

PART I – MULTIPLE CHOICE (50 points, 2 points each) - **Clearly mark the best answer.**

1. Banks use restrictive covenants to limit the problem of
  - a) Adverse selection
  - b) Compensating balances
  - c) Excessive volatility
  - d) Moral hazard
  
2. Which of the following is true regarding moral hazard?
  - a) The principal-agent problem is an example of moral hazard in equity financing.
  - b) It occurs before a transaction takes place.
  - c) Screening is used to limit the problem of moral hazard.
  - d) All of the above.
  
3. Consider the following statement from a bank manager:

“Recent innovations allow us to rely less on checkable deposits and more on nontransactions accounts such as bank CDs. Although such accounts are desirable because they are less liquid from the depositors’ point of view, we must draw customers to these accounts by paying higher interest rates. We must raise funds without incurring too much cost in terms of interest paid to our customers.”

What type of risk is this manager describing?

- a) Credit risk
  - b) Capital adequacy
  - c) Sovereign risk
  - d) Liquidity risk
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4. Bank liabilities include:
    - a) Discount loans, U.S. government securities, and secondary reserves.
    - b) U.S. government securities, reserves, and commercial loans.
    - c) Discount loans, reserves, and savings accounts.
    - d) Discount loans, small time deposits, and savings accounts.
  
  5. Consider the T-account for Cambridge Mutual Savings Bank below. Which of the following transactions is recorded on this T-account?

Cambridge Mutual Savings Bank			
Assets		Liabilities	
Reserves	+\$800	Checkable deposits	+\$800

- a) A Cambridge Mutual customer deposits an \$800 paycheck that is cleared.
- b) A Cambridge Mutual customer writes an \$800 check that is deposited at another bank.
- c) Cambridge Mutual withdraws \$800 from its account with the central bank.
- d) Cambridge Mutual buys \$800 in securities from another bank.

6. Which of the following acts explains the existence of many small and medium-sized banks in the U.S.?
  - a) The (Riegle-Neal) Interstate Banking Act (1994)
  - b) Federal Reserve Act of 1913
  - c) McFadden Act of 1927
  - d) Glass-Steagall Act of 1933
  
7. When a bank experiences a large withdrawal and does not have sufficient reserves, it can
  - a) Buy securities to increase secondary reserves.
  - b) Issue more loans to increase its total assets.
  - c) Reduce its nontransaction deposits to decrease liabilities.
  - d) Take out a discount loan from the central bank.
  
8. Consider the Bank of Sacramento located in the 12<sup>th</sup> district (San Francisco). This is a state bank that is a member of the Federal Reserve System. Which of the following is true of this bank?
  - a) This bank owns shares of ownership in the Federal Reserve Bank of San Francisco.
  - b) This bank has a federal charter.
  - c) This bank is not FDIC insured.
  - d) Both a) and b)
  
9. The Federal Reserve district banks are responsible for
  - a) Providing primary credit to banks.
  - b) Maintaining bank deposits with the Federal Reserve System.
  - c) Clearing checks for banks.
  - d) All of the above.
  
10. Which of the following statements best describes how the Fed operates today?
  - a) A single central banking institution that owns 12 private banks.
  - b) A system of 12 district banks, headed by the New York Fed, that makes monetary policy decisions.
  - c) A system of 12 autonomous district banks, with the Board of Governors serving only an administrative role.
  - d) A system of 12 district banks with most central authority resting with the Board of Governors, its chairman, and the FOMC.
  
11. Which of the following argues in favor of Federal Reserve Bank independence?
  - a) Increased Federal Reserve independence makes it easier for the Fed to pursue its price stability objective.
  - b) Independence means a more democratic selection of members to serve on the Board of Governors.
  - c) Countries with more independent central banks tend to have higher inflation rates.
  - d) Without independence, the Federal Reserve would be required to maintain a fixed exchange rate.
  
12. Which of the following reduces the banking system's reserves, but has no effect on the monetary base?
  - a) A decrease in the Federal Reserve float.
  - b) The nonbank public withdraws currency from checking accounts.
  - c) A decrease in the Treasury's deposits with the Fed.
  - d) An increase in discount loans.
  
13. Suppose the Federal Reserve conducts a foreign exchange intervention where it sells Japanese government bonds. Which of the following would result from this action?
  - a) The federal funds rate increases.
  - b) Total reserves decrease.
  - c) The monetary base increases.
  - d) The discount rate rises.

14. Short-term Federal Reserve loans to banks with poorer credit ratings are known as
  - a) Federal funds
  - b) Seasonal credit
  - c) Primary credit
  - d) Secondary credit
  
15. Suppose currency is equal to \$200, required reserves are \$100, deposits are \$800, excess reserves are \$200, and the fed funds rate is 2.5%. The money multiplier is
  - a) 2
  - b) 2.5
  - c) 4
  - d) 6.25
  
16. Consider the previous question. When the Board of Governors reduces the discount rate by 50 basis points (0.5 % points) and discount loans change by \$50, the money supply
  - a) Increases by \$50
  - b) Increases by \$100
  - c) Decreases by \$150
  - d) Decreases by \$200
  
17. The Fed currently uses \_\_\_\_\_ as its operating instrument.
  - a) The federal funds rate
  - b) GDP
  - c) Inflation
  - d) M1
  
18. In 1979, the Federal Reserve changed its intermediate instrument to monetary aggregates. This was chosen because compared with other potential instruments,
  - a) Monetary aggregates are measured more accurately.
  - b) Monetary aggregates are easier for the Fed to control on a high frequency.
  - c) Monetary aggregates are more closely linked to inflation.
  - d) All of the above.
  
19. The relationship between the Fed's operating instrument and its key macroeconomic objectives is shown by
  - a) The money multiplier
  - b) The short-run aggregate supply curve
  - c) The Phillips Curve
  - d) The Taylor Rule
  
20. Suppose that at its next meeting, the FOMC decides to reduce the federal funds rate target. Which of the following is most likely to happen as a result of this announcement by the FOMC?
  - a) The Board of Governors will raise the discount rate.
  - b) The money supply increased.
  - c) The Fed conducts an open market sale.
  - d) All of the above.
  
21. A recession characterized by low prices could be caused by
  - a) A decrease in oil prices
  - b) An increase in consumer confidence
  - c) An increase in the money supply.
  - d) A decrease in government spending.

22. In the short run, the aggregate supply curve is
- a) Vertical since the economy's long-run output is determined solely by available resources and technology.
  - b) Upward sloping since an increase in the price level is not offset by an increase in nominal wages.
  - c) Upward sloping since producers respond to an increase in price by laying off workers.
  - d) Downward sloping since prices and output move in opposite directions.
23. If the economy is in a recession in the short run, which of the following could happen?
- a) Wages increase because unemployment is low.
  - b) Wages decrease causing an increase in aggregate supply.
  - c) Unemployment will eventually decrease in the long run.
  - d) Both b) and c)
24. When the monetary policy reaction curve gets steeper, this implies
- a) The Fed is very aggressive in maintaining its inflation target.
  - b) The Fed is increasing its inflation target.
  - c) The aggregate demand curve is steep.
  - d) Potential output is falling.
25. Suppose there is an increase in the real interest rate. This causes
- a) The monetary policy reaction curve to shift to the right.
  - b) The aggregate demand curve to shift to the right.
  - c) An increase in the inflation rate.
  - d) Both b) and c)

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PART II – SHORT ANSWER QUESTIONS (50 POINTS)

**1. Bank Balance Sheet Management (20 points)**

The question below examines the balance sheet of a depository institution, the Continental Illinois Bank. This was a large bank that failed in 1984. Assume the reserve requirement is 10% and applies only to transaction deposits.

1.1 Refer to the hypothetical Continental Illinois Bank balance sheet below for 6/30/1984. **Calculate S&L's total assets and bank capital** and enter these numbers on the balance sheet. [2]

**Consolidated Balance Sheet for Continental Illinois Bank**  
(6/30/1984)

ASSETS		LIABILITIES	
Reserves	\$ _____	Checking deposits	\$200,000
Securities	\$180,000	Nontransaction deposits	\$300,000
Loans	\$310,000	Bank borrowing	\$50,000
Other Assets	\$20,000	Bank Capital	
Total Assets		Total Liabilities plus capital	\$555,000

1.2 Calculate (total) **Reserves**. Enter this number on the balance sheet above. [1]

1.3 **Calculate** required reserves for Continental Illinois Bank. How much is this bank holding in excess reserves? [2]

1.4 Suppose that Continental Illinois has a large customer default on a loan worth \$20,000. Explain how this would affect Continental Illinois' balance sheet and solvency. [2]

1.5 Describe how the situation in question #1.4 relates to credit management and capital adequacy. [4]

- 1.6 Explain, in detail, one way in which Continental Illinois could have avoided the situation described in question #1.4. [2]
- 1.7 Continental Illinois Bank was one of the largest banks in the country in 1984. Explain why this bank's manager might have chosen to invest in risky loans (like the one that defaulted in #1.4). Describe how this relates to the moral hazard problems arising from FDIC deposit insurance. [3]
- 1.8 In response to bank failures in the late 1980s, FDIC began to require a capital adequacy requirement. Specifically, banks must maintain a capital-to-asset ratio of greater than 5%. If a bank's ratio is below 5%, it must pay higher insurance premiums to FDIC. Looking at Continental Illinois' balance sheet in 6/30/1984, would it have met this requirement? How does such a requirement relate the problem you mentioned in #1.7? [4]

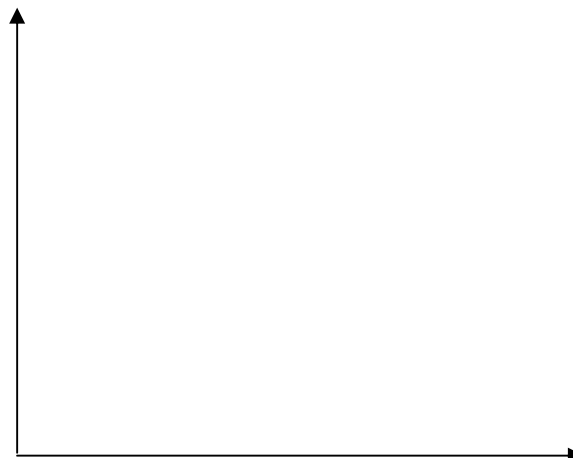
**2. The Fed’s Response to 9/11** - (15 points)

This question considers the changes in the reserves market that occurred during the September 11, 2001 terrorist attacks. For concreteness, assume the interest rate target is **3.5%** and the discount rate is **4.5%**. The reserve requirement is 10%. Assume the level of reserves is \$40,000 million.

2.1 **Illustrate** the reserves market on the diagram below. Be sure and **clearly** label the curves ( $R^d$  and  $R^s$ ) and the equilibrium fed funds rate  $i_f$  and total reserves ( $R^*$ ). Enter the values given in the introduction to the question. **Label the equilibrium point A.** [3]

2.2 Immediately after the September 11, 2001 terrorist attacks, the banking system experienced a shortage of liquid assets. This caused banks to seek out additional reserves in the reserves market. **Illustrate** how this change affects the reserves market. Label the new equilibrium **point B.** [2]

2.3 Suppose that the Fed responded to the changes mentioned in #2.3 in order to maintain the federal funds rate target. Who is responsible for implementing open market operations in order to maintain the target? Would this require an open market purchase or sale? [2]



2.4 Using the T-accounts below, illustrate how the open market operation in 2.4 would affect the Fed and the banking system. Assume the open market operation would involve the purchase/sale of \$7000 in securities. **You will receive no credit if your balance sheets do not balance. Clearly indicate an increase with a “+” and a decrease with a “-” symbol.** [3]

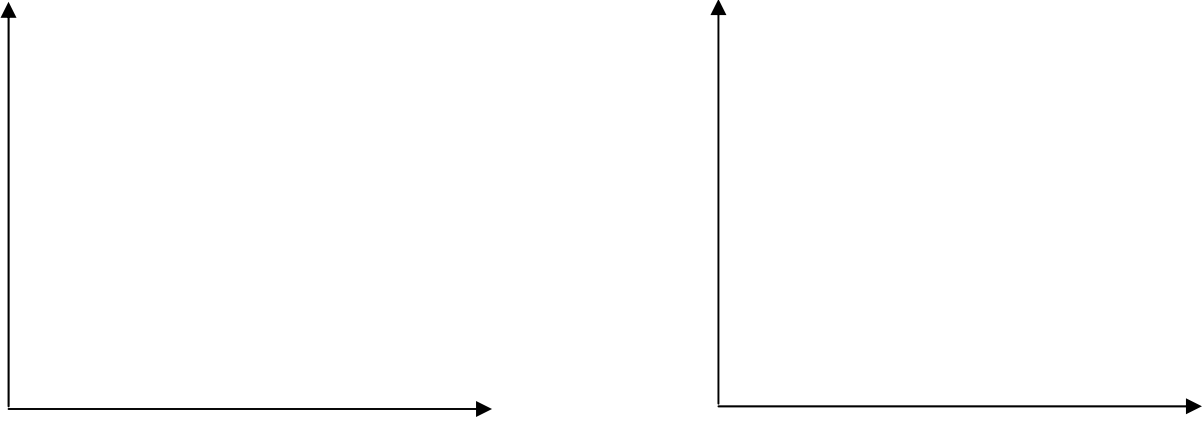
Fed Balance Sheet		Banking System Balance Sheet	
Assets	Liabilities	Assets	Liabilities

2.5 Considering only the effect of the open market operation from #2.4 and #2.5, what happens to the monetary base? The money supply? **Compute** the change in the money supply assuming that the nonbank public holds no currency and the banks lend out all excess reserves. [2]

2.6 The Fed did not rely on open market operations shortly after September 11, 2001 in the manner described in #2.3-#2.5. Why not? Explain how this case study highlights the pros and cons of discount lending versus open market operations as a policy tool. [4]

**3. Recent Changes in Fiscal Policy** - (20 points)

3.1 **Illustrate** the monetary reaction curve (MPR) using the diagram below and to the left, labeling the axes appropriately. Assume the inflation rate is equal to the Fed's target inflation rate. Label this equilibrium **point A** on your diagram. [2]



3.2 Illustrate the aggregate demand, short-run aggregate supply (SRAS), and long-run aggregate supply (LRAS) curve on the diagram above and to the right, labeling the axes appropriately. Assume that the economy is at potential output  $Y_p$ . Label this equilibrium **point A** on your diagram. [3]

3.2 Suppose that the government increases spending. Illustrate the effects of this policy in the short run on your diagrams. Label the new equilibrium point B on both diagrams. [3]

3.3 State what happens to the following variables in the short run (comparing points A and B): output, real interest rates, inflation, and investment. [3]

3.4 Based on the Taylor rule, how does the Fed react to this government policy change? Is this consistent with your diagram? Explain briefly. [3]

3.5 On your diagrams above, illustrate the long-run equilibrium in this economy. Label the equilibrium points C on your diagrams. [3]

3.6 State what happens to the following variables in the long run (comparing points A and C): output, inflation, investment and real interest rates. [3]