



## Quantitative Easing and Money Growth: Potential for Higher Inflation?

Daniel L. Thornton, *Vice President and Economic Adviser*

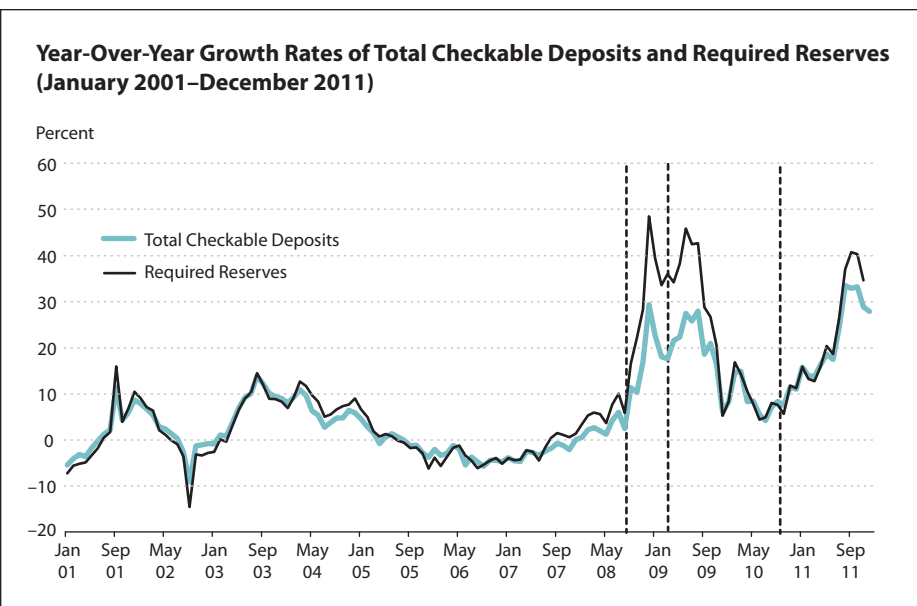
After Lehman Brothers announced on September 15, 2008, that it was seeking bankruptcy protection, the Federal Reserve massively increased the size of its balance sheet through a wide range of new lending facilities. As reliance on these facilities waned, the Federal Open Market Committee (FOMC) undertook a large-scale asset purchase program, commonly referred to as “quantitative easing” (QE), whereby it purchased \$1.75 trillion in longer-term debt; this first program is commonly called QE1. In November 2010, the FOMC announced it would purchase an additional \$600 billion in longer-term Treasury securities (QE2). These actions and the FOMC’s decision to reinvest principal payments from maturing securities more than tripled the Fed’s balance sheet: from about \$900 billion before Lehman’s announcement to about \$2.8 trillion currently. This essay discusses the potential of these actions for growth of the money supply and inflation.

The FOMC’s QE actions resulted in an enormous increase in reserves, most of which are currently held by the Fed in the form of excess reserves (the amount in excess of a bank’s required reserves). The Fed pays banks 0.25 percent for holding reserves (excess and required). Excess reserves constitute an enormous potential to increase the money supply as the economy improves and banks’ opportunities to lend and invest improve. The extent of this potential is demonstrated by the recent marked increase in the growth rate for total checkable deposits and required reserves (see the first chart). The three vertical lines on the chart show (from left to right) the months of Lehman’s announcement, QE1, and QE2, respectively. The second chart shows the levels of required and excess reserves.<sup>1</sup> I focus on total checkable deposits because the other component of M1—

currency—is supplied elastically (society gets all the currency it demands) and because currency has grown at an average rate of 5.75 percent since January 2001. Given the relative constancy of its growth, currency’s share of M1 declines when checkable deposits grow rapidly. Indeed, currency’s share of M1 has declined from 56 percent to 46 percent from November 2007 to December 2011.

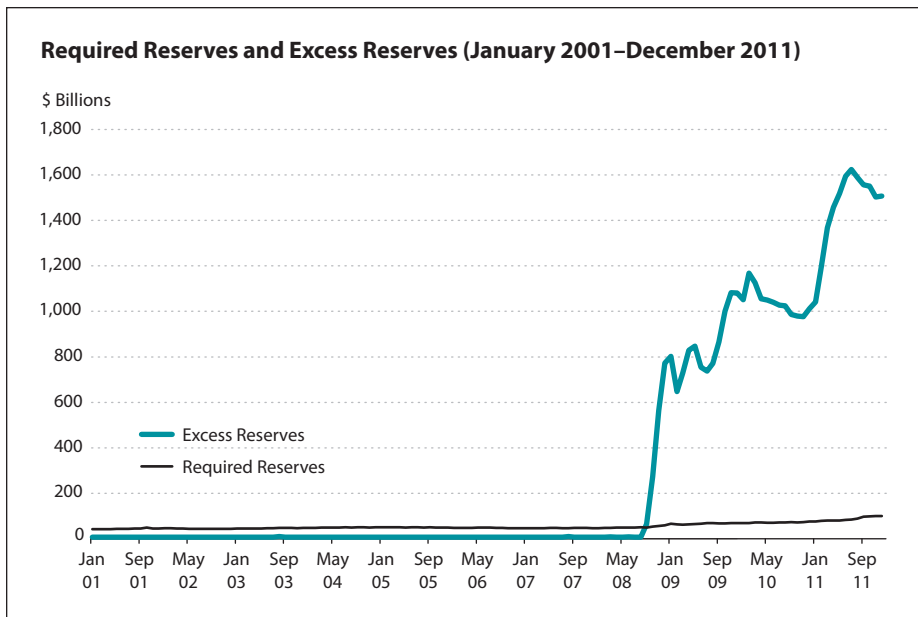
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The close relationship between the growth rates of required reserves and total checkable deposits reflects the fact that reserves requirements apply only to checkable deposits. A sharp spike occurred in the growth rates of checkable deposits and required reserves in association with the initial expansion of the Fed’s balance sheet follow-



ing Lehman’s announcement. This was relatively short-lived, however, because of the recession that began in December 2007. Another short-lived spike followed QE1, after which the growth rates declined to essentially pre-Lehman levels. However, the growth rates of reserves and deposits have again accelerated since the beginning of QE2. The year-over-year growth rate of required reserves in November 2011 is 34.1 percent, while that of total checkable deposits is 28.4 percent. The latter is reflected in the growth rate of the M1 money measure, which grew at an 18.2 percent rate. Indeed, the levels of total checkable deposits and required reserves have about doubled since August 2008.

It is important to note that the \$308.7 billion increase in total checkable deposits since QE2 occurred with only a \$27.5 billion increase in required reserves. This reflects the relatively low effective reserves requirement on checkable deposits, apparently about 9 percent ( $\$27.5/\$308.7$ ). Hence, the increase in the money supply occurred with only a very modest reduction in excess reserves as shown in the second chart. The rapid growth in total checkable deposits occurred with only a modest effect on the level of excess reserves. Hence, the enormous quantity of excess reserves can create an even greater expansion in the money supply. While discussions of the money supply are nearly nonexistent in modern monetary theory and policy, both economic theory and



historical experience suggest that a significant and persistent expansion in the money supply will be associated with a significant increase in the longer-run inflation rate. The recent acceleration in the growth of the money supply is of particular concern because the year-over-year consumer price index inflation for December 2011 is 3.0 percent and the year-over-year personal consumption expenditures inflation for November is 2.5 percent, both of which are already above the FOMC’s implicit inflation target of 2 percent. ■

<sup>1</sup> The growth rate of required reserves is lagged one month to account for lagged reserve accounting.