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Should the Fed "Stay Big" or "Slim Down"?

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Should the Federal Reserve plan to "Stay Big" and maintain a super-abundance of excess reserves or should it plan to "Slim Down" toward a significantly lower level of excess reserves?

Given the natural growth in currency as one of the Fed's liabilities, the size of its balance sheet in absolute terms (or relative to its pre-financial crisis past) is not the relevant question. The policy choice the Fed confronts is whether to maintain a large portfolio of bonds, on the asset side of its balance sheet, and a correspondingly high level of excess reserves, on the liability side, or to reduce significantly both the level of its excess reserve liabilities and its assets.

In my mind, Stay Big would imply maintaining a level of excess reserves that is *inconsistent* with a return to supply-demand dynamics allocating overnight reserve funds within the banking system via price signals. Slim Down, on the other hand, would imply reducing excess reserves to a level *consistent* with supply-demand dynamics eventually reasserting themselves in the allocation of funds among banks.

Compared to the current level of approximately $1.9 trillion of excess reserves,[1] Stay Big might mean planning to maintain $500 billion or more, while Slim Down would mean planning on reaching a level of $100 billion or less. Slim Down could, but need not, mean a return to the operating framework employed by the Fed prior to the Financial Crisis and the advent of the Fed's Quantitative Easing ("QE") programs.

The expansion of the Fed's balance sheet under QE was explained as a means of reducing long-term interest rates and stimulating private credit creation.[2] Changes

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[1] FRB: H.4.1 Release – Factors Affecting Reserve Balances – June 21, 2018.

[2] See Ben S. Bernanke, "The Economic Outlook and Monetary Policy", Remarks at the Federal Reserve Bank of Kansas City Economic Symposium, Jackson Hole, Wyoming, August 27, 2010 ("bringing down term premiums and lowering the costs of borrowing in a number of private credit markets"); see also Ben S. Bernanke,

in the size and composition of the balance sheet were the means by which the Fed sought to stimulate aggregate demand through the "portfolio rebalance channel" to ease credit conditions and, thereby, encourage an expansion of private credit.[3] But the explanations offered, so far, in support of Stay Big are not made in the same terms. Rather, the focus has been on the mechanics of the Fed's operating procedures, the management of the very short-end of the yield curve and on improving financial stability.

The influence of the Fed's balance sheet on the term structure of interest rates and in stimulating or retarding private credit creation should be central in the debate about whether the Fed should Stay Big or Slim Down. In these terms, the costs of Stay Big appear to be significant while the purported benefits of Stay Big are sketchy and raise more questions than they answer.

Specifying my priors

My view is that QE1 (2008 to 2010) had a positive impact in liquefying the banking system during and immediately after the Financial Crisis and that it prevented more, and more rapid, deleveraging of the U.S. financial system. But I am deeply skeptical about the efficacy of QE2 and QE3 (2010 to 2016) in stimulating aggregate demand.

It is hard for us to know, with any confidence, what would have happened in the absence of QE. But we do have the imperfect counterfactual of history. Reinhart and Rogoff have provided us with a disciplined, 800-year review of the relevant economic history and they conclude that it has taken approximately eight to ten years for a country's economic activity to recover from a significant financial crisis.[4] The experience of the U.S. economy over the last decade is entirely consistent with this history. As we did no better "this time" it is hard to conclude that the extraordinary monetary policies pursued by the Fed made much difference. Also, recent work by Greenlaw, et al, suggests that the burden of proof for QE's effectiveness in stimulating aggregate demand has not been met.[5]

"Monetary Policy Since the Onset of the Crisis", Remarks at the Federal Reserve Bank of Kansas City Economic Symposium, Jackson Hole, Wyoming, August 31, 2012, ("Declining yields and rising asset prices ease overall financial conditions and stimulate economic activity through channels similar to those for conventional monetary policy.")

[3] See Bernanke, Jackson Hole, 2010.

[4] Carmen M. Reinhart and Kenneth S. Rogoff, "Recovery from Financial Crises: Evidence from 100 Episodes", American Economic Review, Vol. 104, No. 5, May 2014 (pp. 50-55); see also Carmen M. Reinhart and Kenneth S. Rogoff, *This Time is Different – Eight Centuries of Financial Folly,* Princeton University Press (2009).

[5] David Greenlaw, James D. Hamilton, Ethan Harris, Kenneth D. West, "A Skeptical View of the Impact of the Fed's Balance Sheet", NBER Working Paper No. 24687, June 2018.

Thus, in my view, the use of QE "next time" should not be presumed, as former Chair Yellen appeared to do.[6] The effectiveness (in the past) and the appropriateness (in the future) of the use of quasi-fiscal powers by the Fed through QE should be addressed on the merits. The Fed should not simply rely on claiming that the burden of proof is on QE's side, nor rely upon the maintenance of a large balance sheet as imply the benefit of incumbency for QE.

Planning to fight the last war is likely to be mistake. The political landscape is unlikely always to provide a vacuum in which usurping fiscal powers will be tolerated by either Congress or the executive branch.

I also believe that much of the current debate about the size of the Fed's balance sheet is misdirected, particularly discussion about floors and corridors for the management of overnight interest rates on reserve balances.

The Fed, like any central bank, can use either administered rates or a targeted market rate as the reference point for the expected path of short-term interest rates. Too much is made of which one can more effectively "control" overnight interest rates. This is a minor issue. Prior to the advent of the Euro, the Deutsche Bundesbank both shifted back and forth between variable-rate and fixed-rate repurchase transactions, and often choose to emphasize either its Discount or Lombard rates in its communications.

The Fed has always used a combination of administered and market rates and this will likely always be the case. All that really matters for implementation of monetary policy is that there *be* a reference point for the expected path of short-term interest rates. For this purpose, the Fed can use administered rates, such as interest of excess reserves or the discount rate, or the Fed can use a "market rate" like the Fed Funds rate.

Even with the extremely high levels of excess reserves at present, the Fed continues to communicate its policy intentions expressed in terms of the federal funds rate.[7] This is at least suggestive of the idea that the technical framework for monetary operations need not constrain the Fed in how it communicates about the expected path of short-term interest rates.

Given the very high level of excess reserves at present, a decision to move toward Slim Down would, of course, require continued reliance on administered rates for some time, even if intending to put more emphasis on a targeted market rate in the future.

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[6] Janet L. Yellen, "The Federal Reserve's Monetary Policy Toolkit: Past, Present and Future", Remarks at Federal Reserve Bank of Kansas City Symposium, Jackson Hole, Wyoming, August 26, 2016.

[7] See Federal Reserve press release, June 13, 2018.

The costs of Stay Big are significant

Maintaining a large Fed balance sheet and a correspondingly high level of excess reserves will be likely impose significant costs on the effectiveness of monetary policy, by constraining the Fed's ability to influence the level of long-term interest rates, by limiting the effectiveness of any future use of the Fed's balance sheet to stimulate the economy, and by impeding the efficient allocation of funds with the banking system via price signals.

Influence on long-term interest rates. Maintaining high levels of excess reserves will be likely to diminish the Fed's ability to influence long-term interest rates and the shape of the yield curve. A perpetually available, super-abundant supply of excess reserves will tend to increase demand for long-term government securities from what it might have been without such a high-level of excess reserves. This was precisely one of the key rationales for QE in the first place.[8]

By purchasing government securities (and agency securities), and expanding the supply of reserves, the Fed sought to reduce long-term interest rates both directly, by its own purchases, and indirectly by encouraging market participants to replace the duration they had lost by purchasing longer-dated instruments themselves.[9] In this way, QE pushed demand out the yield curve. Stay Big leaves it there.

The market, as whole, has a certain demand for duration. It is unlikely that the supply of zero duration assets (in the form of excess reserves), can by itself change the market preference for duration. So by maintaining a Stay Big level of excess reserves the Fed continues to use its balance sheet to stimulate demand for longer-duration assets, dragging down the level of long-term rates.

Consider the reserve. At some point the Fed might want to see higher long-term interest rates or a steeper yield curve. How would Stay Big enhance the Fed's ability to influence long-term rates *regardless of sign?* How would a high level of excess reserves help the Fed *increase* long-term interest rates?

You can also think of this by analogy to Gresham's Law that "bad money drives out good money". In this case, the super-abundance of the "bad money" of zero-duration central bank liabilities leads to the hoarding of positive-duration "good money" of central government liabilities, pulling down the level of long-term interest rates.[10]

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[8] See Bernanke, Jackson Hole, 2010 and 2012.
[9] See Bernanke, Jackson Hole, 2010 and 2012.
[10] For an extended discussion of the analogy to Gresham's Law, see Peter R. Fisher, "What is money and who says so", remarks at SUERF/Bank of Finland Conference, Helsinki, 3 July 2015, SUERF Policy Note, Issue No. 1, September 2015.

So, maintaining a large balance sheet is likely to be causing the yield curve to be flatter than it otherwise would be.

Perhaps the Fed is happy with the current, almost flat yield curve.[11] In which case, perhaps it intends to hold down the level of long-term rates. If so, the Fed should explain that maintaining a high level of excess reserves is an ongoing policy choice aimed compressing the term premium from what it would otherwise be.

The effectiveness of QE "next time". A Stay Big level of excess reserves will be likely to reduce the effectiveness of any future use of QE.

As noted, I am skeptical that QE2 and QE3 stimulated aggregate demand in the economy. I may be wrong. More importantly, former Chair Yellen took the position that any and all of the extraordinary actions the Fed took, including specifically QE, should be and will be available to the Fed to use in the next down turn and, particularly, if the Fed is again constrained by the effective lower boundary of interest rates.[12]

But if the Fed does choose to Stay Big, then "next time" it will be starting with an enlarged balance sheet and already high levels of excess reserves.

Having already provided the banking system with a super-abundance of excess reserves, it seems unlikely that adding to that super-abundance will have the same, impact of encouraging market participants to shift into longer-duration and riskier credit assets.

There is a debate about whether in monetary policy, and in markets, it is the stocks or the flows that matter. For both purposes, it seems to me that what matters most are *changes* in *expectations*. So it is the changes in expected stocks or the changes in expected flows – whatever moves you – which will influence market participants to change the prices of financial assets.

In order to create a comparable sense of "shock and awe" in its impact on market expectations and the level of long-term interest rates, it seems likely that the Fed would feel the need to act bigger, to try to expand its balance sheet even more rapidly.

Already holding a large share of US Treasury securities will likely complicate the execution of further substantial purchases. At its peak, implementation of QE2 and QE3 involved the purchase of $85 billion worth of government and agency securities per month, a number that was targeted on the theory that more rapid purchases

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[11] 10-Year Treasury Constant Maturity Minus 2-Year Treasury Constant Maturity, FRED Economic Data, Federal Reserve Bank of St. Louis, June 26, 2018.

[12] Yellen, Jackson Hole 2016. Chairman Powell does not appear to have addressed the question of QE next time as explicitly as former Chair Yellen.

would be likely to impair the functioning of the government securities market.[13] By maintaining large holdings of Treasury securities, by starting with a bigger balance sheet, the Fed would be likely to hit these "speed limits" more rapidly, reducing the potential efficacy of QE next time, compared to whatever it might have been the first time or would be in the event that the Fed started with a smaller balance sheet and a smaller share of Treasury securities already on its balance sheet.[14]

The Fed should explain whether, in its view, a Stay Big level of excess reserves and bond portfolio will enhance the effectiveness of any use of QE in the future and, if so, how.

Impact on short-term funding market. Stay Big will also be likely to impede the efficient allocation of reserve balances within the banking system via price signals. In the current environment, banks have much less incentive to manage their own funding positions and to trade fed funds with one another. While this may not impede that ability of the Fed to communicate about the expected path of short-term interest rates, it will make short-term funding markets less efficient.

By impeding a market allocation of funds in normal times, Stay Big will make it less likely that price signals can serve as a warning sign of financial stress at individual firms. In the past, the relative scarcity of reserve balances and the need for banks to manage actively their balances with the Fed have provided both market participants and the Fed with a source of information about the willingness of banks to lend reserve balances to one another, as reflected in the premium that individuals banks may have to pay.

The market for repurchase agreements in government securities does not provide the same information because of the secured nature of these transactions. The market for single-name credit default swaps might provide this information but might also be considered untrustworthy.[15]

Given uncertainty about the transition from normal times to times of financial stress, I think it is likely that "next time" market-based price signals about the credit standing of individual firms will be missed.

Possibility of losses on bond holdings. With an enlarged portfolio of bonds, the Fed faces the increased probability of potentially large losses in the event of an

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[13] See Transcript of Federal Open Market Committee on July 31 – August 1, 2012, remarks of Simon Potter, Manager, System Open Market Account, page 43 of 304.
[14] Perhaps the advent of the Trump deficits, caused by the tax cuts enacted by Congress in 2017, will expand the supply of Treasury securities sufficiently to make this less of a worry.
[15] See Statement on Manufactured Credit Events by CFTC Divisions of Clearing and Risk, Market Oversight, and Swap Dealer and Intermediary Oversight, U.S. Commodity Futures Trading Commission, April 24, 2018.

appreciable increase in interest rates.[16] Just as the Fed routinely passes on its income from its large asset holdings to the US Treasury, any decline in this income would contribute to wider fiscal deficits. If losses were significant, in extremis, the Treasury would confront whether and how to address any impairment of the Fed's balance sheet. This is really a matter of fiscal policy, not monetary policy, but one that might generate a legislative response that could threaten the Fed's independence.

Having implemented QE, the Fed has indeed moved into the "fiscal space" and, as already noted, is now dependent on both Congress and the executive branch to tolerate the Fed's use of quasi-fiscal powers. This issue is much broader and more significant than the potential for losses to impair the flow of income to the US Treasury. This is only one way that Congress might become interested in the use of the Fed's balance sheet for fiscal purposes.[17]

The benefits of Stay Big are sketchy

Enhanced financial stability. It has been argued that maintaining a high level of excess reserves will help prevent excessive maturity transformation and unnecessary private money creation which, in turn, will make the financial system more stable and less prone to crisis.[18] By satisfying more of the market's demand for money with Federal Reserve liabilities, it is reasoned, there will be less demand for private money creation.

Assuming that this is so, how would it work? How would maintaining a high level of excess reserves prevent banks from engaging in maturity transformation and private money creation?

To accomplish this, banks would need to hold such a high level of zero duration, excess reserve assets that they would be unable to create other, longer-duration credit assets of their own in the form of loans that they would write. To constrain

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[16] See Christopher A. Simms, "Luncheon Address: Fiscal Policy, Monetary Policy and Central Bank Independence," Federal Reserve Bank of Kansas City, Economic Symposium, Jackson Hole, Wyoming, August 26, 2016.

[17] See Charles I. Plosser, "The Risks of a Fed Balance Sheet Unconstrained by Monetary Policy", Paper prepared for the Hoover Institution Conference on The Structural Foundations of Monetary Policy, Economics Working Paper 17102, May 4, 2017.

[18] See Robin Greenwood, Samuel G. Hanson, Jeremy C. Stein, "The Federal Reserve Balance Sheet as a Financial Stability Tool", paper prepared for the Federal Reserve Bank of Kansas City Symposium, Jackson Hole, Wyoming, September 2016, cited approvingly by Ben S. Bernanke, "Should the Fed keep its balance sheet large?" Brookings blog, September 2, 2016; also see "Shrinking the Fed's balance sheet", Brookings blog, January 26, 2017.

their ability to engage in maturity transformation, between their deposit liabilities and their assets, the level of Fed liabilities would need to be so high as to be an effective constraint on the mismatch that the banking system as a whole incurs between the average duration of bank assets and the average duration of bank liabilities.

If the Stay Big super-abundance of excess reserves were to be so large as to constrain maturity transformation and the creation of private money, so large as to *crowd out* the ability of banks to create loans and money-like substitutes, then it would be a *restrictive* monetary policy. It would prevent the normal operations of the credit channel and suppress credit creation.

If a large balance sheet is how the Fed intends to stimulate the economy – the E in QE stands for "easing" after all – the apparent benefit of using high levels of excess reserves to prevent maturity transformation would have the opposite effect. Which is it: is a large balance sheet an easy monetary policy or a tight one?

An enlarged central bank balance sheet might be *neither* an effective way to stimulate *nor* an effective way to restrict maturity transformation and the creation of credit and private money. But it seems unlikely that it could simultaneously be both. This "benefit" of Stay Big appears to be especially sketchy.

Reduced financial stress and stigma. A Stay Big super abundance of excess reserves could reduce the likelihood of financial stress and the potential stigma, or reluctance, of banks to borrow reserves from the Fed when needed.[19]

If the Fed permanently smoothers the short-end of the yield curve with a quantity of reserves well in excess of the plausible, normal operating needs of the banking system, banks would, indeed, be less likely to find themselves "short" of reserve balances. In effect, Stay Big would "pre-fund" liquidity to those institutions that hold accounts at the Fed. However, we have normally thought of liquidity provision by the central bank, particularly in the lender-of-last resort context, as a way to *alleviate* financial stress. How would Stay Big prevent financial stress in the first instance?

A super abundance of reserves might make it difficult for the banking system to be both illiquid and high-leveraged at the same time. Banks might still operate principally on the borrowed liabilities of their deposits and other short-term funding. But by forcing banks to hold high levels of reserve balances on the asset sides of their balance sheets, banks could more readily meet withdrawals of their deposits and reduce the risk of bank runs and panics. In this sense, a high level of excess reserves might operate as a minimum liquidity requirement for the banking system as a whole.

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[19] Ben S. Bernanke, Brooking Blog, 2016.

But this seems unlikely to act as a binding constraint on individual banks. It would also not have an impact on non-bank financial firms that lack accounts with the Fed.

An individual bank might still sell its fed funds to other banks. While a given bank's own regulatory liquidity requirements would be a binding constraint, the total supply of reserves would not. So individual banks would still be able to both illiquid – up to the point of their liquidity requirements – and highly levered. Moreover, the absence of a deep and robust funds market, operating on price signals, would likely make it more difficult for an individual bank in need to purchase fed funds when desired.

Also, to the extent that Stay Big helps make the banking system more liquid and, thereby, less likely to be both highly leveraged and illiquid at the same time, this would only apply to banks that hold accounts at the Federal Reserve. This would do nothing to prevent firms in the non-bank financial sector – the notorious shadow banks – or firms in the corporate sector from being both highly leveraged and illiquid.

This would suggest that "next time" it is more likely that financial stress will emerge outside the banking system than within it. This would make it (even) more likely that, in the event of financial stress next time, the Federal Reserve will be called upon the consider using its powers to lend to non-banks under Section 13(3) of the Federal Reserve Act.

Overwhelming the fed funds market and impairing the efficient allocation of reserves via price signals within the banking system have the "benefit" of reducing, somewhat, the likelihood that individual banks end up "short" funds. But whether and how this might actually reduce the likelihood of stress in the financial system remains to be explained.

Improved "transmission mechanism". It has also been suggested that a larger balance sheet that incorporates the Fed's reverse repurchase program (RRP) could improve the transmission of the Fed's intended level of short-term interest rates to other markets more effectively.[20]

While this may be so, it conflates the size of the Fed's balance sheet with the number and type of the counterparties with whom the Fed acts. The Fed could have an expanded set of counterparties, beyond the banks and primary dealers with whom it dealt in the past, but still seek to influence overnight rates "at the margin" rather than by re-pricing most or all of the enlarged stock of reserves.

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[20] Darrell Duffie and Arvind Krishnamurthy, "Passthrough Efficiency in the Fed's New Monetary Policy Setting", paper presented at the Federal Reserve Bank of Kansas City Symposium, Jackson Hole, Wyoming, September 2016, cited approvingly by Bernanke, Brookings Blog, 2016.

The RRP program was designed to help the Fed "mop up" the super-abundance of excess reserves.[21] Given that the Fed has a super-abundance of excess reserves, the RRP tool is certainly a useful means of coping. But this is an unpersuasive rational for maintaining any particular level of excess reserves.

It is important to note that this claim is *only* about the "transmission mechanism" of monetary policy *to* other *short-term* interest rates. I was unaware that anyone thought that this was an especially important constraint on the Fed's effectiveness – other than in the conditions of extraordinarily high levels of excess reserves. The argument that the Fed can better *cope* with an enlarged balance sheet is not a compelling rational for maintaining a large balance sheet.

But even if one does consider the transmission of the Fed's policy impulse among short-term rates to be important (other than specifically to address the problem of high levels of excess reserves), one would still want to consider the tradeoff between maintaining a Stay Big level of excess reserves for purposes of more effectively transmitting the Fed's signals to other short-term rates against the cost of diminished influence over the level of long-term rates and the shape of the yield curve.

What's going on?

There are only three tools of monetary policy that matter: (a) the size and composition of the central bank's balance sheet; (b) the price of the central bank's liabilities; and (c) expectations about (a) and (b).

Quantitative Easing was justified by the theory that, even at the effective lower boundary of the price of the Fed's liabilities, expectations about the size and composition of the Fed's balance sheet would lower long-term interest rates and stimulate private credit growth and aggregate demand. But keeping the Fed's balance sheet large is now being justified by the theory that doing so will help the Fed reduce volatility in the price of its liabilities, prevent banks from creating too much credit and reduce the need for banks to manage the liquidity of their asset portfolios.

Maybe these are all "good" things but they seem more like a sideshow than the main event.

It is possible to imagine that monetary policy can work without the credit channel. We can imagine that somehow expectations about interest rates will operate directly upon our propensities to consume, to investment and to save without involving the business of dis-saving and private credit and money creation. But

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[21] Ben S. Bernanke, Statement prepared for the Committee on Financial Services, U.S. House of Representatives, February 10, 2010, page 7.

even if we can imagine this, it is unlikely that private credit creation will cease to exist. The credit channel will still be out there.

Accepting the economic benefits of the credit channel when it is convenient but ignoring the credit channel with it is inconvenient is a mistake that the Fed could usefully avoid.[22]

You may not agree with my assessment of the costs and benefits of Stay Big. But I hope you will ponder whether maintaining a large balance sheet and a super abundance of excess reserves enhances or impedes the transmission mechanism to aggregate demand that we actually have today rather than some other transmission mechanism of your imagination.

If it is nostalgic to expect that the Fed should be able to explain the benefits of keeping its balance sheet large in terms consistent with how it has explained the transmission mechanism of monetary policy for the last ten years then call me nostalgic. It seems more than a mere oversight for the Fed *not* to address how Stay Big might affect long-term interest rates, the credit channel and aggregate demand in the same terms that were used to justify QE in the first place.

[22] See Peter R. Fisher, "Financial Stability and the Hemianopsia of Monetary Policy," *Business Economics*, Vol. 51, No. 2, 2016 (page 68+).