

Changes in central bank balance sheets in response to the crisis: Dinner address for the BOT-BIS research conference

Randall Kroszner¹

This conference has a very timely and important focus on the role of central bank balance sheets. Obviously, all of our countries have an enormous number of challenges ahead in dealing with central banking as well as with supervision and regulation. This conference will be memorable not only for the subject but also for the setting. For many of us, this may be one of the most, if not the most, wonderful conference settings we've been in. We need to be deeply grateful to Governor Prasarn, the Bank of Thailand, the BIS, and the organizers in the HK office of the BIS for arranging such a great conference in this special venue.

When I arrived at the Federal Reserve in 2006, the Fed's balance sheet was about \$800 billion. By the time I left in 2009, the Fed's balance sheet had tripled. During this period, we introduced series of new facilities and expanded the types of securities purchased and collateral accepted. The Fed's balance sheet is even larger today – almost \$3 trillion. This significant increase in the size of the central bank balance sheet is not unique to the United States. As we have been discussing earlier today, many central banks in both developed and emerging markets have seen their balance sheets grow significantly since the start of the crisis. The Fed's balance sheet, for example, is now around 20 percent of GDP, which is also roughly the average for central banks' balance sheets in developed countries. With a much larger fraction of total economic resources at the central bank, it is no surprise that the size and composition of central bank balance sheets and central bank activity in general are receiving much more attention and scrutiny than prior to the crisis.

One of the key questions is where and how to draw the distinction between monetary policy and fiscal policy. Traditionally, central banks tended to hold safe, liquid assets on their balance sheets. As I will describe in more detail, central banks have dramatically changed the composition of their portfolios and in many cases have the potential for much greater interest rate and credit risk. If the central bank takes a loss, who bears that loss? That loss ultimately will be borne by taxpayers, either directly through a recapitalization of the central bank or indirectly by the central bank returning less revenue to the Finance Ministry. Thus, the risks associated with the balance sheet are an important underlying element in many of the debates over the non-traditional activities of central banks.

We see this issue with great force today in the debates over whether the ECB should or should not be purchasing the debt of some of the riskier sovereigns in the Eurozone. Should such purchases be considered a natural outgrowth of central bank policies to provide liquidity or does this cross the line to be considered fiscal policy, which the ECB is prohibited from doing?

While I am not going to be able to resolve this fundamental question here, I do hope to shed light on how and why central bank balance sheets have changed and some of the key challenges going forward. I will focus first on the motivations for central banks to expand and alter the composition of their balance sheets in response to the crisis. In particular, I will emphasize the breakdown in traditional channels of intermediation during the crisis as

¹ Norman R Bobins Professor of Economics, University of Chicago Booth School of Business.

providing a foundation for a wider scope for central bank action. Second, I will try to make sense of the many varieties of “non-traditional” central bank responses by placing them into three broad categories related to the breakdown of traditional intermediation. Each involves additional risks for the central bank. Third, I will outline some of the key challenges going forward in managing the larger and more complex balance sheets that are likely to be with us for some time to come. Specifically, I will touch on central banks’ exit strategy and communication strategy before concluding.

Motivation for non-traditional policies

Of course, one of the primary central bank responsibilities during a crisis is to provide liquidity. In normal circumstances, there is relatively little focus on central bank balance sheet composition. Part of the reason for this is that central banks tended to hold what Andrew Filardo has characterized as “lazy assets,” that is, primarily short-term government securities. In normal times, central banks can hold such “lazy” assets but still have an important impact on the operation of the financial system and inflation due to the operation of the traditional transmission mechanism of monetary policy through the banking system. When the financial system is working properly, the central bank could buy virtually any asset or good in order to undertake monetary policy. The purchases by the central bank inject liquid reserves into the system. Rather than being “lazy,” those reserves find their ways to intermediaries that then provide the financing wherever there is demand in the system. To avoid unintended or distributional consequences, central banks in normal times have tended to purchase short-term government securities from banks and primary dealers to provide the reserves directly to the banking system. Banks and other intermediaries then determine how to allocate credit throughout the system.

The traditional transmission mechanism presumes that credit can flow relatively freely to its highest-valued uses. In other words, if we think of the system of intermediation as providing the “plumbing” of the financial system, then in normal circumstances the liquidity and credit can flow through the “pipes” wherever there is demand.

When the system of financial intermediation breaks down, however, the plumbing becomes “clogged.” Thus, the liquidity provided by the central bank may not generate credit that flows to its highest-valued uses. The liquidity may stay trapped where the central bank initially injects it, because many of the “pipes” that normally connect the various pieces of the system are blocked. When this happens, traditional monetary policy may be like pushing on a string, that is, more and more liquidity is provided but it doesn’t create more credit and so has very little impact on the system as a whole. The “lazy” assets mentioned above really are quite lazy because the reserves do not move to generate credit flows through the system.

During the breakdown of intermediation in a crisis, hence the breakdown of the usual transmission mechanism, exactly what the central bank purchases can make a very big difference. A central bank must try to determine where the pipes in the system are “clogged” or “broken.” Since the transmission mechanism is not working, the central bank must inject liquidity directly into where it is in high demand and where it can help provide the greatest benefit to the stability of the system. Otherwise, traditional monetary policy actions may be like pushing on a string. Simply buying short-term government securities to provide more reserves to the banking system may not translate into credit flowing to the housing sector, the corporate sector, etc., and activity may dry up. The central bank thus may need to use non-traditional means to revive the functioning of the financial system. Such non-traditional actions lead not only to an increase in the size of the balance sheet but typically dramatic changes in its composition in response to the crisis.

Three categories of non-traditional actions

More specifically, when the intermediation system is not functioning properly, what should the central bank do to have an impact? I will discuss the non-traditional policies in just a moment, but one very important thing that central banks as well as supervisors should do is to try to repair the intermediation process itself – repair the “pipes” of the financial infrastructure as much as possible. I will not go into the details here about how to make market infrastructure more robust (see my book with Robert J. Shiller entitled *Reforming U.S. Financial Markets*, MIT Press, 2011), but this is an important complement to the non-traditional actions that have transformed central bank balance sheets.

While there have been a large number of non-traditional actions undertaken by central banks around the world, I think that they fall under three main headings, each motivated by the breakdown the intermediation process described above: collateral, maturity, and counterparties. I believe this is also a useful way to think about non-traditional policies going forward, either for ongoing crises such in Europe or for future crises that might occur.

Collateral. What should a central bank consider appropriate collateral for lending? Traditionally, such collateral included instruments with low credit and interest rate risk, such as short-term government securities. When the intermediation system is not functioning, however, the central bank may have to broaden the acceptable range of collateral to provide liquidity directly into a variety of markets. The Fed, for example, ventured into new areas, including asset-backed commercial paper, mortgages, and commercial real estate. The ECB has also broadened the acceptable range of collateral, including a variety of types of government paper.

By expanding acceptable collateral, the central bank may be exposing itself to more credit risk than in the past. Protection against losses must be part of any new facility, otherwise bad assets simply flow to the central bank. Overcollateralization, higher interest rates, and other charges can help to mitigate the downside risk to the central bank. In addition, other sources or institutions could be put in a first-loss position. In the Term Asset Lending Facility (TALF), the Fed provided financing into a facility that was capitalized with funds from the Troubled Asset Repurchase Program (TARP), effectively putting the Treasury in the first-loss position. The Treasury provided a 10 percent cushion against potential losses. In Europe, there have been debates about whether there could be a similar leverage of funds from the European Financial Stability Fund (EFSF) with financing from the ECB.

When I was at the Fed, we were careful to ensure the quality of the collateral and protection in each non-traditional facility. I’m delighted that the Fed has not experienced losses related to any of its programs involving expanded collateral.

Maturity. What is the appropriate maturity for credit provision and for the portfolio? In normal times, central banks provide very short-term – typically overnight – financing against good collateral to institutions experiencing liquidity pressures. That’s fine if it’s a very short-term problem. If the problem turns out to be more persistent and market-wide, market participants want to make sure that the bank is financing itself, not just tomorrow and the day after, but the week after, the month after, and the year after. As part of the breakdown of intermediation, the horizons over which banks and other financial institutions could borrow become increasingly short.

And so at the Fed, we introduced much longer-term lending facilities. The ECB has just introduced a 3-year lending facility, the Long-Term Refinancing Operation (LTRO). Such maturities were unheard of for central banks in the past, but this is now something central banks need to be doing in response to the crisis, because if the concern is about liquidity, that liquidity concern is not just about tomorrow and the day after, but for a longer period of time.

In addition, some central banks are increasing the average maturity of the securities that they hold on their portfolio. The Fed, for example, has recently undertaken the so-called “Operation Twist,” which involves selling short-term government securities and using the proceeds to purchase long-term government securities in order to try to bring down long interest rates.

While extending the maturity of lending is a sensible response to the disappearance of term financing during the crisis, it certainly involves greater risks for the central bank. Obviously, longer maturities mean more chances for something to go wrong in the loan over the longer time period, or something to go wrong with the collateral, and of course interest rate risk is greater over longer horizons. Once again, central banks need to be mindful of the new risks and exposures.

Counterparties. What entities should be eligible to receive credit directly from the central bank? The Fed is actually a very constrained institution in terms of to whom it can lend. Even with extending maturities and accepting more types of collateral, the Fed could generally lend only to institutions with commercial bank charters. Some other central banks also face exactly these kinds of constraints.

Given the importance of many non-bank entities as “pipes” linking various parts of the financial system, it was important for the Fed and other central banks to expand the set of counterparties in order to ensure credit was flowing throughout the system. A number of new facilities at the Fed involved credit provision that would get funding to investment banks, to money market mutual funds, etc., to “unclog” important “pipes” in the financial system.

Of course, there is a risk of generating a moral hazard problem: if you are always there to provide the funding if something goes wrong, then something is likely to go wrong more often because market participants won’t take as much care. Thus, there is a trade-off. Bringing more entities into the safety net may be sensible in the short run when the intermediation system is frozen. In the longer run, however, changes to the regulatory and supervisory system will be needed to try to mitigate the potential moral hazard problem and prevent people from taking advantage of the safety net.

Key challenges in managing the balance sheets going forward

What, then, are the lessons going forward for crisis management and for the operation of central banks? I will focus on two key issues. The first is exit strategy from the extraordinary policies, an issue already raised by Governor Prasarn as well as by Jaime Caruana. Second is communication and transparency.

On exit strategy, it is crucial to consider how to exit when undertaking and structuring any new facility. During my time at the Fed (2006–09), when adopting the non-traditional policies I’ve just described, we had extensive discussions about how do we get out – that was a front and center question.

To illustrate this, consider that virtually all of the short-term lending facilities introduced by the Fed in late 2008 basically disappeared only a few months later. The Fed’s balance sheet grew rapidly from \$800 billion to \$2.4 trillion in roughly three months, but then by mid-2009, almost all of those facilities ran off. (The subsequent decisions to undertake large-scale long-term asset purchases are what have driven the Fed’s balance sheet higher.) I don’t think that this “exit” from those facilities, involving roughly \$1 trillion, has gotten what it deserves. That contraction was done through no action of the Fed in and of itself, because the way we structured the new liquidity facilities was that we charged an extraordinary premium – or, in ordinary times, what would have been an extraordinary premium – for market participants to borrow from the Fed. Because what we wanted was for the private markets to start working again. So we structured the programs so that people would turn to the Fed if there were extraordinary times. If the risk premiums in the private markets were so great that they were

higher than the very high premiums we were charging at the Fed, market participants could borrow from the Fed.

But as markets normalized, however, market participants would naturally turn to private sources that were cheaper. This is why roughly a trillion dollars ran off rapidly in early 2009. In creating these programs, we very consciously structured them so that they could wind down without the Fed Board having another vote or taking any other action. Otherwise, it can become much more difficult to get out of these programs. Central banks can face a great degree of political pressure to continue a program and help support a particular area of the markets. If the program is designed to run off naturally, however, “the market has spoken” and there is less likelihood of pressure to maintain it.

Thus, the first lesson I draw is: Thinking about exit strategy from the beginning and structuring the policies in a way that leads to a natural, market-driven exit makes winding-down of the facility much more likely to occur.

The second issue I want to discuss concerns communication and transparency.

When you enter a new area, it is important to be especially transparent about what you are doing, why you are doing it, and what the costs and benefits are. Going forward, if central banks are going to be using the asset side of the balance sheet to conduct monetary policy, either through large-scale asset purchases or changes in the composition and maturity of the portfolio, central banks should provide the same type of guidance about the size and composition of the portfolio as they do about interest rates. Central banks often provide a great deal of guidance about the likely path of future rates, in some cases publishing the interest rate forecasts of individual monetary policy committee members. The Fed has undertaken a number of major steps recently to enhance communication about its intentions with respect to future interest rates.

When at or near the zero-lower-bound of interest rates, the size and composition of the balance sheet can become a primary tool of monetary policy. Very few central banks, however, currently provide much detailed guidance about their forecasts of how the size and composition of the balance sheet will change over time. Given the importance of the portfolio to monetary policy, however, providing information about the likely path of holdings of different types of securities, e.g. mortgage-backed securities and short- vs. long-term government debt, makes just as much sense as forward guidance on interest rates. I think it is important parallel information about intentions with respect to both the portfolio and interest rates.

Finally, on a related communications and transparency point, it is important to be clear what monetary policy can and cannot do. In other words, central banks should be careful not to claim too much. Earlier today, Deputy Governor Iwata and Mark Spiegel discussed perceived disappointments with respect to the large-scale asset purchase program by the Fed known as Quantitative Easing II (QE2). Whether it was a disappointment or a success depends on what the objective was. If the objective was for the U.S. to avoid the tail risk of deflation, to avoid a 1930's outcome or to avoid what unfortunately has happened in Japan, then the policy was a great success. If the policy was to create employment, to get everyone happy, to cure baldness, to cure cancer as some people had suggested the policy could do, then that of course was going lead to a great disappointment.

Central banks, of course, have a lot of influence over inflation and deflation and over interest rates. In normal circumstances, that affects the desire of the private sector to borrow. In extraordinary circumstances, as we've seen, banks may be reluctant to lend and borrowers may not have much demand to borrow. And so you can get into a situation where you can be providing a lot more liquidity, you can be avoiding the downside risk and tail risk of deflation, but you may not be actually generating sufficient incentives for employment to grow rapidly or for investment to increase strongly.

Given the difficulties for operation of the traditional monetary policy transmission mechanism in extraordinary times, fiscal uncertainties, and regulatory uncertainties, central banks should be cautious in claiming how much monetary policy can accomplish in fostering economic revival. Sensible monetary policy may be necessary, but it may not be sufficient.

Thus, a second lesson that I draw is: Central banks should communicate as clearly as possible their intentions with respect to the size and composition of the balance sheet and what monetary policy can and cannot accomplish.

Thank you very much.