Part- 3 Chapter- 12

Aplia Homework: Money and the Banking System

**1. Too Big to Fail and banks' ability to create money**

Consider the following dialog between Poornima, a student studying a chapter on “Money and the Banking System” and Kate, her teaching assistant.

POORNIMA: Hi Kate. Before I begin my homework, I'd like to make sure that I understand how banks create money.

POORNIMA: I'm glad you asked this question, Poornima. When I began studying money and banking, I was fascinated by the banks' ability to create money. It does look like a trick when banks use excess reserves to lend money, and thus increase their assets. Borrowers then deposit new loans, which increases both bank deposits and excess reserves. This process is called deposit expansion. As a result, the money supply will increase.

KATE: By the same logic, when required reserves fall, banks \_\_\_\_\_\_\_\_ granting new loans, which causes \_\_\_\_\_\_\_\_ to decrease. This process is called \_\_\_\_\_\_\_\_. As a result, the money supply will decrease.

POORNIMA: I also wanted to ask you about the “too big to fail” notion. What does it entail? I had a feeling that during the lecture our professor was criticizing big banks, but I have always thought that big banks are more reliable than small banks. My parents, for example, have always preferred a big bank operating at a national level over a small local bank.

KATE: The fact that big financial institutions may create financial crises rather than help avoid them is counterintuitive, isn't it? You see, each bank is part of a national, even an international, banking system. In turn, the banking system is part of the broader financial system. If one of the system's components fails, it creates a domino effect, undermining the stability of the entire system. For example, a bank run will cause trouble for other banks that are owed money by the first bank. However, the impact of the failure of a financial institution depends on the size of the institution. For example, although the failure of a small community bank in Idaho would probably cause a lot of inconvenience for its depositors, the banking and financial system would quickly absorb the losses. However, the collapse of a national bank such as Bank of America or Citibank would cause chaos both nationally and internationally. Hence, fixing the breach in the system would require massive rescue efforts, typically in the form of taxpayer-funded bailouts. Moreover, investors would get a clear signal that the national economy was experiencing massive problems. Investors would quickly call in their funds, which would only make matters worse. In other words, although big and interconnected banks would reduce banking fees and offer a broader variety of services, they can threaten the entire system if they run into trouble.

Now, tell me what term did the professor use to describe the risk associated with big banks?

POORNIMA: Indeed, it all makes sense. The professor used the term \_\_\_\_\_\_\_\_\_\_ to describe the vulnerability of the financial system to the failure of a big bank.

KATE: What is the name of the institution that supervises big banks nowadays?

POORNIMA: The professor told us that since 2010, the \_\_\_\_\_\_\_\_ supervises financial institutions that are believed to be systemically important.

**2. The roles of money**

Dmitri wants to purchase a new computer and go to the Caribbean for spring break. The computer is priced at $1,299, and the vacation is priced at $750. He has only $1,537 in his checking account, so he cannot afford to purchase both. After much thought, Dmitri buys the computer and writes a check for $1,299.

Identify what role money plays in each of the following parts of the story.

**Hint**: Select each role only once.

| **Role of Money** | **Medium of Exchange** | **Unit of Account** | **Store of Value** |
| --- | --- | --- | --- |
| Dmitri can easily determine that the price of the computer is more than the price of the vacation. | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ |  |
| Dmitri has $1,537 in his checking account. | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ |  |
| Dmitri writes a check for $1,299. | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ |  |

**3. The kinds of money**

Suppose a period of continuous political instability leads people to believe that the economy will slide into a deep recession. As a result, people become more likely to accept \_\_\_\_\_\_\_\_\_ money in exchange for goods and services.

U.S. dollars are an example of \_\_\_\_\_\_\_ money.

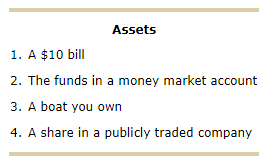
**4. Money aggregates**

Identify whether each example in the following table belongs in M1, M2, or both. If an example belongs in both, be sure to check both boxes.

| **Example** | **M1** | **M2** |
| --- | --- | --- |
| Van has $2,000 in a savings account. | \_\_\_ | \_\_\_ |  |
| Paolo has a roll of quarters that he just withdrew from the bank to do laundry. | \_\_\_ | \_\_\_ |  |
| Amy has $6,000 in a six-month certificate of deposit (CD). | \_\_\_ | \_\_\_ |  |

**5. Liquidity**

Consider the relative liquidity of the following assets:



*Select the assets in order of their liquidity, from most liquid to least liquid.*

|  | **Asset** |
| --- | --- |
| **Most Liquid** | \_\_\_\_\_\_\_\_\_\_\_ |
| **Second-Most Liquid** | **\_\_\_\_\_\_\_\_\_\_\_** |
| **Third-Most Liquid** | **\_\_\_\_\_\_\_\_\_\_\_** |
| **Least Liquid** | \_\_\_\_\_\_\_\_\_\_\_ |

**6. Monetary concepts**

The main reason that U.S. currency cannot be turned in to the government in exchange for a tangible asset such as gold is that:

Government officials enjoy acquiring assets and don't want to lose anything tangible

**This gives the government more freedom to manage the nation's money supply**

People prefer tangible items, so the government would not be able to satisfy demand for the tangible item at any fixed rate of exchange

U.S. currency is the debt of the Federal Reserve Banks

**7. Banks and the fractional reserve system**

When a check drawn against Bank A clears the system, Bank A loses:

Both reserves and deposits

Deposits

Reserves

Neither reserves nor deposits

**8. Banking panics and regulations**

Which of the following describe a common cause of bank panics? Check all that apply.

Potential buyers of the assets of a bank, incorrectly rumored to be distressed, may suspect the assets to be of poor quality.

Bank executives are not trained in risk management.

Rumors that a bank is in financial trouble spread easily.

Which of the following are reasons why bank panics were largely eliminated after 1933? Check all that apply.

The Federal Reserve ("the Fed") stands ready to inject reserves into the system more quickly in a crisis.

Banks are required to hold a significant percentage of their assets as bank capital.

**9. Required and excess reserves**

Suppose that Second Republic Bank currently has $200,000 in checkable deposits and $130,000 in outstanding loans. The Federal Reserve has set the reserve requirement at 10%. Using these values, fill in the empty cells for reserves, required reserves, and excess reserves in the following table.

| **Second Republic** | | |
| --- | --- | --- |
| **Reserves** | **Required Reserves** | **Excess Reserves** |
| ***(Dollars)*** | ***(Dollars)*** | ***(Dollars)*** |
| \_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_ |

**10. The money creation process**

Suppose First Main Street Bank, Second Republic Bank, and Third Fidelity Bank all have zero excess reserves. The required reserve ratio is 10%. Larry, a customer of First Main Street Bank, inherits $500,000 from his eccentric aunt, who had stored the money in cash in her safe deposit box. He deposits the cash into his checking account at First Main Street Bank.

*Complete the following table to reflect any changes in First Main Street Bank's balance sheet (before the bank makes any new loans).*

|  |  |  |  |
| --- | --- | --- | --- |
| **Assets** | | **Liabilities** | |
| **\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_\_\_** |

Complete the following table to show the effects of the new deposit on excess and required reserves, assuming a required reserve ratio of 10%.

**Hint**: If the change is negative, be sure to enter the value as a negative number.

| **Amount Deposited** | **Change in Excess Reserves** | **Change in Required Reserves** |
| --- | --- | --- |
| ***(Dollars)*** | ***(Dollars)*** | ***(Dollars)*** |
| 500,000 | \_\_\_\_\_\_\_ | \_\_\_\_\_\_\_ |

Now, suppose First Main Street Bank loans out all of its new excess reserves to Janet, who immediately writes a check for the full amount to Felix. Felix then immediately deposits the funds in his checking account at Second Republic Bank. Then Second Republic Bank lends out all of its new excess reserves to Raphael, who writes a check to Megan, who deposits the money in her account at Third Fidelity Bank. Finally, Third Fidelity lends out all of its new excess reserves to Susan.

Fill in the following table to show the effect of this ongoing chain of events at each bank.Enter each answer to the nearest dollar*.*

|  | **Increase in Checkable Deposits** | **Increase in Required Reserves** | **Increase in Loans** |
| --- | --- | --- | --- |
| ***(Dollars)*** | ***(Dollars)*** | ***(Dollars)*** |
| **First Main Street Bank** | **\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_** |
| **Second Republic Bank** | **\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_** |
| **Third Fidelity Bank** | **\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_** |

Assume this process continues, with each successive loan deposited into a checking account and no banks keeping any excess reserves. Under these assumptions, Larry's $500,000 deposit into his checking account results in an overall increase of \_\_\_\_\_\_\_\_\_\_ in checkable deposits and a \_\_\_\_\_\_\_\_\_\_ increase in the money supply.

**11. The monetary multiplier**

Suppose that Raphael makes a new cash deposit of $45,000.

If the assumptions of the multiplier-deposit expansion process hold, (with the required reserve ratio set at 30%), this deposit will \_\_\_\_\_\_\_ the money supply by \_\_\_\_\_\_\_. (Note: Currency held by the public is counted in the money supply as part of M1.)

Which of the following assumptions is necessary for the money multiplier (m) to be used in the equation D=E×m (where D stands for the maximum checkable-deposit creation and E is the initial change in excess reserves)?

The Federal Reserve has set the required reserve ratio between 5% and 10%.

Banks have perfect information about the creditworthiness of all borrowers.

Banks hold no excess reserves.

If the above assumption did not hold, the change in the money supply would be \_\_\_\_\_\_ than you found because:

Banks would make fewer loans than they would if they could perfectly observe borrowers' true creditworthiness.

If banks held excess reserves, they would make fewer loans than they otherwise would.

The multiplier holds only as long as the required reserve ratio is between 5% and 10%.