

The Government Deficit and the Financial Crisis

The 2008 financial crisis has resulted in a huge increase in the federal government deficit. Government spending has increased significantly, and tax revenue has fallen much. The current federal deficit is \$1.3 trillion per year, approximately 9% of gross domestic product.

Financing the Government Deficit

In the short run, the government deficit can be financed by either borrowing or printing money. In the long run, borrowing can be paid off either from taxes or from printing money.

Today the government deficit is huge and is continuing to be huge, so it will likely be financed by printing money.

According to the monetary theory of inflation, there will be considerable inflation.

Monetary Base

The *monetary base* is the total amount of money created directly by the government. “Printing money” refers to an action that increases the monetary base; the action might be to credit federal funds directly to a bank, or perhaps literally to print currency.

Each dollar in the monetary base is either held by the public as currency or held by a bank as reserves. Consequently the monetary base equals currency held by the public plus bank reserves.

Money Supply

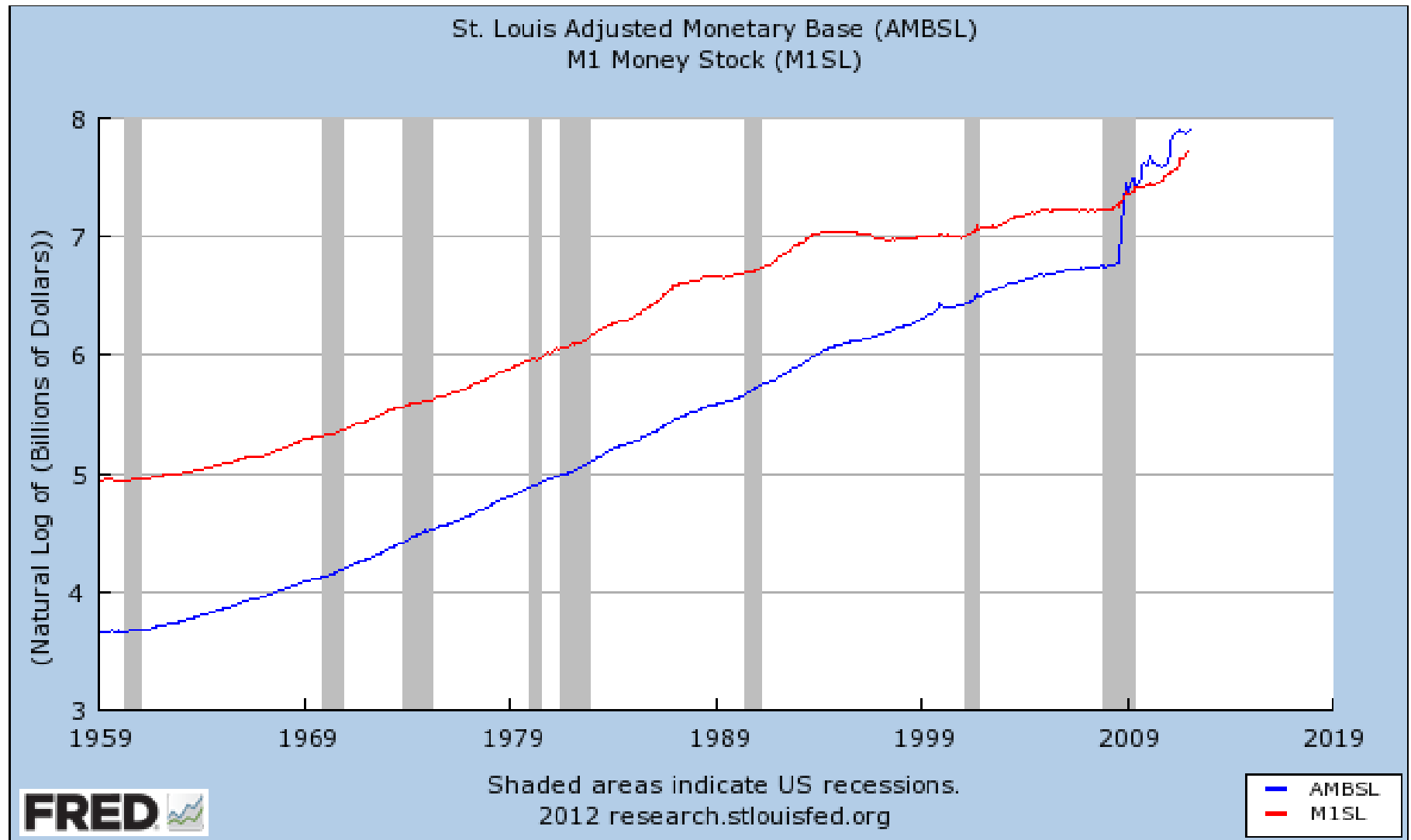
The money supply is bank deposits plus currency held by the public. The money supply M1 is checking deposits plus currency held by the public.

Data

Using Federal Reserve Economic Data (FRED) from the Federal Reserve Bank of St. Louis, figure 1 charts the monetary base and the money supply M1.

The vertical axis is logarithmic. An increase of one unit constitutes an increase by the factor $e \approx 2.7$. The vertical distance between the two lines is the natural logarithm of the money multiplier, the money supply divided by the monetary base. As time has passed, the multiplier has declined gradually.

Figure 1: Monetary Base and Money Supply



Financial Crisis

The financial crisis in the fall, 2008, constitutes an enormous break from what came before. During a very short period of time that fall, the Federal Reserve approximately doubled the monetary base, to bail out banks and other institutions.

Subsequently it has increased the monetary base further, and the base is now more than triple the value at the beginning of the crisis.

Money Multiplier

Banks create money by making loans. A bank is required by regulation to keep a certain fraction of its deposits as reserves, the *reserve requirement*. Normally a bank loans or invests any reserves in excess of the reserve requirement, to earn more interest.

A one-dollar increase in the monetary base causes the money supply to increase by *more* than one dollar. The increase in the money supply is the *money multiplier*.

The *money multiplier process* brings about the change in the money supply. When the monetary base is increased, banks loan out most of this money. This money is then redeposited in other banks, which loan out most of these deposits, which is then redeposited in other banks, etc. The money multiplier exceeds one.

The Money Multiplier During the Financial Crisis

The money multiplier process has broken down during the financial crisis. Banks are keeping huge excess reserves, not lending or investing this money. One factor is fear that loans might not be repaid. Another factor is fear that another liquidity crisis might strike. A bank typically borrows much money short-term, and in a liquidity crisis this source of funds might disappear. Keeping large reserves protects a bank against this threat.

An additional factor is the very low market interest rate.

Short-term interest rates are near zero. Bank lending is less profitable than usual, so there is less incentive to lend, which reduces the supply of money.

That the Federal Reserve began to pay (small) interest on both required reserves and excess reserves when the financial crisis struck (now .25% interest on both) has compounded the situation. This interest payment further reduces the incentive for a bank to lend.

Monetary Policy

Since the financial crisis, the monetary policy of the Federal Reserve has been to keep the interest rate very low. Although the recession beginning in December, 2007 ended in June, 2009, the recovery afterwards has been unusually slow. According to Keynesian macroeconomic theory, a low interest rate is expansionary.

A motive for a low-interest-rate policy is to help banks. Many banks lost much during the financial crisis. That the banks can borrow short-term for almost nothing enables them to make large profits to offset their previous losses.

Another motive for this policy is to hold down the federal deficit. A higher interest rate would require much higher interest payments, and the federal deficit would leap.

Financing the Government Deficit

Currently the federal debt is almost as high as gross domestic income and product, and it is increasing rapidly. How can the United States borrow so much?

That the dollar is the world's reserve currency is fundamental. Many foreign countries keep substantial dollar reserves, and the dollar is central in world trade. The financial crisis has caused many lenders to be wary, and many have shifted their assets into Treasury debt, seeing it as a safe haven. This flight to the dollar has allowed the interest rate here to stay very low.

Borrowing from Abroad

Much Treasury debt is owned by foreigners. The two major foreign lenders—Japan and China—have retained their very large investment in Treasury debt, but seem to have stopped increasing it further. To finance our deficit has consequently become more difficult.

Quantitative Easing

A recent component of monetary policy is “quantitative easing”: the Federal Reserve has bought large amounts of long-term Treasury debt. It says that its intention is to reduce the long-term interest rate, by pushing up the price of the long-term bonds.

Nevertheless this policy does amount to printing money. So an alternative explanation is that the Federal Reserve must resort to printing money to finance the deficit; not enough lenders are willing to finance the deficit by borrowing.

Rising Money Supply and Inflation

The rapid increase in the monetary base portrayed in figure 1 is consistent with this alternative explanation. To finance the deficit, the monetary base must increase. Because the deficit is so high, the increase will continue and cannot be reversed.

When the economy has fully recovered, the money multiplier process will resume. Excess reserves will be loaned and invested. The multiplier will return to its normal value. This return to normal together with the large increase in the monetary base implies a great expansion of the money supply.

According to the monetary theory of inflation, the result will be high inflation.

Money Supply and Demand

Figure 1 shows that the money supply M1 has already increased by 50% during the past three years.

The low interest rate has not only held down the supply of money, but also has expanded the demand for money, because the cost of holding money is now less. The expansion of the money demand has kept pace with the 50% increase in the supply, and so for the moment the pressure of demand for goods on prices is limited.

Inflation Trigger

Commonly a sustained inflation is triggered by specific events.

There is some inflation now in the United States—food, oil, cars—but overall inflation is not high. The economy is still recovering from the recession, and excess production capacity keeps inflation in check. But as the economy expands further, inflation may spread.

A decline in the foreign-exchange value of the dollar might set off inflation. Foreign goods become more expensive, and domestic producers raise prices when imports cost more. A lower dollar causes the dollar price of oil to rise. The dollar has fallen against the Japanese yen, the Chinese yuan, and the Euro. In China, wages have been artificially low. Now wages are rising rapidly, so Chinese goods should rise in price.

Skeptical Lenders?

If lenders become skeptical about the financial soundness of the federal government, then to finance the debt will not be possible. The necessary resort to massive money printing would then drive up the money supply even faster.

Gainers

High inflation would help debtors. A household having a large mortgage would gain greatly: the nominal value of the house would rise with inflation, but the unpaid balance of the mortgage would stay the same.

The biggest debtor is the federal government. Whereas now the federal debt is almost as high as gross domestic income, inflation would reduce the debt as a fraction of income.

Losers

High inflation would hurt creditors. People living on a fixed dollar income would suffer. Retirees would lose, as most pension income does not rise with inflation. Fortunately social security benefits are indexed to inflation.

Effect on Banks

A simple point of view is that the effect of inflation on banks is neutral. Both bank assets and liabilities are nominal, so inflation affects both in the same way.

Banks would gain on home mortgages. As house prices rise, the mortgages will all be repaid in full.

Overall bank assets are more long-term than bank liabilities. A rise in the interest rate caused by inflation would therefore reduce the value of bank assets more than the value of bank liabilities, and banks would suffer.

United Kingdom

During the twelve-year period 1971-1982, consumer prices in the United Kingdom more than quadrupled. The peak inflation in a single year was 27%.

Inflation in the Euro?

The monetary situation in Europe is much like the United States, and the monetary theory of inflation also predicts high inflation there.

Forecasts of Inflation

Despite the arguments stated above, it seems that at this time most Americans do not fear inflation. The interest rate on debt having a high credit rating is low. Professional economic forecasters expect modest (3%) inflation for the next decade.