a couple of reasons to be cautious.

If the central bank is willing to supply an unlimited supply of RRP, there could be a run to RRP during a period of financial distress. Market participants tend to increase their demand for safe government instruments relative to private short-term instruments during stress periods. If the central bank provides unlimited RRP at a fixed interest rate, the yield on short-term government securities won't fall below this level. Thus, GHS argue "the only remaining equilibrating mechanism must therefore be a sharper upward spike in the yields on commercial paper, which might further destabilize markets."

To address this unintended consequence, GHS very cleverly suggest setting a dynamic cap on the amount of RRP that the central bank would provide. The cap they propose would be 120 percent of the trailing six-month average amount of RRP. While in principle a clearly defined and enforced limit would prevent a run to RRP, is it credible? Would the central bank eschew the use of an instrument that could so easily and quickly inject liquidity during a crisis? I think the immediate pressures to ease a liquidity crisis would likely win out and, just as importantly, be expected to win out, so that the announcement of the restricted limit might be unlikely to solve fully the "run to RRP" problem.

Also, the availability of RRP to a wide range of institutions could encourage greater nonbank provision of depositlike services relative to bank deposits.<sup>1</sup> Could there be an unintended consequence of encouraging maturity mismatch because the RRP provides "insurance" in times of stress? This question leads to my final comment.

5. *Could the Negative Correlation Between Government Provision of Safe, Short-Term Assets and Private Maturity Mismatch Be Subject to "Goodhart's Law," that Is, Once the Government Tries To Exploit a Relationship as a Policy Instrument, the Relationship Breaks Down?*

While GHS provide thorough and convincing evidence of a crowding-out effect of the government provision of safe short-term assets in the United States, the evidence is really a correlation. If the central bank were explicitly to implement the GHS proposal, would

the behavior of the private markets change? Charles Goodhart has recounted many instances where a relationship that seemed to have been very well established in historical data, for example, the Phillips curve, would break down when a central bank or government agency tries to exploit it as a policy instrument.

It would be valuable to try to establish the exact mechanisms behind the observed crowding out in order to build confidence that it would be robust if the central bank were to consciously use the balance sheet to reduce private sector maturity transformation. Evidence from other countries would be helpful in this regard. First, international evidence would help to determine whether there would be potential to exploit this dimension of the central bank balance sheet in other countries. Second, if there are differences in the extent of crowding out across countries, we could then investigate whether these differences are related to international differences in money market institutions and regulations. That could give us more confidence under what circumstances the GHS proposal would be effective.

Given the myriad changes in the operation and regulation of the money markets in the United States since the crisis, as Simon Potter and others at this conference have described, it would be important to ensure that the relationships GHS show in the longer time series also hold after the phase-in of various regulations affecting the demand for different types of assets. The supplementary leverage ratio, the liquidity coverage ratio, the net stable funding ratio and the definition of “high quality liquid assets” that would be acceptable to satisfy these regulatory requirements could affect the willingness of the private sector to produce and hold different types of claims. In addition, Nyborg (2016a and 2016b; see also Kroszner in process) argues that central bank collateral policy can have a major impact on the incentives for the private creation of different types of claims through the choice of haircuts or discounts. In particular, Nyborg argues that the European Central Bank favors illiquid securities and bank-originated collateral, with the potentially unintended consequence of reducing rather than increasing financial stability.

More generally, this raises the question of how the underlying financial technology of the system may be affected by the choices that



central banks make. Understanding the potential endogenous responses of the private sector to changes in central bank policies are thus important for assessing the impact of those choices.

## **II. Conclusion**

GHS have written a provocative paper that I believe will change the way central banks think about their balance sheets. They have identified a dimension of the traditional balance sheet that has received little attention. Their work should spur more thinking about whether there are other untapped dimensions of the balance sheet or other traditional tools of monetary policy that could be exploited to promote financial stability goals. Exploring how these might be alternatives or complements to existing macroprudential regulations provides an important area for future research.

While I have raised a number of questions about costs and benefits of using the balance sheet to crowd out private production of runnable short-term debt, I believe central bankers should take their proposal seriously. In exploring these costs and benefits, central bankers will be lead to think more deeply and productively about the consequences of their traditional monetary policy tools and macroprudential policy.

**Endnote**

<sup>1</sup>Duffie and Krishnamurthy (in this volume) welcome greater reliance on MMMFs relative to deposits because it improves the monetary policy transmission mechanism. Because deposit rates tends to be more “sticky” and slower to reflect changes in market rates than MMMFs, Duffie and Krishnamurthy argue that a greater reliance on MMMFs relative to deposits results in quicker pass-through of monetary policy to the real economy.

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