# Fiscal/Monetary Coordination in a Time of Crisis

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## 1 What's happened to the Fed's balance sheet

### The Fed Balance sheet: asset side

| | Week ended Nov/19/2008 | Change from week ended Nov/21/2007 |
|---|---|---|
| Reserve Bank credit | 2178894 | 1310671 |
| Securities held outright | 489084 | -290573 |
| U.S. Treasury (1) | 476431 | -303226 |
| Bills (2) | 18423 | -248596 |
| Notes and bonds, nominal (2) | 410491 | -60493 |
| Notes and bonds, inflation-indexed (2) | 41071 | 4160 |
| Inflation compensation (3) | 6445 | 1702 |
| Federal agency (2) | 12654 | 12654 |
| Repurchase agreements (4) | 80000 | 31714 |
| Term auction credit | 415302 | 415302 |
| Other loans | 296818 | 296337 |
| Primary credit | 91552 | 91118 |
| Secondary credit | 112 | 112 |
| Seasonal credit | 9 | -37 |
| Primary dealer and other broker-dealer credit (5) | 50170 | 50170 |
| Asset-backed commercial paper money market mutual fund liquidity facility | 69798 | 69798 |
| Other credit extensions | 85177 | 85177 |
| Net portfolio holdings of Commercial Paper Funding Facility LLC (6) | 265691 | 265691 |
| Net portfolio holdings of Maiden Lane LLC (7) | 26945 | 26945 |
| Float | -1374 | -741 |
| Other Federal Reserve assets | 606429 | 565997 |
| Gold stock | 11041 | 0 |
| Special drawing rights certificate account | 2200 | 0 |
| Treasury currency outstanding (8) | 38773 | 36 |
| Total factors supplying reserve funds | 2230908 | 1310707 |

### The Fed Balance Sheet: Liability side

| Reserve Bank credit, related items, and reserve balances of depository institutions at Federal Reserve Banks | Week ended Nov/19/2008 | Change from week ended Nov/21/2007 |
|---|---|---|
| Currency in circulation (8) | 864682 | 43922 |
| Reverse repurchase agreements (9) | 100423 | 65331 |
| Foreign official and international accounts | 76137 | 41045 |
| Dealers | 24286 | 24286 |
| Treasury cash holdings | 250 | -25 |
| Deposits with F.R. Banks, other than reserve balances | 585640 | 573873 |
| U.S. Treasury, general account | 60465 | 55506 |
| U.S. Treasury, supplementary financing account | 508956 | 508956 |
| Foreign official | 394 | 296 |
| Service-related | 6324 | -58 |
| Required clearing balances | 6305 | -75 |
| Adjustments to compensate for float | 18 | 16 |
| Other | 9501 | 9173 |
| Other liabilities and capital (10) | 46043 | 3148 |
| Total factors, other than reserve balances, absorbing reserve funds | 1597037 | 686248 |
| Reserve balances with Federal Reserve Banks | 633870 | 624458 |

**What's new**

- Size of the balance sheet.
- Assets no longer mainly Treasuries.
- Large "special" Treasury deposit.
- Swaps with foreign central banks.
- "Excess" reserves now far bigger than required reserves.
- Deposits bear interest, at rates for now above Treasuries.

**How did we get here?**

- To stabilize markets, the Fed acquired non-Treasury assets.
- It could to some extent do so without expanding its balance sheet, by selling Treasuries in corresponding amounts.
- But it began to run out of Treasuries to sell: Two ways to get around this.
  - The special Treasury deposit. Provided T-bills, with a corresponding deposit liability to the Treasury.
  - Interest on reserves. Allowed raising funds directly from deposit inflows to the Fed.

**Alternatives**

- While interest rates are positive and there is no interest on reserves, expansion of the Fed balance sheet results in approximately proportionate expansion of the money stock and commercial bank balance sheets (the money multiplier).
- The special Treasury deposit in principle allows trading of Treasury debt for private assets without expanding bank reserves.
- However in fact it seems to have been used as a reserve — maintaining a stock of liquid assets that could be sold in open market operations to contract, if necessary.
- Because, when the power to pay interest on reserves was enacted, this provided an alternative way to contract quickly,
- The special Treasury deposit has been declining and may no longer be necessary.

**Alternatives, II**

- Like the Treasury deposit, interest on reserves allows expansion of the balance sheet without expansionary effects on bank behavior.
- It is not clear to me (but may be clear in the legislation) whether interest-bearing deposits at the Fed count against the Federal debt ceiling.
- Probably they don't, in which case they create a major leak in the US system for legislative control of debt creation.
- Or, they are not backed by the "full faith and credit" of the US government — which has implications for inflation control.

# 2 Implications for monetary policy instruments and their effects

**Why interest on reserves?**

- Traditional argument: paying no interest and requiring reserves is a tax on banking and presumably therefore distorting.
- Interest at close to market rates can achieve the effect of the "Friedman rule" (satiating the public in money balances) without requiring deflation — at least if we ignore currency. (Now 1/3, instead of over half, of Fed liabilities.)
- In the current circumstances, the main appeal may be that raising the rate on reserves can create a strong contractionary effect without requiring sale of (illiquid) assets.

**The money multiplier, the Fed Funds rate**

- "High powered money" no longer has high power, if interest on reserves is at or above the rate on T-bills and the perceived return on private sector loans.
- The Fed still sets a Fed Funds target, but there is little trading now on this market and the actual rate remains below the announced target and below the rate paid on deposits.
- In effect, the policy rate is now the rate on deposits, and commercial banks are not using the Fed Funds market.

# 3 Implications for "central bank independence"

**Fiscal dimensions of monetary policy**

- Changing the interest rate changes the "interest expense" item in the government budget.
- Central bank operations generate fluctuating levels of net earnings (seigniorage), most of which are turned over to the Treasury as revenue.
- Central bank balance sheets sometimes go into the red. The Treasury may then recapitalize it by creating, and giving to the central bank, new government debt.

**The old working definition of Fed independence**

- Balance sheet risk was negligible, as assets were interest earning, dollar-denominated, US debt and liabilities were also dollar-denominated government paper.
- Seignorage was therefore always positive, though varying.
- Interest rates were low and debt not very high, so the interest expense item in the budget was modest. (Though it rose to 20% of the budget for a few years in the early 80's.)
- Independence meant that the legislature and the Treasury did not complain (much) about seignorage fluctuations or about the effects of interest rate changes on the Treasury's interest expense.

**Balance sheet risk**

- The Fed has tried to minimize the risk it is taking on. The TARP legislation was intended to provide a mechanism for taking on risk that would free the Fed from doing much of that.
- Nonetheless it has taken on risk, most notably in its recent issuance of guarantees in the CitiBank rescue and in the "Maiden Lane LLC" invention that supported Bear Stearns, but also in some of the other new types of assets it is acquiring.
- With interest being paid on reserves, the flow of seignorage will be smaller, and could become negative.

**Why does the Fed's current net worth matter?**

- Fed can always "print money" to pay its bills.
- There is no possibility of a run on the Fed, since its liabilities make no conversion promise.
- A commitment to a path for inflation or the price level makes the balance sheet matter.
- Without Treasury backing, the Fed must rely on seigniorage to raise revenues, and that can conflict with inflation-control goals.

# 4 Expanding the fiscal theory of the price level

**The basic idea**

- The price level is the rate at which *all* mature paper liabilities of the government trade for goods.
- Nominal debt issue promises only a stream of returns in the form of government-issued paper.
- Its real value is determined by the future primary surpluses, plus seigniorage, that generate real payments to the debt holders.
- This is the same algebra that determines the price of a firm's equity.
- Neither private equity nor public nominal debt promises any specific real return. Their value depends on expectations of what real resources and commitments back them up.

**Why "expand" FTPL?**

- The existing formal FTPL models mostly assume all government liabilities to be domestic-currency denominated. (One or two also introduce "dollar" denominated debt to discuss developing countries.)
- We are now considering a unified government balance sheet that includes substantial holdings of assets that are not risk=free.
- The asset returns may not rise in proportion to a rise in the interest rate on government liabilities — indeed may well move in the opposite direction.
- The FTPL framework implies that raising the interest rate on nominal debt is contractionary only if accompanied by a fiscal policy that ultimately increases primary surpluses in response to the rising interest expense.
- With interest paid on deposits, the effect of a Fed increase in interest on reserve balances on the unified government budget is leveraged.