

How Banks and Thrifts Create Money



Introduction: Although we are fascinated by large sums of currency, people use checkable deposits for most transactions.

- Most transaction accounts are "created" as a result of loans from banks or thrifts.
- This chapter demonstrates the money-creating abilities of a single bank or thrift and then looks at that of the system as a whole.
- The term depository institution refers to banks and thrift institutions, but in this chapter the term bank will be often used generically to apply to all depository institutions.

Balance Sheet of a Single Commercial Bank

- A balance sheet states the assets and claims of a bank at some point in time.
- All balance sheets must balance, that is, the value of assets must equal value of claims.
 - The bank owners' claim is called net worth.
 - Nonowners' claims are called liabilities.
 - Basic equation: $\text{Assets} = \text{liabilities} + \text{net worth}$.

History of Fractional Reserve Banking: The Goldsmiths

- In the 16th century goldsmiths had safes for gold and precious metals, which they often kept for consumers and merchants. They issued receipts for these deposits.
- Receipts came to be used as money in place of gold because of their convenience, and goldsmiths became aware that much of the stored gold was never redeemed.
- Goldsmiths realized they could "loan" gold by issuing receipts to borrowers, who agreed to pay back gold plus interest.
- Such loans began "fractional reserve banking," because the actual gold in the vaults became only a fraction of the receipts held by borrowers and owners of gold.

- Significance of fractional reserve banking:
 - Banks can create money by lending more than the original reserves on hand. (Note: Today gold is not used as reserves).
 - Lending policies must be prudent to prevent bank "panics" or "runs" by depositors worried about their funds. Also, the U.S. deposit insurance system prevents panics.

Money Creation Potential by a Single Bank in the Banking System

- Formation of a commercial bank: Following is an example of the process.
 - In Wahoo, Nebraska, the Wahoo bank is formed with \$250,000 worth of owners' capital stock (see Balance Sheet 1).
 - This bank obtains property and equipment with some of its capital funds (see Balance Sheet 2).
 - The bank begins operations by accepting deposits (see Balance Sheet 3).
 - Bank must keep reserve deposits in its district Federal Reserve Bank (see Table 14-1 for requirements).
 - Banks can keep reserves at Fed or in cash in vaults.
 - Banks keep cash on hand to meet depositors' needs.
 - Required reserves are a fraction of deposits, as noted above.
- Other important points:
 - Terminology: Actual reserves minus required reserves are called excess reserves.
 - Control: Required reserves do not exist to protect against "runs," because banks must keep their required reserves. Required reserves are to give the Federal Reserve control over the amount of lending or deposits that banks can create. In other words, required reserves help the Fed control credit and money creation. Banks cannot loan beyond their fraction required reserves.
 - Asset and liability: Reserves are an asset to banks but a liability to the Federal Reserve Bank system, since now they are deposit claims by banks at the Fed.
- Continuation of Wahoo Bank's transactions:
 - Transaction 5: A \$50,000 check is drawn against Wahoo Bank by Mr. Bradshaw, who buys farm equipment in Surprise, Nebraska. (Yes, both Wahoo and Surprise exist).
 - The Surprise company deposits the check in Surprise Bank, which gains reserves at the Fed, and Wahoo Bank loses \$50,000 reserves at Fed; Mr. Bradshaw's account goes down, and Surprise implement company's account increases in Surprise Bank.
 - The effects of this transaction are traced in Figure 14-1 and Balance Sheet 5.
- Money-creating transactions of a commercial bank are shown in the next 3 transactions.
 - Transaction 6: Wahoo Bank grants a loan of \$50,000 to Gristly in Wahoo (see Balance Sheet 6a).
 - Money (\$50,000) has been created in the form of new demand deposit worth \$50,000.
 - Wahoo Bank has reached its lending limit: It has no more excess reserves as soon as Gristly Meat Packing writes a check for \$50,000 to Quickbuck Construction (See Balance Sheet 6b).

- Legally, a bank can lend only to the extent of its excess reserves.
- Transaction 7: Loan repayments result in a decline in demand deposits and, therefore, a decrease in money supply at the time the loan is repaid (see Balance Sheet 7). Gristly repays its \$50,000 loan.
- Transaction 8: When banks or the Federal Reserve buy government securities from the public, they create money in much the same way as a loan does (see Balance Sheet 8). Wahoo bank buys \$50,000 of bonds from a securities dealer. The dealer's checkable deposits rise by \$50,000. This increases the money supply in same way as the bank making the loan to Gristly.

o Likewise, when banks or the Federal Reserve sell government securities to the public, they decrease supply of money like a loan repayment does.

- Profits, liquidity, and the federal funds market:
 - o Profits: Banks are in business to make a profit like other firms. They earn profits primarily from interest on loans and securities they hold.
 - o Liquidity: Banks must seek safety by having liquidity to meet cash needs of depositors and to meet check clearing transactions.
 - o Federal funds rate: Banks can borrow from one another to meet cash needs in the federal funds market, where banks borrow from each other's available reserves on an overnight basis. The rate paid is called the federal funds rate.

The Entire Banking System and Multiple-Deposit Expansion (all banks combined)

- The entire banking system can create an amount of money which is a multiple of the system's excess reserves, even though each bank in the system can only lend dollar for dollar with its excess reserves.
- Three simplifying assumptions:
 - o Required reserve ratio assumed to be 20 percent. (The actual reserve ratio averages 10 percent of checkable deposits.)
 - o Initially banks have no excess reserves; they are "loaned up."
 - o When banks have excess reserves, they loan it all to one borrower, who writes check for entire amount to give to someone else, who deposits it at another bank. The check clears against original lender.
- System's lending potential: Suppose a junkyard owner finds a \$100 bill and deposits it in Bank A. The system's lending begins with Bank A having \$80 in excess reserves, lending this amount, and having the borrower write an \$80 check which is deposited in Bank B. See further lending effects on Banks C and D. The possible further transactions are summarized in Table 14-2.
- Monetary multiplier is illustrated in Table 14-2.
 - o Formula for monetary or checkable deposit multiplier is:
 - o Monetary multiplier = $1/\text{required reserve ratio}$ or $m = 1/R$ or $1/.20$ in our example.
 - o Maximum deposit expansion possible is equal to: $\text{excess reserves} \times \text{monetary multiplier}$, or
 - o Figure 14-2 illustrates this process in a diagram.

- Modifications to simple monetary multiplier concept reduce the final result and include complications due to "leakages."
 - Currency drains (cash kept by customers) dampen M, because that money is not part of bank reserves so can't be loaned out further.
 - Excess reserves kept on hand by banks also dampen M, because those reserves are not loaned out and therefore not expanded.
- Need for monetary control:
 - During prosperity, banks will lend as much as possible and reserve requirements provide a limit to expansion of loans.
 - During recession, banks may cut lending, which can worsen recession. Federal Reserve has ways to encourage lending in such cases.
 - The conclusion is that profit-seeking bankers will be motivated to expand or contract loans that could worsen business cycle. The Federal Reserve uses monetary policy to counteract such results in order to prevent worsening recessions or inflation. Chapter 15 explains this.

LAST WORD: The Bank Panics of 1930-1933

- Bank panics in 1930-33 led to a multiple contraction of the money supply, which worsened Depression.
- Many of failed banks were healthy, but they suffered when worried depositors panicked and withdrew funds all at once. More than 9000 banks failed in three years.
- As people withdrew funds, this reduced banks' reserves and, in turn, their lending power fell significantly.
- Contraction of excess reserves leads to multiple contraction in the money supply, or the reverse of situation in Table 14-2. Money supply was reduced by 25 percent in those years.
- President Roosevelt declared a "bank holiday," closing banks temporarily while Congress started the Federal Deposit Insurance Corporation (FDIC), which ended bank panics on insured accounts.