CHAPTER 31
Money, Banking, and Financial Institutions

Answers to Short-Answer, Essays, and Problems

1. What is money? Explain in terms of the functions of money.

   Money is whatever performs the three basic functions of money: It is a medium of exchange for buying and selling goods and services. It serves as a unit of account for measuring the monetary cost of goods and services. It is a store of value so people can transfer purchasing power from the present to the future.

2. What are the three functions that a commodity must fulfill to be useful as money?

   The commodity must serve as a medium of exchange; it must provide a unit of account; and it must act as a store of value, that is, it must retain its worth in terms of other goods and services.

3. Why can’t food be used as a form of money?

   Hypothetically, you could use food as a means of exchange and a unit of account. For example, you could pay for goods in muffins. However, food is not a good store of value, as food can become stale and decay. Thus food does not maintain its value as a dozen fresh muffins today will not be worth the same 10 days from now.

4. Money is what money does. Explain.

   This refers to the idea that money (at least paper money and checks) has no intrinsic value. It is valuable only in terms of its acceptability in exchange for goods and services. In other words, it is valuable only in terms of what it does: act as a medium of exchange, a unit of account, and a store of value.

5. Define asset liquidity. Provide an example of a highly liquid and highly illiquid asset.

   An asset’s liquidity is the ease with which an asset can be converted quickly into cash with little or no loss of purchasing power. It can be concluded from this definition that cash is the most liquid asset available in our economy. On the other hand, a house is an example of a very illiquid asset. Houses are illiquid because they may take time to sell and because there are a substantial number of fees associated with the sale of a house and these fees generate a loss of purchasing power.

6. What is a key advantage of money over other financial assets such as stocks, bonds, precious metals or real estate?

   A key advantage of money, especially in its cash form, is that it is widely accepted and easy to use for transactions. Other assets, such as stocks, bonds, precious metals, or real estate must first be converted to money before they can be used to make purchases. Ease with which such assets can be converted to money without losing purchasing power is a measure of the liquidity of an asset.

7. Some government bonds can be redeemed for currency or a check at banks. Why, then, isn’t it universally agreed that government bonds are money?

   The question literally answers itself. These assets must be exchanged for currency or a check (which is money by definition) before they are generally acceptable in exchange for goods and services. While they can be exchanged for currency or a check, bonds are one step removed from being spendable as money.
8. What are the two major components of the $M_1$ money supply?

The narrowly defined money supply is called $M_1$ and has two principal components. One component is currency: It consists of coins that are token money, which means the value of the metal in the coin is less than the face value of the coin. It also consists of paper money in the form of Federal Reserve Notes.

The second component is checkable deposits. They allow a person to transfer ownership of deposits to others by the writing of checks; these checks are generally accepted as a medium of exchange.

9. Why are modern coins not made of precious metals?

If a quarter, for example, were made of platinum instead of a more common metal, its value would be more than the 25 cents it is officially posted to be worth. People would then have the incentive to accumulate quarters and melt them down and sell them as platinum for a profit, instead of using them as money. Quarters would then disappear from circulation. This is the reason why coins are not made from precious metals.

10. How is a commercial bank different from a savings and loan association?

A commercial bank differs from a savings and loan association primarily in the type of loans each is allowed to make. Savings and loan associations were originally established to act as lending institutions for homebuyers. Thus, most of their assets were mortgages. Commercial banks, on the other hand, dealt with business loans and short-term consumer and installment loans. Banks were allowed to have checking accounts whereas S&Ls were not. Today, the difference between the two institutions is blurred as S&Ls offer checkable deposits and make short-term consumer loans. They still exist primarily to make home mortgage loans. Commercial banks are still the major source of business short-term borrowed funds and offer commercial checking accounts. While banks do make some long-term home loans, they are still primarily associated with business lending and short-term consumer loans.

11. Are currency and checkable deposits owned by the government (U.S. Treasury) and the Federal Reserve Bank, commercial banks, and other financial institutions part of the money supply? Explain.

No. Currency and checkable deposits at these institutions are not counted. In the case of commercial banks and other financial institutions, if currency from an individual is deposited in a checking account, and both the currency and checkable deposit were then counted as part of the money supply, then it would be double counting. So, the money supply consists only of the currency and checkable deposits held by individuals or businesses at financial institutions. The exclusion of currency and checkable deposits held by government is more arbitrary, but permits economists to focus on the money supply in the private sector of the economy.

12. What is the difference between the $M_1$ and $M_2$ definitions of the money supply?

Both $M_1$ and $M_2$ are definitions of the economy’s money supply. $M_1$ is the definition of the money supply with the highest degree of liquidity, the money supply used mainly for transactions purposes. $M_1$ consists of currency (coins and paper money) and checkable deposits. $M_2$ consists of everything in $M_1$ plus savings deposits, including money-market deposit accounts, small time deposits, and money-market mutual fund balances held by individuals.
13. Use the figures in the table below to answer the following questions.

<table>
<thead>
<tr>
<th></th>
<th>Billions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small time deposits</td>
<td>$1014</td>
</tr>
<tr>
<td>Money-market mutual funds held by businesses</td>
<td>1190</td>
</tr>
<tr>
<td>Savings deposits, including money-market deposit accounts</td>
<td>3649</td>
</tr>
<tr>
<td>Money-market mutual funds held by individuals</td>
<td>744</td>
</tr>
<tr>
<td>Checkable deposits</td>
<td>633</td>
</tr>
<tr>
<td>Currency</td>
<td>743</td>
</tr>
</tbody>
</table>

(a) What is the value of \( M_1 \)?
(b) What is the value of \( M_2 \)?

(a) $743 billion + $633 billion = $1376 billion
(b) $1376 billion + $3649 billion + $1014 billion + $744 billion = $6783 billion

14. Use the figures in the table below to answer the following questions.

<table>
<thead>
<tr>
<th></th>
<th>Billions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small time deposits</td>
<td>$1260</td>
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<tr>
<td>Money-market mutual funds held by businesses</td>
<td>1290</td>
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<tr>
<td>Savings deposits, including money-market deposit accounts</td>
<td>1750</td>
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<td>Money-market mutual funds held by individuals</td>
<td>850</td>
</tr>
<tr>
<td>Checkable deposits</td>
<td>896</td>
</tr>
<tr>
<td>Currency</td>
<td>340</td>
</tr>
</tbody>
</table>

(a) What is the value of \( M_1 \)?
(b) What is the value of \( M_2 \)?

(a) $896 billion + $340 billion = $1236 billion
(b) $1236 billion + $1750 billion + $1290 billion + $850 billion = $5096 billion

15. Use the figures in the table below to answer the following questions.

<table>
<thead>
<tr>
<th></th>
<th>Billions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small time deposits</td>
<td>$1250</td>
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<tr>
<td>Money-market mutual funds held by businesses</td>
<td>1300</td>
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<tr>
<td>Savings deposits, including money-market deposit accounts</td>
<td>1620</td>
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<tr>
<td>Money-market mutual funds held by individuals</td>
<td>905</td>
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<td>Checkable deposits</td>
<td>836</td>
</tr>
<tr>
<td>Currency</td>
<td>325</td>
</tr>
</tbody>
</table>

(a) What is the value of \( M_1 \)?
(b) What is the value of \( M_2 \)?

(a) $836 billion + $325 billion = $1161 billion
(b) $1161 billion + $1620 billion + $1250 billion + $905 billion = $4936 billion
16. Explain the difference between a money-market deposit account and a money-market mutual fund.

A money market mutual fund is offered through a financial investment company and investors buy shares in the fund. Such funds invest in short-term (less than one year) credit instruments such as Treasury bills and short-term certificates of deposit that are known as money-market instruments. The money-market deposit account is a type of savings account offered by banks and thrifts that pool individual deposits to buy a variety of short-term securities. These accounts have minimum balance requirements and limit how often money can be withdrawn. Because they are bank accounts, however, they are insured by the relevant deposit insurance fund.

17. (Consider This) Are credit cards money? Explain.

Credit cards represent the ability to get an instant loan that can be exchanged for goods or services. At some point, however, that loan must be paid with money (checks or currency). So credit card transactions are short-term loans that must be repaid with money.

18. Why is money considered to be debt?

The major parts of the money supply are currency and checkable deposits. These items are debts, or promises to pay. Paper money is the circulating debt of the Federal Reserve banks. Checkable deposits are debts of commercial banks and thrifts. Neither the currency nor checkable deposits have any intrinsic value. They are simply circulating paper to which people must attach value.

19. Why don’t economists agree with backing paper money with a certain commodity, such as gold?

Supplies of commodities like gold can change unexpectedly and arbitrarily. A sudden increase in the availability of a commodity could increase the money supply too quickly and trigger inflation. A persistent scarcity of a commodity could reduce the money supply too much and cause a recession and unemployment.

20. Discuss three major points about what gives money its value.

First, currency and demand deposits (M1 definition) are considered money because these items are accepted as payment for goods and services. Money must be acceptable to serve its function as a medium of exchange. Second, the government mandates through law that paper money be accepted as payment for debts. While checks are not mandated by law as money, government agencies do back demand deposits at banks with deposit insurance that helps to maintain the acceptability of this form of money. Third, money is relatively scarce. There is a reasonably constant demand for money for transactions purposes and future uses. The supply of money will determine the value or “purchasing power” of each unit of money. The supply of money is controlled by monetary institutions (the Federal Reserve System) that attempt to maintain a reasonably stable purchasing power for money.

21. State the formula for the relationship between the purchasing power of the U.S. dollar and the price level.

The purchasing power of the U.S. dollar is inversely related to the price level: Value of the dollar \( (\$V) = 1 \) divided by price level \( (P) \) expressed as an index number (in hundredths), or \( \$V = 1/P \).
22. Complete the following table showing the relationship between a percentage change in the price level and the percentage change in the value of money. Calculate the percentage change in the value of money to one decimal place.

<table>
<thead>
<tr>
<th>Change in price level</th>
<th>Change in value of money</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. rises by:</td>
<td></td>
</tr>
<tr>
<td>8%</td>
<td>- 7.4%</td>
</tr>
<tr>
<td>16%</td>
<td>-13.7%</td>
</tr>
<tr>
<td>24%</td>
<td>-19.4%</td>
</tr>
<tr>
<td>b. falls by:</td>
<td></td>
</tr>
<tr>
<td>8%</td>
<td>+ 8.7%</td>
</tr>
<tr>
<td>16%</td>
<td>+19.0%</td>
</tr>
<tr>
<td>24%</td>
<td>+31.5%</td>
</tr>
</tbody>
</table>

23. How do high rates of inflation affect the acceptability of a nation’s currency?

High rates of inflation reduce the purchasing power of a nation’s currency. From the time the currency is received to the time that it is spent, fewer goods and services can be bought with that currency. Businesses and workers may not want to hold currency that loses value quickly because of high inflation. They may look for alternative currencies to hold or other assets that do not lose value. These actions reduce the economic efficiency provided by the institution of money. It is also difficult for consumers to evaluate prices as a reflection of the value of a product as the prices are changing rapidly.

24. Explain what policies are used to stabilize the value of money.

Monetary policy is used to regulate the money supply in the economy. If too much money is available for the given level of production of goods and services, this situation can lead to inflation and reduce the value of money. Fiscal policy can also be used to help maintain the value of money. The U.S. government needs to be prudent in its spending and taxing actions (fiscal policy) so that it does not reduce the value of money by running large deficits when the economy is at full-employment.

25. What issues in U.S. banking precipitated the creation of the Federal Reserve System in 1913?

Before the creation of the Fed, banking was decentralized, unregulated and not standardized. Private banks each had their own notes that could be used as currency and the money supply was mismanaged. In 1907, there was also a banking crisis and as a result Congress created the National Monetary Commission, which in turn created the Federal Reserve.
26. Describe the three major units of the Federal Reserve System and their functions.

First, the Federal Reserve System is overseen by the Board of Governors. This Board is responsible for control of the supply of money and the banking system. The President appoints the seven members of the Board. Second, there are twelve regional Federal Reserve Banks. They serve as central banks, quasi-public banks, and bankers’ banks. Third, the Federal Open Market Committee (FOMC) helps the Board by establishing policy over the buying and selling of government securities.

27. What responsibilities do the U.S. President and U.S. Senate have regarding the members of the Board of Governors of the Federal Reserve System?

The U.S. president appoints the seven members of the Board of Governors, who each serve for 14 years. The U.S. president also selects the board chair and vice-chair from among the board members, and the chair and vice-chair serve for 4-year terms. The appointment of board members (and board chair and vice-chair) are confirmed by the U.S. Senate.

28. How do long terms for appointments benefit the Federal Reserve’s Board of Governors?

Long term appointments allow the Board to maintain continuity, foster experience amongst its members and help keep it independent from political pressures it would face if it had to worry frequently about having to be reappointed.

29. What are the three major characteristics of the twelve Federal Reserve Banks?

They act together as the central bank of the United States. They are quasi-public in that they are owned by private commercial bank members, but are controlled by the government since the system was established by an act of Congress. Finally, they are bankers’ banks because they perform essentially the same functions for depository institutions that those institutions perform for their customers. That is, the Federal Reserve Banks make loans to financial institutions, keep their reserve deposits, and provide them with paper money.

30. How do the 12 Federal Reserve Banks operate as a central bank?

Although there are 12 banks, they work together as the nation’s central bank because the banks are under control of the Board of Governors of the Federal Reserve System. The 12 banks reflect the geographic and economic diversity of the United States, but work together as one body to implement the policies set by the Board of Governors.

31. In what way are the 12 Federal Reserve Banks considered “quasi-banks”?

They are quasi-public because they blend private ownership with public control. The 12 Federal Reserve Banks are owned by private commercial bank members in their region. These private banks are required to purchase stock in the Federal Reserve Bank in their district. The policies of the 12 Federal Reserve Banks are set by the Board of Governors, which is a government-appointed body. The U.S. Congress also established the Federal Reserve System and its 12 banks. The 12 Federal Reserve Banks do not operate to make a profit as do private banks, but rather primarily serve to control the money supply.

32. The Federal Reserve Banks are bankers’ banks. Explain.

This means that the Federal Reserve Banks perform essentially the same functions for banks as the banks perform for the public. Just as banks and thrifts accept deposits of and make loans to the public, so the Federal Reserve Banks accept deposits and make loans to banks and thrifts.

33. Who sits on the Federal Open Market Committee (FOMC)?
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The Federal Open Market Committee is made up of the seven members of the Board of Governors, the president of the New York Federal Reserve Bank, plus four other presidents of the twelve Federal Reserve Banks. The four presidents from the Federal Reserve banks serve 1-year rotating terms as voting members. The other seven bank president presidents attend meetings, but do not have voting power until they rotate on the Board as voting members.

34. What is the main purpose of the Federal Open Market Committee (FOMC)?

This committee sets monetary policy with regard to the purchase and sale of government securities. This buying and selling of government securities is a major tool used to influence interest and regulating the supply of money in the economy.

35. What are the seven functions of the Federal Reserve System? Which one is most important?

The seven functions are: (1) issuing currency; (2) setting reserve requirements and holding required reserves of banks and thrift institutions; (3) lending money to banks and thrifts; (4) collecting and clearing checks for banks and thrifts; (5) serving as the fiscal agent for the U.S. government; (6) supervising the operation of member banks; and (7) controlling the money supply. Controlling the money supply to meet the needs of the economy is the most important function.

36. Is the Federal Reserve an independent institution?

The Federal Reserve is generally considered to be independent of control by the U.S. Congress and the U.S. President. Although it was created by Congress and can be eliminated by Congress, any change in its role and mission will require extensive legislative action, which is unlikely to occur. The President also has no direct control over the operation of the Federal Reserve, other than lobbying influence and the power to appoint members of the Board of Governors. These members, however, are appointed to long terms—fourteen years—which gives them protection from immediate political pressures. The long terms also reduce the possibility for any one President from packing the Board.

37. Why did the U.S. Congress establish the Federal Reserve as an independent agency?

Those who support the notion of an independent Federal Reserve System argue that the Fed should be protected from political pressures so that it can focus on the control of the money supply and the needs of the economy. Otherwise, the Fed would often be under intense political pressure to expand the money supply to accommodate an expansionary fiscal policy of the U.S. Congress. An independent Fed is more likely to maintain a stable currency and shield the economy from the intense inflationary pressure created by an overly expansionary fiscal policy.

38. What three factors led to the mortgage default crisis?

First, banks became quite lax in their lending standards because they thought that they were not exposed to mortgage default risk. Second, government programs encouraged more renters to purchase houses through subsidies and other incentives even if the renters had limited financial capability to repay the mortgages. Third, housing prices also had increased substantially and this development led to overbuilding and over-buying of houses. In short, too many people were given mortgages and assumed mortgage risks which they could not handle. Once housing prices started to fall, the economy moved toward recession and unemployment rose, and the many homeowners with limited financial means could no longer afford to cover their mortgage payments and defaulted on their mortgages.

39. How did mortgage defaults affect banks involved in mortgage lending and mortgage investing?

Defaults on home mortgage loans caused losses for financial institutions that either directly or indirectly loaned these funds. Many loans were subprime mortgage loans, which were made to individuals with higher credit risk and at higher interest rates. As the economy declined and unemployment rose, the banks suffered reserve losses and had less capacity to extend loans or credit. Contributing to the problem was that
some mortgages were bundled together to create mortgage-backed securities, which in essence are bonds backed by mortgage payments. Banks then lent money to investment firms to purchase such bonds. When defaults rose, banks lost more money on the loans made to the investment firms, thus further reducing bank reserves.

40. What is meant by the term securitization? How did mortgage-backed securities spread losses during the mortgage default crisis?

The process of bundling and segmenting financial contracts, such as loans, mortgages, or corporate bonds, into a financial instrument is called securitization. It was viewed favorably because it was designed to spread the risk of any default to a broader group of financial institutions and investors who held these securities. Insurance could be purchased on these securities with collateralized default swaps. As mortgage default rates rose, these mortgage-backed securities spread losses throughout the economy to the financial institutions and investors who held them or insured them both in the United States and other nations. These losses led to the failure or near-failure of many large financial firms and less availability of money and credit for the economy.

41. What is TARP? How does it illustrate the problem of moral hazard?

TARP refers to the Troubled Asset Relief Program. It was established by the Federal government in late 2008 to make emergency loans to important U.S. financial institutions and businesses so that they would not fail and continue to operate. A $700 billion "bailout" fund was used to support such firms as AIG, Citibank, Bank of America, and also businesses such as General Motors and Chrysler. TARP, however, also created a moral hazard because it set a precedent for helping or rewarding some firms for taking larger risks than they otherwise would have without such government backing because the large firms were considered "too big to fail."

42. What did the Federal Reserve do during the financial crisis of 2008 and 2009?

The Federal Reserve serves as the lender of last resort. During the financial crisis it established many innovative facilities that were designed to keep money and credit available and flowing to financial institutions and businesses. It did so by loaning more funds and purchasing hard-to-sell securities from banks and other institutions. It also paid banks interest on the deposits they were required to keep at the Federal Reserve or that they held in their bank vaults.

43. Besides banks and thrifts, what other types of financial services firms exist and what do they do?

The U.S. financial services industry consists not only of banks and thrifts, but also of insurance companies, mutual fund companies, pension funds, and securities firms. Insurance companies offer policies for which individuals pay premiums against a type of loss. Some invest funds, which are paid back later. Mutual fund companies pool customer deposits to buy stocks and/or bonds and the customer owns a share of the fund. Pension funds collect savings from workers and/or employers on workers’ behalf throughout each employee’s working years and invest it in stocks and bonds and make monthly retirement payments. Security firms offer advice and assist in the sale and purchase of stocks and bonds.

44. How did the recent financial crisis affect the financial services industry?

The recent financial crisis further contributed to consolidation among banks and in other firms in the financial services industry. Also, in response to the financial crisis, regulations and legislation have been enacted or are being considered to provide better safeguards for the financial system and address the moral hazard of “too big to fail.”
45. What are six major provisions of the Wall Street Reform and Consumer Protection Act?

First, the act gave greater powers to the Federal Reserve to regulate large financial institutions. Second, it created a Financial Stability Oversight Council to monitor risks to the financial system. Third, it set up a process for liquidating large financial institutions that are failing. Fourth, it established Federal supervisory oversight of the mortgage-backed securities market and required that they be traded on public exchanges. Fifth, it required sellers of asset-backed securities to hold a portion of the securities so they assumed some risk. Sixth, it established the Bureau of Consumer Protection.

46. (Last Word) How has the character of money changed with new technology?

The character of money has changed with the shift to the widespread use of electronic payments systems. The extensive use of credit and debit cards, electronic transfer of funds, and electronic transactions accounts (such as PayPal) to make purchases and settle debts are just some of the innovations, but more are likely to be developed and used in the future as individuals and businesses makes greater use of technology for handling electronic payments.

47. (Last Word) “Money will always be a physical entity.” Evaluate this statement.

This statement is incorrect. As we have seen recently, there has been a move toward electronic money. This could be the credit used on credit cards or the use of a debit card. Also, so-called smart cards, such as the American Express Blue Card or store gift cards, can hold a certain balance on them which can be deducted from or recharged. All of these forms of money are electronic and can’t be held physically. Thus money has changed from a purely physical entity.