Financial Institutions Markets and Money 12th edition Kidwell Solutions Manual

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Chapter Two: Solutions to **Do You Understand?** In-Text Questions

2.5 Independence of The Fed

1. What were the problems posed by the National Banking Acts?

Answer: The currency was inelastic after bond issuance to finance the war ended, but before there was political consensus for an alternate way of backing it (gold, silver, etc). The tax on state banknotes increased the popularity of demand deposits which, despite the lack of deposit insurance and the difficulty of clearing checks at face value, became a main source of funding for bank lending. Although required to hold reserves, banks could "pyramid" reserves by counting deposits at other banks, so multiple contractions in reserves occurred when cash was drained from banks during planting and cultivation seasons or banking panics. There was no lender of last resort to provide banks with additional reserves when they needed them, and thus no way to moderate wide swings in the business cycle.

2. Why was the Fed initially established?

Answer: To control money supply, be a lender of last resort, improve bank supervision, and provide for a more efficient payments system.

3. How did the Federal Reserve System try to solve problems from the National Banking Act period?

Answer: The Fed could act as a "lender of last resort" to member banks needing extra liquidity. The Fed could legally create, circulate, and de-circulate currency to keep the money supply elastic in relation to the economy. The Fed provided free check clearing services to member banks and required that checks cleared through it clear at par, converting the payment system from a hindrance to a handmaiden of commerce. The Fed included all national banks as member banks and required all member banks, state or national, to be examined regularly to ensure that they were sound and maintained adequate reserves.

4. What is meant by "too big to fail"? What are the economic factors that drive this principle?

Answer: Failure of a large financial firm may cause irreparable damage to the economy, resulting in a banking panic, recession, or even depression. To prevent the possible catastrophic consequences, the federal government steps in to bail out such firms. For example, in September 2008 the Federal Reserve made a $80 billion loan to a large insurance company, American International Group, due to its size and the fact that it insured debt securities held by many large financial institutions around the world. While it is not clear at this point whether the Fed will be fully repaid the loan, the possible AIG failure may have cost much more. Minimizing the likelihood of having to bail out large financial institutions that are "too big to fail" calls for more stringent controls of capital positions, leverage, and risks taken by such firms.

5. What is TARP? How much did this financial bank bailout cost the taxpayer? Was it a good deal?

Answer: The Troubled Asset Relief Program (TARP) was created in the financial crisis of 2007-2008 to assist financial and nonfinancial firms hurt by the crisis. It was initially budgeted at up to $700 billion and allowed the Federal government to provide capital to troubled financial institutions in exchange for preferred stock and to purchase poor quality loans to remove potential bad debts from bank balance sheets. Funds were also used to assist the auto industry, to provide funding for credit

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markets and to help home buyers retain their houses. Far less money was needed than was budgeted and the government eventually recovered all the money spent, and by some estimates actually made a profit. The spending did help prevent additional bank failures and the government recovered its costs so in a strict fiscal sense it was a "good deal." Whether the bailouts have created a huge moral hazard problem and exacerbated the 'too big to fail' problem is another story.

6. What is quantitative easing? Why was it used and how effective has it been?

Answer: Quantitative easing (QE) occurs when the central bank adds to its balance sheet by purchasing outstanding securities such as Treasury bonds and mortgage backed bonds for example, even when interest rates are already low. QE was used because lowering interest rates did not result in sufficient demand for goods and services to be produced and consumed to generate fast enough economic growth to restore full employment following the financial crisis. Although it is impossible to know what growth would have been without QE, it is generally thought to have failed to create the higher growth rates economists originally predicted. There are several reasons for this. First, as the monetary base grew, banks increased their excess reserves position rather than increasing lending and investment. Changes in regulations and increased capital requirements contributed to weak loan growth. Second, weak loan demand held back growth, and although large firms raised substantial amounts of funds in bond markets, investment growth was slow as firms stockpiled cash. Remember that all the Fed can do is create incentives for firms to invest and consumers to consume and uncertainty and weak confidence can reduce economic growth.

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CHAPTER 2
THE FEDERAL RESERVE AND ITS POWERS

CHAPTER OBJECTIVES

1. Chapter 2 describes the background and structure of the Federal Reserve System, perhaps the most powerful component of the financial system. The Fed has broad responsibilities for regulating the financial system, controlling the money supply, and influencing interest rates. Its design was influenced by inadequacies of the 19th-century banking system, which remain useful lessons about the consequences of neglecting or mismanaging financial systems.

2. Chapter 2 explains the components of the Fed's balance sheet and relates them to the money supply and financial system, thus introducing the concept of the "monetary base". Understanding the main components of the monetary base is important before moving on to Chapter 3.

3. Chapter 3 introduces the "tools of monetary policy"—open market operations, the discount rate, and reserve requirements. The tools differ concretely and significantly from each other, and have changed in relative importance as the financial system has evolved. The ability to compare and contrast them—and to understand why open market operations are the only fully viable tool of monetary policy—is also crucial before moving on to Chapter 3.

4. Chapter 3 discusses what powers the Fed gained and how the Fed's balance sheet changed during the financial crisis. Students should understand how the Fed was able to expand its balance sheet and change its structure and what it has accomplished by doing so. Students should grasp the difference between "quantitative easing" and earlier uses of open market powers.

CHANGES FROM THE 11th EDITION

1. Tables, exhibits, data, and anecdotal materials have been updated.
2. A 6th learning objective has been added: "Explain quantitative easing and why the Fed chose to use this unusual monetary policy tool."
3. Section 2.1 on origins has been extensively revised and streamlined.
4. Section 2.4 on regulatory powers includes more extensive treatment of 2008 crisis.
5. Section 2.6 on balance sheet includes more detail on aftermath of crisis.

CHAPTER KEY POINTS

1. The Fed has centralized as the U.S. has evolved from a confederation of regional economies to a truly national economy. The 12 Federal Reserve Banks, once largely autonomous in their respective regional districts, remain operationally important but have lost their authority to set monetary policy. They are a minority (5 votes out of 12) on the FOMC, which sets U.S. monetary policy under ultimate control of the Board of Governors. The Federal Reserve Bank of New York, however, has a special status and a permanent spot on the FOMC. It is located in the heart of the Manhattan financial district and is charged with executing open market operations for the Fed.

2. The Fed's powers have expanded substantially since its creation. In addition to its original central bank functions, the Fed has gained many regulatory powers. Today the Fed directly influences

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the behavior of practically every U.S. financial institution. During the 2007-2009 financial crisis, the Fed gained even more regulatory powers. Throughout its existence, the Fed's power and credibility have been based in large part on its considerable independence within the federal government. Students should understand how and why this independence endures, and grasp the ultimate limits on it.

3. The Fed's balance sheet is the mechanism through which the tools of monetary policy influence the money supply. A central bank is unique among financial institutions in that it can issue liabilities and acquire assets at will. The Fed's most useful technique for doing so is open market operations—buying and selling securities on the open market. These transactions change the monetary base directly, immediately, and dollar-for-dollar as the Fed credits new reserves to pay for open market purchases and retires existing reserves to collect for open market sales. Historically, it has been U.S. government debt and more recently federal agency debt, but in response to the financial crisis and recession of 2007-2009 the Fed implemented several programs that acquired other assets such as mortgage-backed securities. The Fed used its open market powers in the aftermath of the crisis for the special purpose of "quantitative easing"—a series of pre-announced open market purchases of U.S. Treasury securities.

ANSWERS TO END-OF-CHAPTER QUESTIONS

1. *Explain why the banking system was so unstable prior to establishment of the Fed in 1914.*

   After termination of the Second Bank of the United States in 1836, the U.S. was without a central bank until passage of the Federal Reserve Act in late 1913. Thus there was no overall control of the size or quality of the money supply. Until the National Banking and Currency Acts (1862-64), banks were largely unregulated and free not only to engage in unsound lending practices, but to issue banknotes—IOUs against themselves—without restraint. Over-issue of this "private currency" prompted hoarding of gold and silver, causing the money supply to be "inelastic"—unevenly distributed and not easily adjustable. Frequent bank failures exacerbated downturns in the normal business cycle. The National Banking apparatus was a step forward, but the need for a central bank became more evident as the post-Civil War economy cycled through boom, bust, and financial panic.

2. *What is quantitative easing? Why was it used by the Fed? Was it a success?*

   Quantitative easing is a policy of deliberate, pre-announced increases to the monetary base trough periodic open market purchases of U.S. Treasury securities. The Fed used it to drive interest rates down in the aftermath of the 2008 crisis. It was a success in that it achieved its announced aim without causing notable inflation.

3. *What were the four goals of the legislation that established the Federal Reserve System? Have they been met today?*

   The goals of the Federal Reserve Act of 1913 were to create:

   (1) a reliable mechanism for adjusting the money supply to the needs of the economy;
   (2) a lender of last resort that could furnish liquidity to banks in times of financial crisis;
   (3) an efficient payment system for clearing and collecting checks at face value throughout the country; and
   (4) a more vigorous bank supervision system to reduce the risk of bank failures.

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Relatively low rates of inflation since the early 1980s are evidence of success with goal #1. The Fed was a true lender of last resort (goal #2) to financial institutions (including non-banks) and even some non-financial companies during the 2007-2009 financial crisis. The U.S. payment system—goal #3— operates so reliably as to be taken for granted. The financial services industry faced a major challenge during the 2007-2009 crisis, with numerous bank failures and near failures. The Fed worked hard to prevent failures of systemically important banks (goal #4) and other financial institutions and restore confidence in the financial markets.

4. *Explain why the Board of Governors of the Federal Reserve System is considered so powerful. What are its major powers and which is the most important?*

   The 7 members of the Board make up a majority of the 12-member FOMC, which sets monetary policy (the Fed's most important power). The Board also promulgates all the financial system regulations listed in Exhibit 2.4, enacts the policies and procedures by which the Federal Reserve System is internally governed, and appoints 3 of the 9 directors of each Federal Reserve Bank. Governors, though appointed by the President and confirmed by the Senate, have a 14-year nonrenewable term of office and may thus discharge their duties with considerable political independence.

5. *Explain why the FOMC is the key policy group within the Fed.*

   The Federal Open Market Committee, comprising the 7 Governors, the president of the New York Fed, and 4 of the remaining 11 presidents of Federal Reserve Banks, sets monetary policy for one of the world's largest and most powerful countries, affecting interest rates, exchange rates, and economic growth. The Chairman of the Board of Governors sets the FOMC's agenda, runs its meetings, and is the Fed's face and voice to the outside world. Consequently, the Chairman is one of the world's most powerful figures.

6. *Explain why Regulation Q caused difficulties for banks and other depository institutions, especially during periods of rising interest rates.*

   Reg Q, one of many "lettered" Fed regulations, originally prohibited banks from paying interest on demand deposits, prohibited thrifts from offering demand deposits, and imposed interest rate ceilings on interest-bearing deposits. These provisions served to limit price competition for deposits in a period when stability was the primary objective. When market rates rose above Reg Q ceilings, deposit withdrawal (disintermediation) would drain liquidity from depository institutions. Ultimately, Reg Q was phased out by the Depository Institutions Deregulation and Monetary Control Act of 1980 (DIDMCA) and the Depository Institutions Act of 1982. Today, the Fed depends on market forces to allocate flow of funds.

7. *Explain the sense in which the Fed is independent of the federal government. How independent is the Fed in reality? What is your opinion about the importance of the Fed's independence for the U.S. economy?*

   There are no direct channels of bureaucratic, fiscal, or political pressure on the Fed. It is a creature of Congress, but not directly under its authority. The Board is appointed by but not answerable to the President. The Fed funds itself, thus Congress has no "power of the purse" over it. Ultimately, however, it may be more correct to say that the Fed is independent *within*, not *of* the government. What Congress creates, Congress can modify or destroy. Congress has from time to time established guidelines or objectives for the Fed (e.g., the Humphrey-Hawkins Act of 1978). The Fed remains independent because most politicians want it that way. They mostly agree that monetary policy is not a partisan issue. An independent Fed can also absorb blame if the economy falters, and take necessary but unpopular steps to combat various economic ills.

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Critics argue that the Fed's independence is elitist and undemocratic. Supporters argue that elected politicians cannot be fully trusted to handle the money supply. The underlying argument is as representative government itself: Should popular will decide public policy, or merely decide who decides? There is evidence (see Exhibit 2.5) that countries with more independent central banks have less inflation. However, there is no evidence that central bank independence correlates with employment or national income levels.

8. *A bank has $20,000 in reserves, $90,000 in bank loans, and $150,000 of deposits. If the reserve requirement is 10%, what is the bank's reserve position? What is the maximum dollar amount of loans the bank could make? What would happen to the nation's money supply if the Fed lowered the reserve requirement to 6 percent? Demonstrate your results with a numerical example.*

Assuming reserve requirements apply to all the bank's deposits, its $20,000 of reserves comprise required reserves of $15,000 (10% of total deposits of $150,000) and excess reserves of $5,000 (total reserves of $20,000 less required reserves of $15,000):

Excess Reserves	$ 5,000 ‖		This reserve position supports up to $5,000
Loans	90,000 ‖		of new loans. In reality, reserve
Required Reserves	15,000 ‖		requirements do not apply to all deposits (see
Deposits		‖ $150,000	Exhibit 2.7).
			If the reserve requirement were 6% instead of
Excess Reserves	$11,000 ‖		10%, excess reserves would be immensely and
Loans	90,000 ‖		immediately greater. The excess reserves
Required Reserves	9,000 ‖		shown here for illustration far exceed, as
Deposits		‖ $150,000	percentage of assets, what any bank would leave idle.
Excess Reserves	$ 0 ‖		Banks would "lend up" excess reserves quickly,
Loans	313,333‖		expanding loans and deposits until any reserves
Required Reserves	20,000 ‖		were again absorbed as required reserves:
Deposits		‖ $333,333	DEP = RR/k

As this example suggests, reducing reserve requirements by 40%—something the Fed would never really do—would radically expand deposits and loans across the banking system. The Fed does not adjust reserve requirements very often, or by very much. Effects are too dramatic for the "fine tuning" it prefers.

9. *Why does the Fed not use the discount rate to conduct monetary policy? How does the Fed use the discount rate?*

In the early 20th century, long before modern money markets evolved, "discounting" was a common way to retrieve liquidity from financial instruments (e.g., factoring accounts receivable), and commercial banks did not have many "non-deposit" funding choices. When the Fed was formed, the discount rate was the primary tool of monetary policy because it was the cost of member banks' main non-deposit source of funds—loans at the Discount Window. The Fed would discount (lend less than the face value of) loans and other financial instruments held by member banks, providing liquidity. Because the banking industry had few other funding choices but was the primary source of operating credit to farms and businesses, Fed discount policy was a reasonably effective direct control on the money supply. As money markets evolved, the Fed Funds market in particular developed, and the FOMC developed its processes, "discounting" in

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its foundational sense faded into history. Today changes in the discount rate merely signal policy intent; open market operations directly increase or reduce the money supply. Loans "at the Window" are still available, but depository institutions have many funding choices and are wary of "Window scrutiny"—questions regulators might have about early or regular trips to the Window. Discount Window loans outstanding are now just a tiny fraction of the Fed's total assets.

10. *Explain how the Fed changes the money supply with an open-market purchase of Treasury securities.*

    Every Fed transaction with the private sector clears through the "bank reserve account". When the Fed buys securities, it pays for them in a way no other financial system participant can: It unilaterally creates new money by crediting new reserves in the amount of the purchase to the reserve account of the depository bank of the securities dealer. Thus, open market purchases increase total reserves in the banking system directly, immediately, and dollar-for-dollar. During the financial crisis of 2007-2009, the Fed expanded open market operations from using only Treasury securities to buying large amounts of federal agency debt and mortgage-backed securities. The importance of open market operations is illustrated in Exhibit 2.6: The Fed's portfolios of these securities are by far its largest asset categories.

11. *Northwest National Bank received new demand deposits (DD) of $1,650,000. The current reserve requirement is 6 percent. The bank has $80,000 in vault cash and $110,000 at the Federal Reserve that is not yet invested. How much in excess reserves does the bank have available to make new loans?*

    Total reserves = $80,000 + $110,000 = $190,000
    Required reserves = $1,650,000*0.06 = $99,000
    Excess reserves = $190,000 - $99,000 = $91,000

12. *Suppose the current reserve requirements set by the Federal Reserve are as follows:*

Type of Liability	*Requirement* *Percentage of liabilities*
Transaction deposits $0 to $14.5 million	*0*
Transaction deposits more than $14.5 million to $103.6 million	*3*
Transaction deposits more than $103.6 million	*10*
Non-personal time deposits	*0*
Eurocurrency liabilities	*0*

    A bank has cash of $2 million, reserve deposits at the Federal Reserve of $25 million, transaction deposits of $275 million, non-personal time deposits of $100 million. Calculate the bank's required reserves, excess reserves, and total reserves.

    Total reserves = $2mln. + $25mln. = $27mln.
    Required reserves = ($103.6mln. - $14.5mln.)*0.03 + ($275mln. - $103.6mln.)*0.1 = $19.82mln.
    Excess reserves = $27mln. - $19.82mln = $7.18mln.

13. Refer to the table in Question 13. Now suppose the Federal Reserve raised the reserve requirements on deposits between $14.5 million and $103.6 million to 5 percent and raised the reserve requirement on nonpersonal time deposits to 3 percent. Calculate the bank's required reserves, excess reserves, and total reserves under these conditions.

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Total reserves = $2mln. + $25mln. = $27mln.
Required reserves = ($103.6mln. - $14.5mln.)*0.05 + ($275mln. - $103.6mln.)*0.1 + ($100mln *.03) = $24.6 mln
Excess reserves = $27mln. - $24.6mln = $2.4mln.

14. *The Fed decides to buy $10,000 of government bonds from Goldman Sachs. Using T-accounts show the complete transaction. Did the money supply increase or decrease? Explain.*

Goldman Sachs		The Fed	
-$10,000 Gov. bonds +$10,000 Reserves at FRB		+$10,000 Gov. bonds	+$10,000 Reserve deposit of Goldman Sachs

The money supply increased because the banking system as a whole now has $10,000 more in reserves.

15. *Why is the Federal Reserve Bank of New York granted special status? What is the special status?*

The New York Fed's special status is in its responsibility to conduct open market operations for the Fed on a daily basis. The New York Fed Trading Desk buys and sells securities on the open market to carry out the decisions of FOMC. The New York Fed also houses the foreign exchange desk which trades currencies on behalf of the Fed and the U.S. Treasury. The president of the NY Fed has a permanent spot on FOMC, while the remaining eleven FRBs have four of their presidents on the committee on a rotating basis. The reason for the special status of the New York Fed is its location in the heart of the financial district in Manhattan – the home to some of the largest commercial banks and other financial firms in the world. The ability of the New York Fed officials to stay in close contact with these key market players is very important, especially in times of crises.

16. *What were three important regulatory powers that the Fed gained from the passage of the Financial Regulatory Reform Act of 2010? Explain each briefly.*

The three regulatory powers the Fed gained are:
1) The power to intervene in the business activities of large nonbank firms to better control systemic risk across the economy. In extraordinary circumstances, it has the power to break up firms or require them to divest of certain assets.
2) Increased focus on strengthening firms considered "too big to fail", i.e., posing systemic risks to the economy. The Fed may impose tougher capital, leverage, risk-taking, and other standards for such firms.
3) Focus on regulating larger financial firms: The Fed no longer oversees small bank-holding companies and state-chartered banks and will only regulate large financial institutions, banks, and thrift holding companies with total assets in excess of $50 billion.

17. *With respect to the financial system, what is meant by "too big to fail"? Why is it an important issue?*

Failure of a large financial firm may cause irreparable damage to the economy, resulting in a banking panic, recession, or even depression. To prevent the possible catastrophic consequences, the federal government may step in to bail out such firms, as it did in the fall of 2008. While a bailout may be the lesser evil than letting such firms fail, moral hazard may lead to wealth transfers from taxpayers to owners of these firms. That is, if a financial institution believes it is too big to fail, it may take excessive risks and, if these risks do not pay off, fail and end up being

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bailed out by the government (i.e., taxpayers). Minimizing the likelihood of having to bail out large financial institutions that are "too big to fail" calls for more stringent controls of capital positions, leverage, and risks taken by such firms.

18. *What are the arguments that support having a strong and independent Federal Reserve Bank?*

    The independence of the Fed relieves it from day-to-day political pressures and affords it to take unpopular measures beneficial for the economy in the long run. An example is contracting money supply to increase interest rates, which would likely dump inflation but cool of the economy in the short run.

19. *Why does the Fed want the ability to pay interest on reserve accounts?*

    Paying interest on reserves allows the Fed to influence not only the supply of reserves (which it does by buying or selling securities via open market operations) but also the demand for reserves. Increasing the interest rate on reserves provides banks with an incentive to keep more excess reserves with the Fed rather than to lend to other banks or customers. Decreasing this rate or eliminating interest on reserves altogether would encourage banks to keep less excess reserves and lend more, all else equal.

20. *If the country went into a recession, would you expect banks to increase or decrease its holdings of excess reserves? Explain.*

    Recessions are characterized by declines in economic activity. Demand for loans falls during such times while deposits levels tend to remain fairly stable. As a result, banks tend to make fewer loans and hold more excess reserves.

21. *What is TARP? How much did it cost taxpayers? Why was TARP necessary? Why was it unpopular?*

    Troubled Asset Relief Program. The U.S. Treasury acquired distressed assets from banks, especially mortgage-backed securities, and made capital injections into banks, at a total taxpayer cost of about $426 billion. This bailout of the financial system was arguably necessary to preserve flows of funds in the financial system and avert general financial panic, but it has not proven to be popular with the general public. To many ordinary people, it was government using their money to solve a problem many of them had nothing to do with causing.

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Chapter 2: INTERNET EXERCISE

The Federal Reserve Board Web site contains valuable information and useful links to other Web sites. All the following questions can be answered by going to the Federal Reserve Board's Web site (http://www.federalreserve.gov) or to one of the sites linked to it.

1. First, go to the Federal Reserve Board's Web site, click on the monetary policy link and then the Federal Open Market Committee link. Identify when the most recent FOMC meeting occurred. Read the *Statement* issued after the meeting. What did the FOMC decide concerning the target fed funds rate? Briefly, what was the justification for that decision?
2. Next, while you are still on the monetary policy page, click on the beige book link. Then click on the *Report* link for the most recent FOMC meeting. Read the national summary page and the page for your Fed district. Discuss how the economy in your Fed district is performing. Is it faring better or worse than other districts? What sector of the economy in your district is driving your conclusions?
3. Finally, comment on whether you think the most recent FOMC decision benefits your Fed district more or less than other Fed districts.

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