

## Concerns about the Fed's New Balance Sheet

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The traditional tool of monetary policy is an open market operation, in which the Federal Reserve purchases short-term Treasury securities from the public. The Fed pays for these purchases by crediting the deposits that the selling bank holds in an account with the Fed. These deposits can be thought of as electronic credits for cash, which banks could withdraw in the form of green currency whenever banks wished. The primary goal of open market operations was understood to be to controlling the available supply of reserve deposits and the money supply in order to achieve policy targets for the short-term interest rate and inflation.

If the Fed wanted to increase the supply of reserve deposits on a strictly temporary basis, it would traditionally do so with a repurchase agreement, acquiring an asset from the counterparty and crediting the counterparty's Fed balance with newly created deposits, with an explicit agreement to return the asset and receive the deposits plus interest back at a specified future date. Essentially repos represent a collateralized short-term loan from the Fed to private banks, which had traditionally been the Fed's favored method for effecting a temporary increase in reserve deposits.

Figure 1 displays the assets held by the Federal Reserve each week between January 2003 and June 2007. Treasury securities represented by far the most important

asset over this period. The volume of repurchase agreements was much smaller than Treasuries held outright, and the high week-to-week volatility of repos resulted from the way in which this tool was used to meet strictly temporary liquidity needs over this period. Other assets held by the Fed usually changed little from week to week.

[ insert Figure 1 here ]

Figure 2 shows the liabilities of the Federal Reserve over this same period. By definition, the value of all the assets in Figure 1 at any given date is exactly equal to value of all the liabilities shown in Figure 2. Federal Reserve deposits represent the sum of the components labeled “service” and “reserves” in Figure 2. One sees from the figure that the reserve deposits that were created as a result of open market purchases over this period soon ended up as currency held by the public. One can think of monetary policy over this period essentially as a process of exchanging currency created by the Fed for T-bills held by the public.

[ insert Figure 2 here ]

In August of 2007, strains on several European banks resulted in a sharp spike in interbank lending rates that proved to be the beginning of a new era of credit concerns. As seen in Figure 3, the Fed began to explore alternative policy instruments to deal with these challenges. The first step was a permanent expansion in the volume of outstanding repo operations at any given date. By August 27, 2008 these had risen to \$111 billion. The Fed was using these operations not for the traditional purpose of temporarily adding to the supply of reserve deposits, but instead was hoping for some benefits from the collateral side of the operation itself. By accepting otherwise illiquid securities as collateral for the repo, the Fed was hoping to narrow the spread between the yield on T-

bills and the borrowing costs of the institutions holding the problematic assets. The Fed also began central bank liquidity swaps, lending dollars temporarily to foreign central banks, with \$67 billion lent through these operations as of August 27, 2008. The biggest new operation over this period was the Term Auction Facility, which had loaned \$150 billion to depository institutions as of the end of August.

[ insert Figure 3 here ]

Although the Fed described these operations as “providing liquidity,” they were not doing so in the traditional sense of increasing the supply of available reserves. At the same time that the Fed was lending to banks through the Term Auction Facility (which would have created \$150 billion in new reserves), it was simultaneously selling off its holdings of T-bills, with the deliberate intention of preventing these new operations from affecting the money supply, the fed funds rate, or inflation. The purpose of the Term Auction Facility was thus not to get additional reserves into the banking system, but instead to support the value of the assets accepted as collateral and the institutions that held these assets. In terms of the liabilities side of the Fed balance sheet, little changed between January 2007 and August 2008.

[ insert Figure 4 here ]

The Fed’s balance sheet entered a new phase of dramatic changes after the failure of Lehman Brothers in September 2008 and attendant freezing of many important credit markets. The Fed expanded Term Auction Credit to a value currently near half a trillion, and currency swaps to a third of a trillion, as well as initiating a host of new lending facilities, the biggest of which at the moment is a quarter trillion dollars of holdings of the Commercial Paper Lending Facility. The Fed also acquired \$89 billion in assets

related to maintaining the solvency of insurer AIG, and has recently purchased \$236 billion in mortgage-backed securities. Altogether, these new facilities and operations have led to an expansion of Federal Reserve assets from \$940 billion on September 3 to \$2.1 trillion on March 25.

[ insert Figure 5 here ]

The Fed did not own enough Treasury securities to sterilize these operations as it had those through August of 2008 via offsetting sales of T-bills. Nevertheless, it was still the intention of the Fed that these operations should not affect the total currency in circulation. The Fed took two steps to prevent any consequences of the new facilities for the total quantity of currency in circulation. The first action was to request that the Treasury borrow some funds directly and simply leave the funds deposited in an account with the Fed. This operation by itself would have been equivalent to an open-market sale of Treasuries by the Fed. When the buyer of the T-bill delivers funds to the Treasury's account with the Fed, those reserves are drained back out of the private banking system. The reserves so drained by the Treasury accounts (which totaled \$256 billion as of March 25) were in fact the same reserves created by some of the Fed's new facilities.

[ insert Figure 6 here ]

To fund the rest of the expansion of the Fed's assets without impacting the volume of currency held by the public, the Fed adopted a policy of promising to pay the same interest rate on reserves as its target for the fed funds rate itself. In effect, this makes reserve deposits (now an interest-bearing liability of the Fed) similar to T-bills themselves (an interest-bearing liability of the Treasury), and potentially eliminates the need to get the Treasury involved in raising the funds needed for the assorted new Fed

facilities. Given that lending reserves to another bank on the fed funds market involves some risk, whereas simply holding them as deposits with the Fed does not, paying interest on reserves greatly increases the demand for reserves. Indeed, most of the new reserve deposits created by the Fed ended up simply being held as excess reserves, the magnitude of which was \$818 billion as of March 25. As a result of the Treasury borrowing and ballooning excess reserves, the more than doubling in the size of the Fed's balance sheet has so far had limited effect on the total currency in circulation.

The new Fed balance sheet represents a profound change in the basic mission of monetary policy. In the traditional open market operation, the Fed does not become involved in the decision of where credit gets allocated. It simply creates the quantity of reserves that it deems most desirable for aggregate economic performance, and lets the market sort out which banks actually end up holding those reserves. By injecting these reserves through the practice of paying the market price for a highly liquid previously issued T-bill, the Fed traditionally was not allocating newly created wealth to any particular party nor directing it to any chosen function.

By contrast, the philosophy behind the new Fed balance sheet is very much to try to choose directly which markets receive the benefits from newly created reserves. That new philosophy raises in my mind three potential concerns.

My first worry is whether the Fed is indeed making the correct choices as to which segments of the capital market are most worthy of assistance. As a general principle, I would think that in a normally functioning capital market, such decisions are better made on the basis of investors deciding where their own funds could earn the highest private return rather than by intelligent and well-meaning government officials.

Suppose we grant, for the sake of discussion, that capital markets are presently not so functioning, and that a large government role in making decisions as to where credit gets allocated is unavoidable in the present circumstance. There nevertheless remains the practical question of which lending is most beneficial from a social perspective at the current time.

On these narrow grounds alone, I have profound misgivings about the Term Asset-Backed Securities Loan Facility (TALF), which is currently under \$5 billion, but was envisioned to grow to a \$200 billion commitment from the Fed in support of a trillion dollars in asset-backed securities created from new auto loans, credit card loans, student loans, and SBA-guaranteed small business loans. A press release issued jointly by the Treasury Department and the Federal Reserve<sup>1</sup> described the vision behind this proposal as follows:

The TALF is designed to catalyze the securitization markets by providing financing to investors to support their purchases of certain AAA-rated asset-backed securities (ABS). These markets have historically been a critical component of lending in our financial system, but they have been virtually shuttered since the worsening of the financial crisis in October. By reopening these markets, the TALF will assist lenders in meeting the borrowing needs of consumers and small businesses, helping to stimulate the broader economy.

Securitization is a process whereby a group of separate loans gets pooled together. The income flow from the pool is divided among a set of newly created securities

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<sup>1</sup> “U.S. Treasury and Federal Reserve Board Announce Launch of Term Asset-Backed Securities Loan Facility (TALF)”, March 3, 2009, posted by Treasury at <http://www.financialstability.gov/latest/tg45.html> and by the Federal Reserve at <http://www.federalreserve.gov/newsevents/press/monetary/20090303a.htm>.

designated as separate “tranches”, with the senior tranches receiving priority payment. The result is that the senior tranches are less risky than the original underlying loans, while the junior tranches are more risky. The theory was that the added safety provided by the senior tranches might bring investment capital into these markets that would otherwise be unavailable, while a higher expected return on the junior tranches could compensate the holders of these for the extra risk. There is no question that securitization had been a phenomenally successful device for attracting capital to private loan markets in recent years.

Ashcraft and Schuermann (2008)<sup>2</sup> studied details of the securitization of a pool of about 4,000 subprime mortgage loans whose principal value came to a little under \$900 million. These loans were originated by New Century Financial in the second quarter of 2006, a company that was to declare bankruptcy less than a year later. Most of these loans called for a huge increase in the monthly payments from households for which one would have significant questions as to their ability to make the current payments.

Ashcraft and Schuermann found that 79% of the notional value of securities created were rated Aaa by both Standard and Poor’s<sup>2</sup> and Moody’s, with only 5% of the notional value receiving less than an A- from S&P or A3 from Moody’s. To put those ratings in perspective, only 5 U.S. companies are currently in a position to issue Aaa-rated debt.

Those high ratings were unquestionably successful in attracting a huge flow of capital into these lending markets, facilitating the origination of \$4.3 trillion in new non-agency mortgage loans between 2004 and 2006. U.S. household mortgage debt tripled in a little over a decade.

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<sup>2</sup> “Understanding the securitization of subprime mortgage credit,” Adam B. Ashcraft and Til Schuermann, working paper, Federal Reserve Bank of New York, 2008.

[ insert Figure 7 here ]

I would be greatly troubled if members of the FOMC were unprepared to acknowledge that those capital flows during 2004-2006 represented a profound mistake. We surely can all see now that the high ratings associated with much of the securitized debt were completely inappropriate. Investors bought this debt because they were fundamentally mistaken in believing that securitization could somehow provide safety from aggregate risk factors common to the loans in the pool. Rather than a device that improved the functioning of asset markets, at least over the period 2003-2006, securitization succeeded primarily because it misled investors into thinking that certain investments were safer than in actuality they were. The whole premise that there are vast sources of capital that are uninterested in funding an institution that simply buys and holds the pool of loans in its entirety, but nevertheless have huge demands for each of its tailored tranches, seems to me highly dubious. That the Fed would choose to try to return us to such a system strikes me as a refusal to acknowledge that capital markets were previously profoundly misallocating resources in a way that was unsustainable and indeed was the primary cause of our present difficulties.

A second concern I have about the Fed's new balance sheet is that I believe it has seriously compromised the independence of the central bank. The decision of where public funds are best allocated is inherently political. Any risks on the Fed's new balance sheet are ultimately borne by the taxpayers. The U.S. Constitution specifies that decisions of how public funds get spent shall be up to Congress, and with good reason. Citizens have a right to vote on which risks they choose to absorb. And of course there are powerful established interests with views on which sectors should receive an infusion



of public capital. The Fed is simply being naive if it thinks it can become involved in those decisions on a weekly basis and yet still retain its independence from Congress and the President.

The reason I find that loss of Fed independence to be a source of alarm is the observation that every hyperinflation in history has had two ingredients. The first is a fiscal debt for which there was no politically feasible ability to pay with tax increases or spending cuts. The second is a central bank that was drawn into the task of creating money as the only way to meet the obligations that the fiscal authority could not. Every historical hyperinflation has ended when the fiscal problems got resolved and independence of the central bank was restored.

Surely it is not far-fetched to suggest that the U.S. faces a profound political challenge in using spending cuts or tax increases to meet its current and planned fiscal obligations. Here's an observation that brought that reality home to me on a personal level: in fiscal year 2006, receipts collected by the U.S. federal government from personal income taxes totaled \$1.06 trillion. Thus, to a first approximation of what an extra trillion dollars in taxes would mean for me personally, I just take the number I paid in 2006 and double it. And then I ask myself, how likely is it that Congress would actually do such a thing? With budget deficits in excess of a trillion dollars annually for the foreseeable future, it seems we are already well past the point at which the ability of the Treasury to fund the expanded liabilities through tax increases would reasonably be questioned.

Moreover, the detailed cooperation between the Fed and the Treasury in the various new credit measures seems to have arisen from precisely such pressures.

Congress is, in fact, unwilling to accept explicitly the risks to which taxpayers are exposed as a result of the many new Fed-Treasury initiatives. If I were the chair of the Federal Reserve, I would want to be asking, “why was I invited to this party?” The answer unfortunately appears to be, “because you’re the one with the deep pockets.” That the Fed should find itself in a position where Congress and the White House are viewing its ability to print money as an asset to fund initiatives they otherwise couldn’t afford is something that should give pause to any self-respecting central banker.

My third concern about the new Fed balance sheet is that it has seriously handicapped the Fed’s ability to fulfill its primary mission of promoting price stability. We arrived at the current situation because the Fed was deliberately trying to insulate any consequences of its actions for the quantity of currency in circulation, first by selling T-bills at the same time it was expanding new facilities, and later by asking the Treasury to borrow on its behalf and taking steps to encourage the accumulation of excess reserves. However, in 2008:Q4 and 2009:Q1 we reached a point where there was an actual decrease in the general price level and concerns by many about the prospect of significant further deflation. I think we can all agree that deflation would be quite counterproductive to economic recovery. There are disturbing parallels between the current situation-- low nominal interest rate but potentially high real interest rate-- and the problems experienced by the U.S. in the 1930s or Japan in the 1990s.

In the current environment, we would be substantially better off with 2-3% inflation than with the realized deflation, and better off with a nominal 1% interest rate that, given those inflation rates, implied real stimulus. But precisely because of the changes in the Fed’s balance sheet, this may be very difficult for the Fed to deliver.

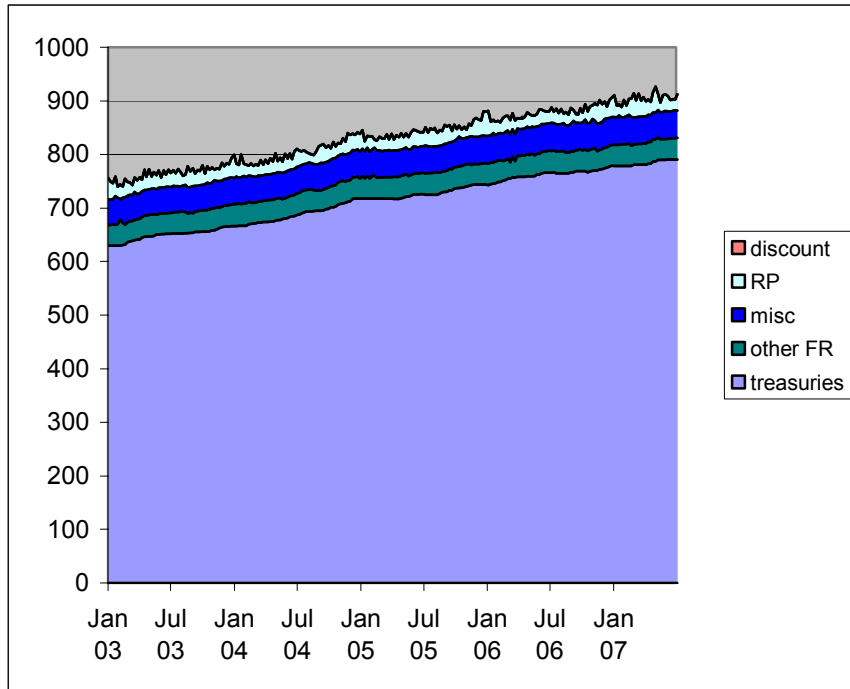
Among the challenges is the fact that, if the Fed does successfully convince the public that it will ensure a low level of inflation rather than deflation, it may prove impossible to contain fears of a substantial surge in inflation. To address those concerns, the Fed would need the ability to quickly absorb back in the dollars it creates, namely to quickly sell off the many new assets it's acquired. Yet the Fed's current portfolio would prove extremely difficult to liquidate on a short-term basis. And insofar as those inflation fears take the form of concerns about how the Treasury is going to roll over its burgeoning debt, the Fed would lack the resources to dispel such concerns.

We thus find ourselves in a situation where half the public fears we're about to experience a severe deflation, and the other half believes we're about to experience an unstoppable hyperinflation. While the powers of a central bank are fundamentally limited, the destabilizing consequences of such fears should be the one thing that the central bank unambiguously has the power to prevent. What we need above all else in the current situation is a Federal Reserve on which the world can count as a bulwark of stability, and the dollar itself as an asset of reliable value.

The Fed would be much better able to fulfill that role if its balance sheet looked like Figures 1 and 2 than if it looked like Figures 5 and 6.

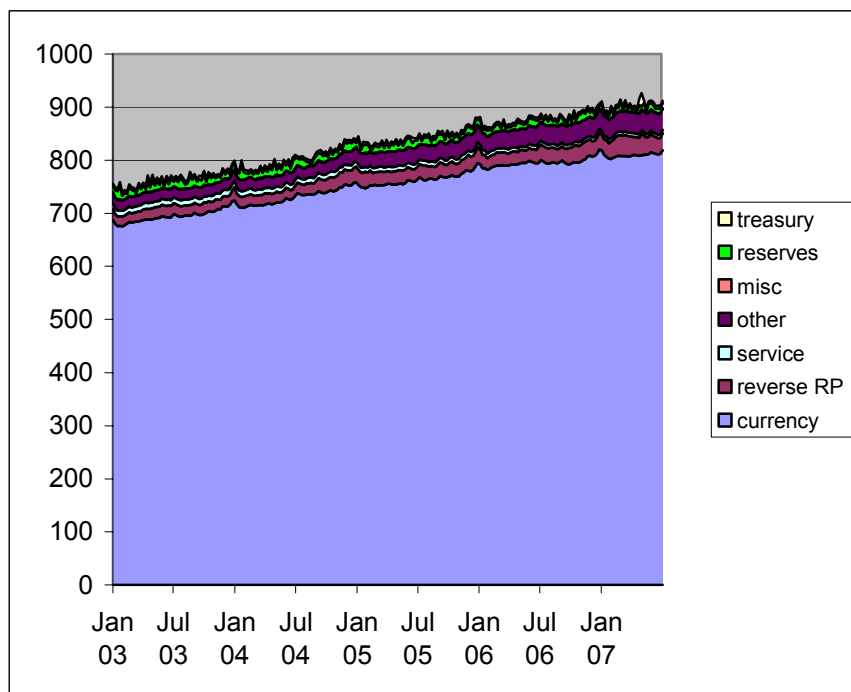
To the extent that the Fed moves beyond traditional purchases of short-term Treasury bills-- and I agree that is necessary in the current situation-- it should be buying assets whose value, particularly in the face of a sudden surge in inflationary expectations, is unquestioned. Making outright purchases of longer term Treasury Inflation Protected Securities until we achieve the desired expansion of currency in circulation and overall prices would seem to me to be the ideal solution.

Figure 1. Federal Reserve assets, January 2003 to June 2007.



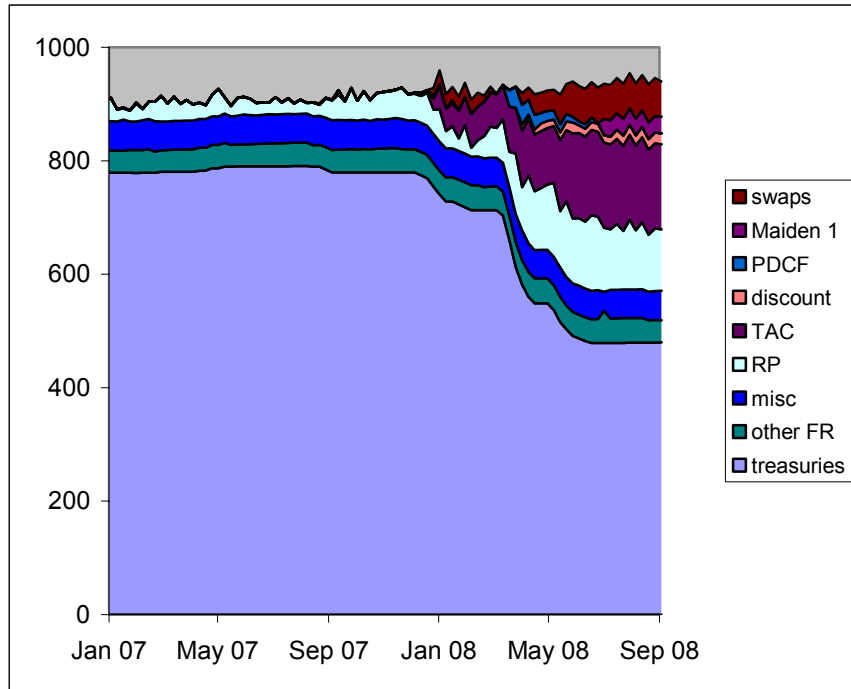
Notes. Wednesday values, in billions of dollars, seasonally unadjusted, from Federal Reserve H41 release. Discount: sum of primary credit, secondary credit, and seasonal credit; RP: repurchase agreements; misc: sum of float, gold stock, special drawing rights certificate account, and Treasury currency outstanding; other FR: Other Federal Reserve assets; treasuries: U.S. Treasury securities held outright.

Figure 2. Federal Reserve liabilities, January 2003 to June 2007.



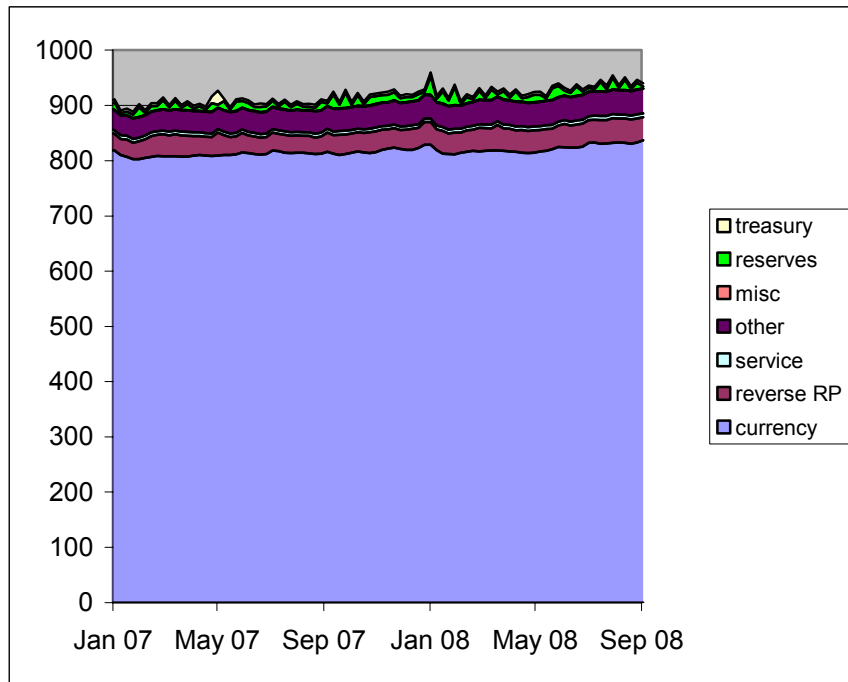
Notes. Wednesday values, in billions of dollars, seasonally unadjusted, from Federal Reserve H41 release. Treasury: sum of U.S. Treasury general and supplementary funding accounts; reserves: reserve balances with Federal Reserve Banks; misc: sum of Treasury cash holdings, foreign official accounts, and other deposits; other: other liabilities and capital; service: sum of required clearing balance and adjustments to compensate for float; reverse RP: reverse repurchase agreements; Currency: currency in circulation.

Figure 3. Federal Reserve assets, January 2007 to August 2008.



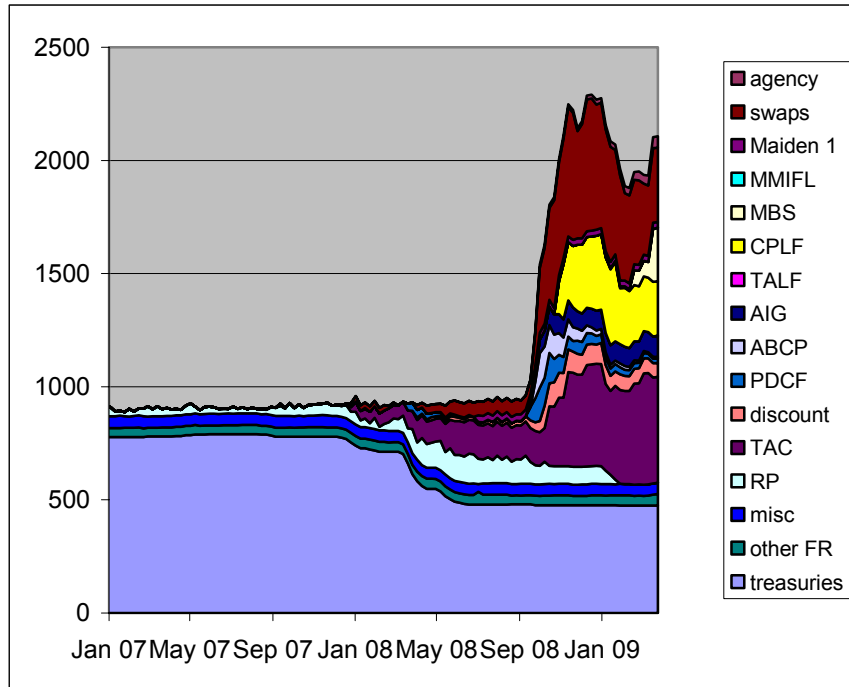
Notes. Wednesday values, in billions of dollars, seasonally unadjusted, from Federal Reserve H41 release. Swaps: central bank liquidity swaps; Maiden 1: net portfolio holdings of Maiden Lane LLC; PDCF: loans extended to primary dealer and other broker-dealer credit; discount: sum of primary credit, secondary credit, and seasonal credit; TAC: term auction credit; RP: repurchase agreements; misc: sum of float, gold stock, special drawing rights certificate account, and Treasury currency outstanding; other FR: Other Federal Reserve assets; treasuries: U.S. Treasury securities held outright.

Figure 4. Federal Reserve liabilities, January 2007 to August 2008.



Notes. Wednesday values, in billions of dollars, seasonally unadjusted, from Federal Reserve H41 release. Treasury: sum of U.S. Treasury general and supplementary funding accounts; reserves: reserve balances with Federal Reserve Banks; misc: sum of Treasury cash holdings, foreign official accounts, and other deposits; other: other liabilities and capital; service: sum of required clearing balance and adjustments to compensate for float; reverse RP: reverse repurchase agreements; Currency: currency in circulation.

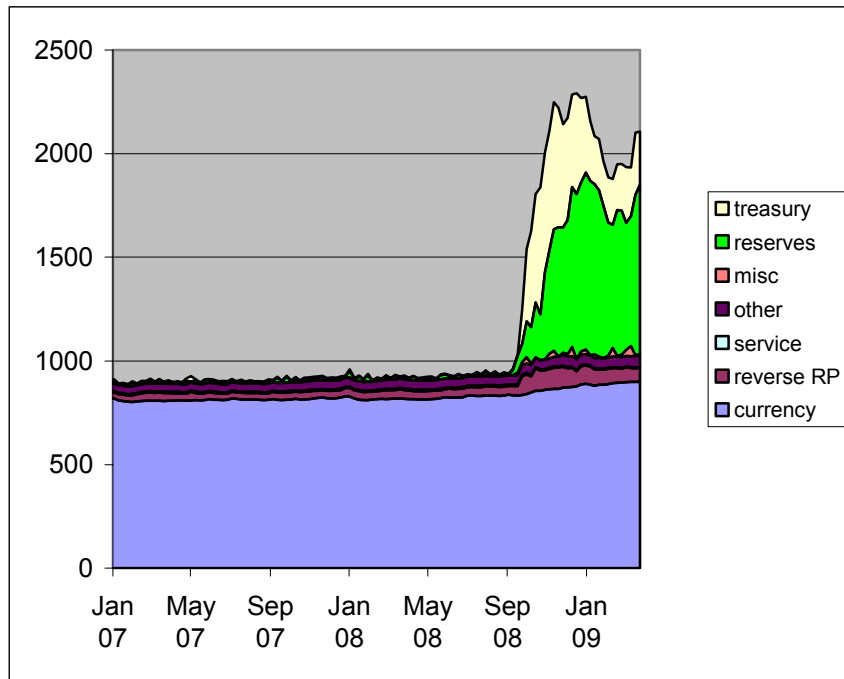
Figure 5. Federal Reserve assets, January 2007 to March 2008.



Notes. Wednesday values, in billions of dollars, seasonally unadjusted, from Federal Reserve H41 release. Agency: federal agency debt securities held outright; swaps: central bank liquidity swaps; Maiden 1: net portfolio holdings of Maiden Lane LLC; MMIFL: net portfolio holdings of LLCs funded through the Money Market Investor Funding Facility; MBS: mortgage-backed securities held outright; CPLF: net portfolio holdings of LLCs funded through the Commercial Paper Funding Facility; TALF: loans extended through Term Asset-Backed Securities Loan Facility; AIG: sum of credit extended to American International Group, Inc. plus net portfolio holdings of Maiden Lane II and III; ABCP: loans extended to Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility; PDCF: loans extended to primary dealer and other broker-dealer credit; discount: sum of primary credit, secondary credit, and seasonal credit; TAC: term auction credit; RP: repurchase agreements; misc: sum of float, gold stock, special drawing rights certificate account, and Treasury currency outstanding; other FR: Other Federal Reserve assets; treasuries: U.S. Treasury securities held outright.

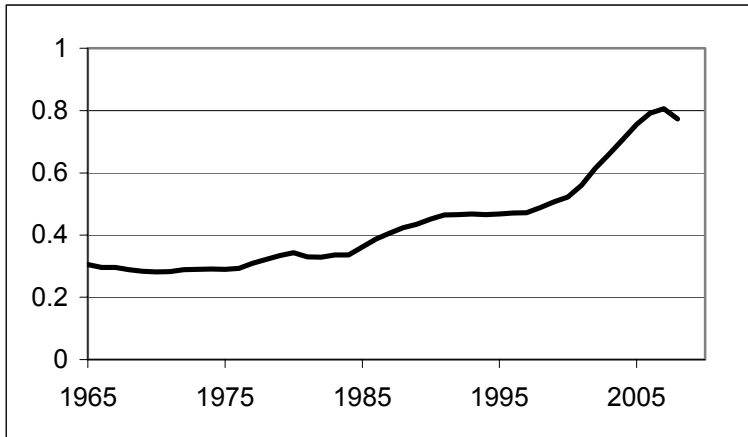


Figure 6. Federal Reserve liabilities, January 2007 to March 2008.



Notes. Wednesday values, in billions of dollars, seasonally unadjusted, from Federal Reserve H41 release. Treasury: sum of U.S. Treasury general and supplementary funding accounts; reserves: reserve balances with Federal Reserve Banks; misc: sum of Treasury cash holdings, foreign official accounts, and other deposits; other: other liabilities and capital; service: sum of required clearing balance and adjustments to compensate for float; reverse RP: reverse repurchase agreements; Currency: currency in circulation.

Figure 7. Ratio of home mortgage debt to GDP, 1965-2008.



Notes. Home mortgage debt (from Federal Reserve Board Flow of Funds, Table L.2), divided by nominal GDP (annual figures).