Problem 1

Questions 1, 2, 3, 4, 15, 16, 17, 20, and 21 from Chapter 11.

Solutions:

1. A government safety net can short-circuit runs on banks and bank panics, and overcome reluctance by depositors to put funds in the banking system. This helps to eliminate a contagion effect, in which both good and bad banks could become insolvent in the event of a bank panic. Without confidence in the banking system, such panics could result in a collapse of the financial system and severely inhibit investment and economic growth.

2. There would be adverse selection, because people who might want to burn their property for some personal gain would actively try to obtain substantial fire insurance policies. Moral hazard could also be a problem, because a person with a fire insurance policy has less incentive to take measures to prevent fire.

3. Eliminating or limiting the amount of deposit insurance would help reduce the moral hazard of excessive risk taking on the part of banks. It would, however, make bank failures and panics more likely, so it might not be a very good idea.

4. The economy would benefit from reduced moral hazard; that is, banks would not want to take on too much risk, because doing so would increase their deposit insurance premiums. The problem is, however, that it is difficult to monitor the degree of risk in bank assets because often only the bank making the loans knows how risky they are.

15. With more competition in financial markets, there are more firms making less profits. Thus there is greater incentive for financial firms to take on greater risk in an effort to increase profits.
Although restrictions on competition would decrease the incentive for risk by financial firms, it may not be altogether beneficial. It is likely that lower competition would result in higher fees to consumers and decreased efficiency of banking institutions.

16. Leverage cycles indicate that over business cycles, lending increases substantially in booms and decreases substantially in downturns. If countercyclical capital requirements were initiated, this would require more capital held at institutions during booms, which would reduce lending and help to mitigate credit bubbles that can be damaging later on. Likewise, when the economy goes into a downturn, capital requirements could be lowered, which would encourage more lending and facilitate faster economic growth.

17. The process of financial innovation is generally good for the economy: Its goal is to create new financial instruments as a response to the ever-changing preferences of financial system participants. One of its most beneficial effects is to increase the efficiency of the financial system. This process also can be risky at times. The creation of new financial instruments is often associated with their mismanagement. Sometimes this can result in the creation of asset-price bubbles, as happened with mortgage-backed securities (or CDOs, or SIVs) in the 2007-2009 crisis. When these instruments are improperly priced, this can disrupt the financial system. Regulators can at best be one step behind in this process, since usually as a profitable opportunity is created (e.g., by trading MBSs, CDOs, etc.) many financial intermediaries will follow this path. Only after there is a thorough understanding of the structure and risk of new financial instruments can proper regulations be written and enforced. But this usually only happens after there is a disruption in the financial system.

20. Prior to 2009, the U.S. government had no legal authority to seize the largest failing financial institutions, such as bank holding companies, and liquidate their assets in an orderly fashion. This became apparent during the 2007-2009 crisis, as there was no way for the government to rescue Lehman Brothers and unwind its assets. Since these types of financial institutions are considered systemically important, they pose a risk to the overall financial system because their failure can cause widespread damage. Having resolution authority allows the government to quickly take over a failing firm and wind down its assets, with the health of the overall financial system as a priority.

21. Under the payoff method, large deposits pay better than $0.90/dollar. In this case, the $350,000 is worth better than $350,000 x 0.90 = $315,000. Under the purchase and assumption policy, the bank is completely absorbed, and all accounts are worth their full value. Upfront, the first method will have a lower cost to the insurance fund. However, if depositors fear loss under the payoff method, they are less likely to maintain account balances in excess of $250,000 in a single bank.
Problem 2

Questions 1, 2, 3, 4, 15, 16, 17, 18, 24, and 25 from Chapter 12.

Solutions:

1. Agricultural and other interests in the United States were quite suspicious of centralized power and thus opposed the creation of a central bank.

2. Throughout most of the history of banking in the United States, there has been a fear of centralized banking power. As a result all banks had been chartered locally by each state. Due to lax regulation by some states, banks regularly failed due to lack of sufficient capital or fraud. To stabilize the banking system, the federal government introduced the National Banking Act of 1863, which created a system of federally chartered banks which were subject to greater regulation and scrutiny. Since federally chartered banks were less prone to failure, they increased in number over the years. However, the skepticism of centralized power in the banking system still allowed state banks to operate effectively. And although there have been attempts over the years to force all banks to be federally chartered, due to more uniformity in the chartering process, the distinctions between state and federally chartered banks have diminished, and so the two standards are still in operation today.

3. During the Great Depression there were many bank failures, and at the time deposits were not insured so many bank customers lost their deposits. One of the provisions of the Act was to create the FDIC, which guaranteed deposits up to a certain amount if the bank fails. A second provision of the Act was to separate investment banking functions from commercial banking. This was as a response to the view that investment banking activities created too much risk, and was responsible for many of the bank failures that occurred.

4. (a) Office of the Comptroller of the Currency; (b) the Federal Reserve; (c) state banking authorities and the FDIC; (d) the Federal Reserve; (e) Office of Thrift Supervision; (f) National Credit Union Administration. 15. Because restrictions on branching are stricter for commercial banks than for savings and loans. Thus small commercial banks have greater protection from competition and are more likely to survive than small savings and loans.

16. Credit unions are small because they only have members who share a common employer or are associated with a particular organization.
17. Because becoming a bank holding company allows a bank to: (a) circumvent branching restrictions since it can own a controlling interest in several banks even if branching is not permitted, and (b) engage in other activities related to banking that can be highly profitable.

18. One advantage is increased efficiency of the banking industry as consolidation occurs. Another advantage is a convenience factor for bank customers: Depositors can have access to account banking services outside of their home state. Perhaps most importantly, interstate banking allows banks to have geographical diversification of their loan portfolios, which can help alleviate localized bank failures. Disadvantages are that it tends to reduce competition as consolidation occurs, creating a few larger banks at the expense of many smaller banks. As a result, many smaller community banks, which are thought to be an important source of credit for small businesses, may go out of business. In addition, it is worried that as banks expand into new geographical markets, they may take on increased risk, which could lead to bank failures.

24. No, because the foreign-owned bank is subject to the same regulations as the American-owned bank.

25. Because of tighter regulation in the United States compared to the rest of the world, there are many more banks, which has kept even the largest banks in the United States relatively small compared to those in other countries. In addition, the United States has been slower to consolidate in the banking sector than most other countries. However, as the banking sector continues toward consolidation, it is likely that the size of the largest U.S. banks will grow.

Problem 3
Questions 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20 from Chapter 14.

Solutions:

4. The advantages of using options contracts are that the buyers of options are not obligated to take action (i.e., buy or sell the underlying asset) at a disadvantageous price when the option is out of the money and that their potential losses are limited to the premium paid for the option. There is also no need to maintain a margin account and make daily settlement payments into or out of that account, as is the case with futures contracts. The disadvantage of an options contract is that you have to pay a premium that you would not have to pay with a futures contract.

5. Because an option has the feature that you win big if the price has a large change in one direction
but don't lose big if the price has a large change in the other direction. More volatility of the price means that on average you will have a larger profit because you are more likely to win big with either a call or a put option and thus their premiums will be higher.

6. Because for any given price at expiration, a lower strike price means a higher profit for a call option and a lower profit for a put option. A lower strike price makes a call option more desirable and raises its premium and makes a put option less desirable and lowers its premium.

9. You would swap the interest on $42 million of fixed-rate assets for the interest on $42 million of variable-rate assets, thereby eliminating the income gap.

10. Derivatives allow financial institutions to increase their leverage, in essence making huge bets with a limited ability to pay up if they are on the wrong side of the bet, which can quickly and unexpectedly bring down large financial institutions. In addition, banks hold significant notional amounts of derivatives many times larger than their bank capital, exposing them to serious risk of failure. These factors present significant risk in the financial system, and the failure of one large institution that is systemically important can jeopardize the entire financial system.

11. You would like to enter into a contract that specifies that you will purchase $120 million of bonds with an interest rate equal to the current interest rate six months from now.

12. You would enter into a contract that specifies that you will sell the $25 million of 6s of 2030 at a price of 110 one year from now.

13. You have a loss of 6 points, or $6,000, per contract.

14. The futures price must fall to 101. Otherwise, arbitrageurs could buy the bond for 101, sell the futures contract at 102, and then deliver the bond, thereby making a risk-free profit of 1 point. This is such a good deal that huge sales of the futures contract will result, driving down its price to 101 so that no risk-free profits can be made.

15. You would buy 200 million euro of futures contracts that mature one year from now. With a contract size of 125,000 euros, you would buy 200 million/125,000 = 1600 contracts.

16. You would hedge the risk by buying 80 euro futures contracts that mature three months from now.
17. You would want to enter into a contract in which you agree to deliver 30 million euros six months from now in exchange for U.S. $30 million.

18. You would buy $100 million worth, i.e., 1000 contracts, of long-term bond futures contracts with an expiration date of one year in the future. This means that you would be entitled to delivery of the long-term bond at today's price so that the current rate would be locked in.

19. The put option is out of the money because you would not want to take the option to sell the futures at 95 when the price at expiration is 120. Since the premium is $4,000 and you did not exercise the contract, your loss on the contract is $4,000.

20. You have a profit of 1 point ($1,000) when you exercise the contract, but you have paid a premium of $1500 for the call option, so your net profit is -$500, a loss of $500.