

### ***Where Did All the Money Go?***

Congress approved the Troubled Asset Relief Program (TARP) to jump start the credit markets that seized up during the latter half of 2008. The Treasury's implementation underwent several adjustments – from a plan to buy up toxic assets, to recapitalizing the banking system, to bailing out insolvent institutions along the way. The Treasury released a revised plan (TARP II) going forward that unfortunately remains vague. Inexplicably, the TARP II money did not come with a mandate to use the money to increase lending. Now, covenants come with the distribution of the remaining TARP money to promote bank lending.

The Federal Reserve, or Fed, did not sit on the sidelines. Rather, the Fed opened a fire hose of liquidity and liquidity facilities, trying to unfreeze the credit markets. More recently, the Fed completed the stress tests of the banks' solvency. The Fed also plans to increase directly the supply of credit to households and small businesses through several new innovative facilities, the Term Asset-Backed Securities Loan Facility (TALF).

On February 11, the House Financial Services Committee grilled the heads of the eight leading banks. The question of the day: "Where did all the money go?" Even though each executive mentioned how he used the TARP money, the consensus remains that the credit markets seized up and remain frozen.

So, where did all the money go? Quick response: Total reserves in the banking system jumped from \$44.6 billion in August 2008 to \$901.3 billion in May 2009, an unprecedented 1,921 percent increase in nine months. Banks held \$1.24 in reserves against each dollar in checking deposits! This level of reserves is unprecedented in the history of US banking.

In their classic treatise *A Monetary History of the United States*, Milton Friedman and Anna Schwartz developed a simple, yet remarkably powerful tool for understanding the supply of money. Their analysis of the Great Depression showed the power of their simple construct. Karl Brunner and Allan Meltzer refined the approach into what became known as the money supply process. Economists shelved this tool when central bankers stopped focusing on specific targets for money supply growth.

In this approach, bank deposits and credit emerge from the interaction of the banking system, the Federal Reserve, and rest of the economy, or the public. The Fed supplies currency and reserves, or base money, to banks and to the public. Banks demand this as reserves and the public demands it as cash. Since banks hold only a fraction of their deposit liabilities in reserves, they can loan out the excess reserves, thereby creating the multiple expansion of deposits and credit. For example, if banks hold 10 cents in reserves against each dollar of deposits, then a \$100

increase in reserves allows the banking system to create deposits and loans of as much as an additional \$900, increasing the supply of credit.

You and I and other depositors decide how to divide our money between cash and deposits. When we lose confidence in the banking system, we draw down our deposits and hold more cash. Also, the banking business becomes riskier so banks build up reserves to hedge the higher risk, in the process rejecting many new loan applications. As a result, the banking system loses deposits and hoard excess reserves, diminishing the multiple expansion of deposits and credit.

Can this simple money-supply tool inform today's developments in the banking system? Consider the M1 money supply – currency plus checking deposits. As recently as August 2008, this simple approach provided no signal about unusual, troubling events in the banking sector. The money multiplier did follow a secular decline since the late 1980s, falling from around 3.0 to 1.65, which largely reflected a similar secular rise in the currency ratio from 0.3 to 1.34. This rising currency ratio occurred as the public moved into substitutes for checking deposits and the overseas holdings of US dollars grew. Over this time period, however, the reserve ratio remained relatively stable at around 0.075 (i.e., 7.5 cents in reserves for each dollar in checking deposits).

But after August 2008, the money multiplier imploded, falling from 1.65 in August to 0.90 in May. That is, in May, if the Fed injected \$100 in currency plus reserves, then the banks turn around and produce \$90 in money, currency plus checking deposits for the private sector. Rather than a banking “multiplier,” we see a banking “diminisher.”

What can we conclude from these observations? The banking system now holds an enormous store of reserves that can support a huge increase in credit. When the banking system starts to expand the supply of credit, the Fed must reverse course to prevent a tsunami of credit. That is, the Fed must carefully and deliberately withdraw reserves from the banking system to prevent inflation from taking hold. During this adjustment, however, the Fed must avoid repeating the experience of 1935-38, when it absorbed extra reserves only to see them re-emerge with a second collapse of the money multiplier.

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