

### Midterm 2 Answers

This exam is 70 minutes long, and is worth 70 points. Part I is multiple choice, Part II is a derivation/short answer. The points are allocated in proportion to the time you should spend on each problem.

#### **PART I: Multiple Choice [39 minutes total, 3 points each]. Do NOT explain.**

1. Which of the following are reported as liabilities on a bank's balance sheet?

- a) Reserves
- b) Checkable deposits**
- c) Loans
- d) Deposits with other banks
- e) Treasury securities

2. Because \_\_\_\_\_ are less liquid for the depositor than \_\_\_\_\_, they earn higher interest rates.

- a) money market deposit accounts; time deposits
- b) checkable deposits; passbook savings
- c) passbook savings; checkable deposits**
- d) passbook savings; time deposits
- e) none of the above.

3. Of the following, which would be the first choice for a bank facing a reserve deficiency?

- a) call in loans.
- b) borrow from the Fed.
- c) sell securities.
- d) borrow from other banks.**
- e) inject more equity (bank) capital.

4. According to Caroline Baum, the "Natural Rate of Interest" or the "Wicksellian rate of interest" is:

- a) the rate of interest that equals the long term rate of inflation.
- b) the rate of interest that sets output growth and unemployment at their long term average levels.**
- c) the rate of interest that the Federal Government borrows at.
- d) the rate of interest that the best credit risks (such as IBM or Microsoft) borrow at.
- e) none of the above.

5. In the absence of regulation, banks would probably hold

- a) too much capital, reducing the efficiency of the payments system.
- b) too much capital, reducing the profitability of banks.
- c) too little capital.**
- d) too much capital, making it more difficult to obtain loans.
- e) none of the above.

6. Putting the Fed under control of the President, as part of the U.S. Treasury,
- a. may place too much pressure on the Fed to Finance federal budget deficits.
  - b. impart an inflationary bias to monetary policy.
  - c. generate a political business cycle, in which just before an election contractionary policies are pursued to raise unemployment and interest rates.
  - d. cause only (a) and (b) above.**
  - e. cause all of the above.

7. The Federal Reserve entity that determines monetary policy strategy is the
- a) Board of Governors.
  - b) Chairman of the Board of Governors.
  - c) Shadow Open Market Committee.
  - d) Office of the Comptroller of the Currency.
  - e) Federal Open Market Committee.**

8. If borrowers with the most risky investment projects seek bank loans in higher proportion to those borrowers with the safest investment projects, banks are said to face the problem of
- a) adverse credit risk.
  - b) adverse selection.**
  - c) moral hazard.
  - d) lemon lenders.
  - e) none of the above.

9. Duration analysis involves comparing the average duration of the bank's \_\_\_\_\_ to the average duration of its \_\_\_\_\_.
- a) securities portfolio; non-deposit liabilities
  - b) loan portfolio; deposit liabilities
  - c) assets; deposit liabilities
  - d) reserves; bank capital
  - e) assets; liabilities**

10. Disintermediation resulted from
- a) interest rate ceilings combine with inflation-driven increases in interest rates.**
  - b) elimination of Regulation Q (the regulation imposing interest rate ceilings on bank deposits).
  - c) increases in federal income taxes.
  - d) reserve requirements.
  - e) the repeal of Glass-Steagall

11. The presence of so many commercial banks in the United States is most likely the result of
- a) consumers' strong desire for dealing with only local banks.
  - b) adverse selection and moral hazard problems that give local banks a competitive advantage over larger banks.
  - c) prior regulations that restrict the ability of these financial institutions to open branches.**
  - d) consumers' preference for state banks.
  - e) both (a) and (b) above.

12. Of the following sources of external finance for American nonfinancial businesses, the least important is

- a) loans from banks.
- b) stocks.**
- c) bonds and commercial paper.
- d) loans from other financial intermediaries.
- e) unknown.

13. Property that is pledged to the lender in the event that a borrower cannot make his or her debt payment is called

- a) collateral.**
- b) points.
- c) interest.
- d) good faith money.
- e) reserves

## **PART II: Derivation/Short Answer [31 minutes total] SHOW YOUR WORK!!**

1. Consider a Bank that has the following balance sheet:

<u>Assets</u>		<u>Liabilities</u>	
Reserves	\$50 million	Checkable deposits	\$200 million
Securities	\$50 million		
Loans	\$150 million	Bank capital	\$50 million

1.1. (6 minutes) If the required reserve ratio is 10%, what actions should the bank manager take if there is an unexpected deposit outflow of \$50 million? Explain all the options, and which one he/she is most likely to take.

**Answer:** After the deposit outflow, the bank will have a reserve shortfall of \$15 million. The bank manager could try to borrow in the Federal Funds market, take out a discount loan from the Federal Reserve, sell \$15 million of the securities the bank owns, sell off \$15 million of the loans the bank owns, or lastly call-in \$15 million of loans. All of the actions will be costly to the bank. The bank manager should try to acquire the funds with the least costly method.

1.2 (6 minutes) Suppose the Bank earns \$20 million on its assets. What is the Return on Equity (ROE)? Show your work, including your calculation of the Return on Assets.

$$\text{ROE} = \text{ROA} \times \text{equity multiplier}$$

$$\text{ROA} = \$20/\$250 = 0.08 \text{ or } 8\%$$

$$\text{Equity multiplier} = \text{Assets/Equity Capital} = \$250/\$50 = 5$$

$$\text{ROE} = 4/50 \times 5 = 20/50 = 0.40 \text{ or } 40\%.$$

1.3 (4 minutes) Suppose some of the Bank's borrowers go bankrupt, and are unable to pay back their loans. Loans therefore fall to \$90 million. What is the impact on the bank?

**Answer:** If loans fall by \$60 million, then the loss gets reflected in a decrease in bank capital. Since bank capital is \$50 million, the net result is -\$10 million. In other words, the bank becomes insolvent.

2. Consider the following article from Bloomberg.com, published on Friday November 3.

**Dollar Increases After Unemployment Rate Declined in October**

By Daniel Kruger and Annie Pinkert

Nov. 3 (Bloomberg) -- The dollar rose the most in four weeks against the euro and yen after a government report showed the U.S. unemployment rate declined to a five-year low.

The payrolls report suggested inflation will remain a greater threat to the economy than traders had speculated because of job creation, increased hourly earnings and a lower unemployment rate. Traders canceled bets a slowdown in the world's largest economy will push the Federal Reserve to cut borrowing costs from a 5 1/2- year high early next year.

"This is not the type of economy the Fed cuts rates on," said Lara Rhame, a New York-based senior currency strategist at Credit Suisse. "It adds up to higher yields. Given that foreign exchange is closely tracking the fixed-income market, it's very good for the dollar."

2.1. (8 minutes) Interpret in the context of this equation why the dollar strengthened. Be explicit about your assumptions regarding the variables on the right hand side of this equation.

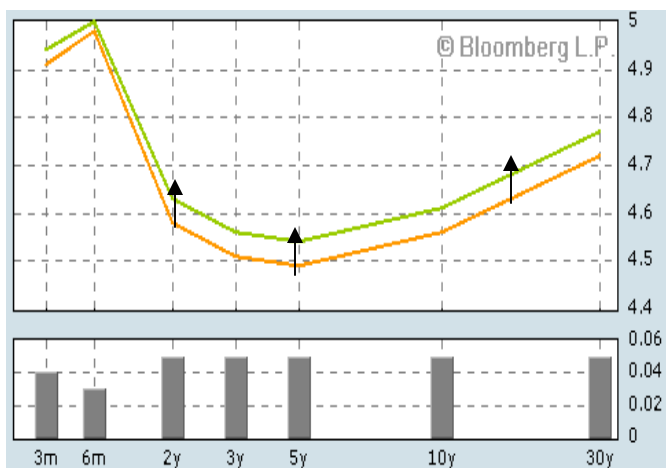
$$E_t = E_{LR} \left[ 1 + \frac{1}{\Theta} [(i_t^D - \pi_{t+1}^e) - (i_t^F - \pi_{t+1}^{F,e})] \right]$$

**Answer:** If the market reduces its expectation of the likelihood of the U.S. going into recession, and heightens expectations of higher short term interest rates as the Fed attempts to cool off the economy, then the nominal interest rate is expected to rise faster than the future inflation rate; hence the real rate rises, and the dollar appreciates.

2.2 (7 minutes) What do you expect to happen to the yield curve as a consequence of this announcement? Explain your answer, using a graph or equations if helpful.

**Answer:** The short term interest rate expected in the near term should rise. Since the likelihood of a recession is reduced, it is also the case that short term interest rates in the longer term should also rise. Consequently, the entire term structure of interest rates should rise, and flatten out (i.e., the inversion should decline).

In terms of this graph, short rates rise, and the curve becomes less inverted going from orange to green.



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