

## **Chapter 32: Money Creation**

Now that we understand the important role of the Federal Reserve in controlling the money supply, we must ask how the Federal Reserve changes the money supply. By printing new dollars? No. Strangely enough, banks actually create money through the process of loaning it out! Chapter 32 explains the process of money creation in the banking system, and this knowledge lays the foundation for explaining monetary policy in the next chapter.

The United States banking system uses a fractional reserve system, which means that only a small part of the checking account deposits are actually backed up by cash in the bank vault; banks loan out the rest of the deposits to other customers. This allows the money supply to grow far beyond the amount of physical currency in the country, but it can also result in bank runs if people feel insecure about the bank's stability. For this reason, the Federal Deposit Insurance Corporation (FDIC) was created to guarantee bank customers' deposits.

Examining a bank's balance sheet can increase understanding of the money creation process. A bank's assets must equal its liabilities plus net worth. When banks accept deposits or make loans, the transactions must balance on both sides of the sheet. If a customer deposits cash into her checking account or withdraws cash from her checking account, the money supply does not change; the money has only changed form.

The Federal Reserve sets reserve requirements for banks, requiring banks to hold a certain percentage of deposits in vault cash or on account with the Federal Reserve regional bank. Banks must be careful to avoid loaning so much money that they fall short of the reserve requirement. If they do, they must borrow from other banks overnight to meet the requirement, paying the banks back with interest known as the federal funds rate.

When banks make loans, they actually create money. If the reserve requirement is 20%, when Customer A deposits \$1000 into his checking account, the bank must hold \$200 in required reserves. The other \$800 constitutes excess reserves, which the bank can now loan out to Customer B. Customer B then makes an \$800 purchase from Customer C, who deposits that money into her own bank account. As a result, the money supply has increased by \$800. But then the bank is required to hold \$160 of that deposit in reserve and can re-loan \$640 to Customer D, who makes a purchase from Customer E, who re-deposits the funds, creating another \$640 in the money supply. This process can continue until the original deposit (minus the reserve requirement) is fully loaned out.

The ability of banks to create money leads to an important conclusion: When banks lend funds, the money supply can grow much larger than the initial deposits. The money multiplier ( $1 / \text{Reserve Requirement}$ ) determines how large the money supply can grow if all excess reserves are fully loaned. The maximum amount of money created equals the money multiplier times the initial excess reserves. In our example, with a money multiplier of 5 ( $1/0.2$ ) and excess reserves of \$800 from the initial deposit, the potential growth of the money supply is \$4,000 ( $5 \times \$800$ ). This potential growth in the money supply illustrates even more clearly how important it is for the Federal Reserve to use a reserve requirement; otherwise, the money supply could grow infinitely!

It is important to note that the money supply generally does not fully expand to its potential. If those who receive the proceeds of loans do not re-deposit the money in

the bank, or if the bank chooses not to fully loan its excess reserves, the money supply will not continue to expand from that point.

Material from Chapter 32 consistently appears in a few multiple-choice questions on the AP Macroeconomics Exam. Entire free-response questions have also come from material in this chapter, centering on money creation, the money multiplier, and factors that limit the extent to which the money supply fully expands. It is important to be able to calculate the required and excess reserves and potential changes in the money supply as a result of changes in reserve requirements or deposits. It is also important to be able to interpret balance sheet data to determine excess reserves and the capacity of a bank to further lend funds.