

# The Fed's Floodgates

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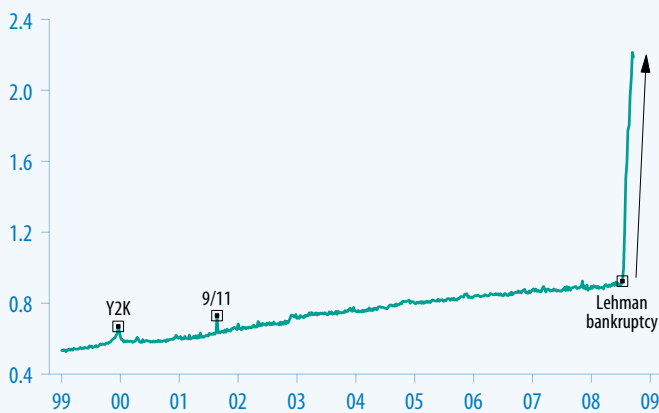
The Federal Reserve announced this week that it would spend \$800 billion buying agency direct debt and mortgage-backed securities, and making loans to finance private purchases of asset-backed commercial paper. The goal is to increase the flow and decrease the cost of credit in these vital channels. These securities and loans will augment the already explosive growth of the Fed's balance sheet, which was ignited in the wake of the bankruptcy of Lehman Brothers (*Chart 1*). This explosive growth is stoking debate about the monetization of Treasury debt and the profligate printing of money.

Before we wade into this debate, a brief Fed refresher: The Fed creates money in the form of bank notes (currency) and bank reserves (balances in accounts banks are forced to hold at the central bank). This is called the monetary base, which can be thought of as the seeds that germinate into broader monetary and credit aggregates as banks loan out their excess reserves (the loan proceeds end up being deposited back into the banking system, permitting multiple loan and deposit sequences to occur). Given the monetary base, the Fed's modus operandi is to influence relative supply conditions in the market for excess bank reserves, a.k.a. the fed funds market, in order to affect the fed funds rate, and to further influence other interest rates along the yield curve and across the credit spectrum in order to affect credit-based spending in the economy.

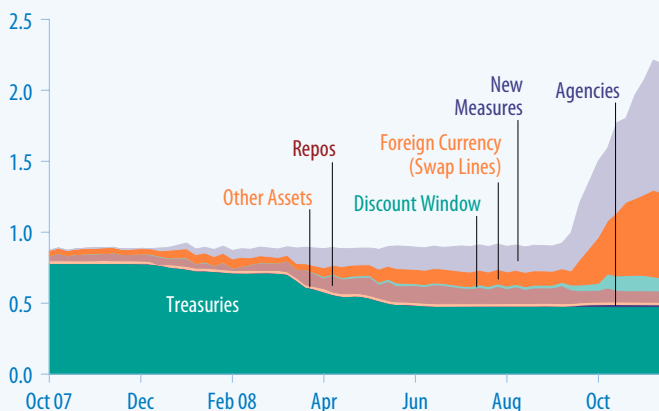
The Fed guides the monetary base to grow roughly in line with the trend growth in nominal spending. The money is created when the Fed occasionally buys Treasury securities in the open market on a permanent basis (as opposed to a temporary basis which is done regularly to influence the fed funds rate), paying for them by issuing new notes or crediting banks' reserve accounts. The Fed does not buy net new securities directly from the Treasury (it only rolls over maturing issues at auction) to purposely avoid being perceived as "monetizing" the debt. By formal definition, monetization is a process in which central banks buy government debt directly, paying for it by crediting the government's account at the central bank. However, the Fed has been reducing its holdings of Treasuries, so there's been no monetization of this debt (*Chart 2*). But, if you appropriately relax the definition to include the printing of money to pay for purchases of other securities, the Fed appears to have turned that corner with the Commercial Paper Funding Facility.

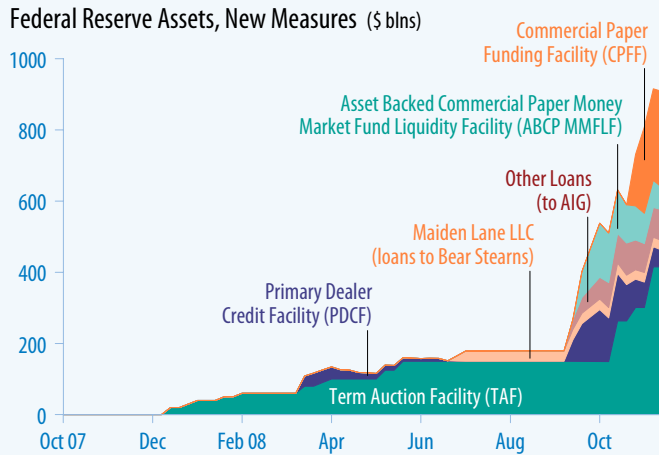
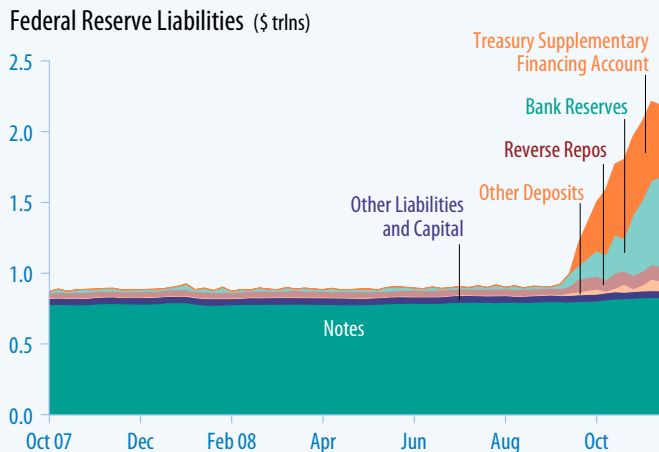
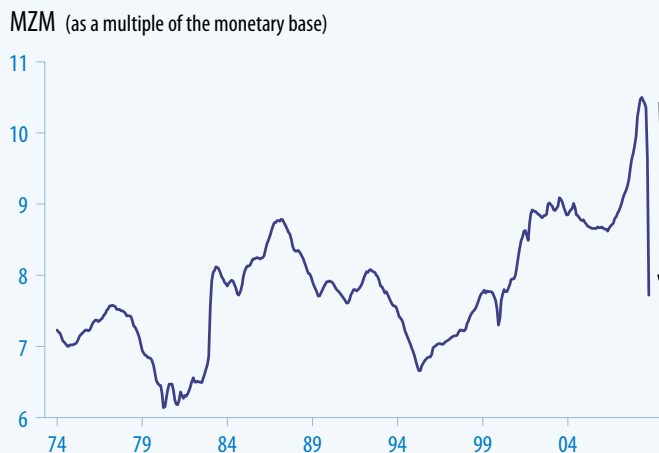
The Fed's balance sheet has been transformed since the credit crisis began during the summer of 2007. Beginning

**CHART 1**  
**FED BALLOONS ITS BALANCE SHEET**  
Federal Reserve Assets (\$ trlns)



**CHART 2**  
**TREASURIES BORE THE BRUNT**  
Federal Reserve Assets (\$ trlns)



**CHART 3  
LENDER OF LAST RESORT**

**CHART 4  
MAKING MONEY**

**CHART 5  
MONEY MULTIPLIER PLUMMETS**


with last December's Term Auction Facility, an alphabet soup of new measures have been introduced to address the problems in the inter-bank lending market and with broader credit creation in the economy (*Chart 3*). Initially, the impact on the monetary base was offset by the Fed's reduction of its holdings of Treasury securities (the new measures increased bank reserves while the sales of Treasuries decreased them). However, the bankruptcy of Lehman Brothers and near-failure of AIG forced the Fed to open its monetary floodgates (*Chart 4*). Up to that point, the Fed was playing its role as lender of last resort to the U.S. banking system, but after mid-September, the Fed began to re-position itself as lender of last resort to the U.S. economy (e.g., via the CPFF) and lender of last resort of U.S. dollars to the global banking system (via its souped-up swap lines with other central banks).

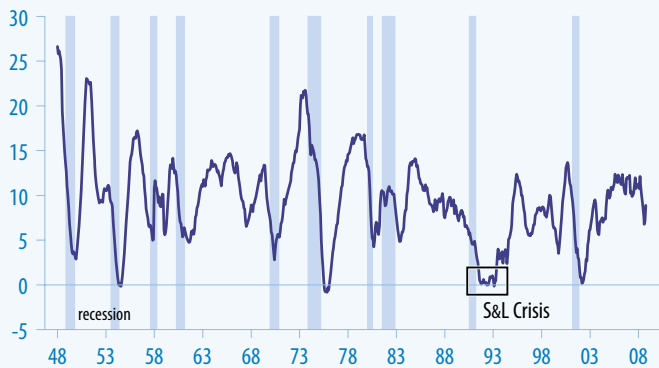
As the Fed ramped up existing programs and established new ones, the resulting surge in excess reserves had the potential to pull down the effective fed funds rate to zero. Legislation permitting the Fed to pay interest on reserves, which would have mitigated the downward pressure, was still pending, so Treasury introduced its Supplementary Financing Program (SFP). This involved issuing debt for the sole purpose of sopping up excess reserves. The proceeds would sit idle in a special account at the Fed. The legislation eventually passed, and faced with a forthcoming stimulus package to finance, Treasury announced that the SFP would be wound down. As the bills mature, the funds will shift back to banks' reserve balances. Most of the \$800 billion in measures announced this week will probably be financed the same way, by increasing bank reserves. It's possible that some of the impact will be mitigated by less activity in other programs, such as smaller TAF auctions past year-end, but there is no doubt that the Fed is now running its monetary printing press all out.

Currently, the historically low (and soon-to-be-lower) 1% fed funds rate and rapid growth in reserves are not filtering to the broader money supply and credit aggregates. A key money supply metric is MZM (money-of-zero-maturity) which measures all readily-accessible deposit accounts and money market funds. The ratio of MZM to the monetary base has plummeted as banks have become

**CHART 6**  
**V IS FOR RECOVERY**

United States (y/y % chng)

**Bank Lending**



extremely cautious about lending their excess reserves (*Chart 5*). The hoarding of liquidity might ease past year-end, but the broad willingness of banks to make loans might still take a while to rebound, impairing the critical credit creation process.

The credit cycle is a key component of the economic cycle (*Chart 6*). In stylized terms, as an economic expansion becomes long-in-the-tooth, inflation pressures build causing central banks to raise rates. Meantime, demand becomes satiated and, as recession clouds gather, bank lending standards become more cautious. These all cause credit to decelerate sharply, contributing to the economic downturn. As recession unfolds, inflation pressures abate causing central banks to lower interest rates. As rays of economic recovery shine on the horizon, pent-up demand

begins to unwind as banks start to relax their lending standards. These all cause credit to accelerate sharply, stoking economic recovery. A V-shaped credit cycle has occurred during every business cycle since WWII, except for one, in the wake of the S&L crisis. The losses incurred during that banking crisis (under \$0.2 trillion by the FDIC's reckoning) kept lenders licking their wounds for a while longer, rather than ramping up loan origination, with the vigour of the early-90s' economic recovery a key casualty.<sup>1</sup>

The Fed is worried that the losses in the current banking crisis (at least \$1.4 trillion globally according to the IMF), the extreme counterparty concerns elicited by the bankruptcy of Lehman Brothers and bailouts of marquee financial institutions, and an economic recession rivalling the worst of the 1970s and 1980s, will keep credit creation impaired for too long, risking a deflationary outcome in the milieu of Japan's lost decade and the Great Depression. Mitigating this risk is the reason why the Fed has repositioned itself as lender of last resort to the U.S. economy and lender of last resort of U.S. dollars to the global banking system. It is also the reason why the Treasury and FDIC are working hard to shorten the healing time for bank balance sheets by direct capital injections along with asset and liability guarantees (such actions are too risky for the Fed).

There is no doubt that the Fed is now actively monetizing non-Treasury debt, given the CPFF and pending purchases of agency securities on the asset side of its balance sheet along with surging bank reserves on the liabilities side. However, this money printing is not profligate; it's prudent given the deflationary risks facing the U.S. economy. But, we look forward to the day when we can start worrying about whether the Fed will be able to withdraw this massive monetary stimulus in a timely fashion to avoid a surge in inflation.

<sup>1</sup> Interestingly, bank lending seems to have remained resilient despite the current credit crisis, but the resiliency is all technical. The collapse of the commercial paper market caused some CP issuers to back into their credit lines at banks (and not by banks' choice), and reduced the ability of banks to fund their loans via asset-backed commercial paper. Meantime, recent consolidations of non-bank institutions with banks (e.g., Washington Mutual with JPMorgan Chase, Merrill Lynch with Bank of America) and conversions of non-bank institutions into banks (e.g., Goldman Sachs, Morgan Stanley, American Express) are biasing (or will bias) up the aggregate loan and deposit data. We estimate that underlying lending growth would currently be closer to zero if not for these factors.

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