

Econ 353 Money, Banking, and Financial Institutions
Spring 2006

Final Exam

Name _____

- The duration of the exam is 2 hours.
- The exam consists of 10 problems and it is worth 100 points.
- Please write in the space provided. If necessary, write on the back of the page.
- Please ask me if you have any questions.
- To receive full credit you have to carefully explain all your answers and show all your work.

General advice: If you get stuck in the early parts of a problem, do not stop there. You can receive substantial partial credit by explaining how you would solve the rest of the problem if you had the necessary answers from its previous parts.

1. (20 points) Determine whether each of the statements below is True or False:

US banking system is called dual because banks can be chartered either by the state level or the federal level authorities.

Bank branching regulations reduced the amount of competition in the banking sector and hurt bank customers.

Hedge funds typically have very low-risk portfolios because they engage in sophisticated hedging strategies.

All defined-benefit pension plans are fully funded because there is no way to change benefits after they were defined.

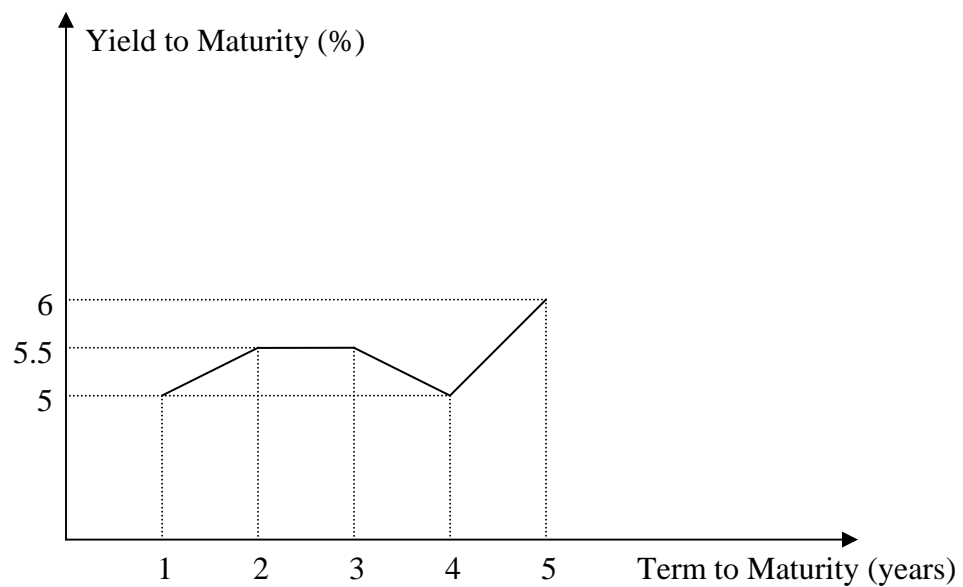
Federal Reserve is the most independent central bank in the world.

Contractionary monetary policy is associated with higher interest rates.

Eurodollars is the term used to denote the dollar-denominated deposits held by foreign banks in the US.

The presence of the “lender of last resort” induces banks to pursue safer investment strategies.

2. (10 points) Suppose that the following yield curve is observed today:



- a. Assuming that the expectations hypothesis is true, determine the current yield on 1-year bonds, 2-year bonds, 3-year bonds, and 4-year bonds?

- b. Assuming that the expectations hypothesis is true, determine the yield on 1-year bonds one year from today, two years from today, and three years from today? Would you be able answer this question without assuming that the expectations hypothesis is true?

- 3. (5 points) Which of the following 1-year, \$1,000 face-value securities has highest yield to maturity?
 - i. A 10 percent coupon bond selling for \$1,000;
 - ii. A 8 percent coupon bond selling for \$1,000;
 - iii. A 6 percent coupon bond selling for \$1,000;
 - iv. A 6 percent coupon bond selling for \$1,100

4. (10 points) The Federal Reserve Open Market Committee released the following statement after its February 2, 2005 meeting:

The Federal Open Market Committee decided today to raise its target for the federal funds rate by 25 basis points to 2-1/2 percent.

The Committee believes that, even after this action, the stance of monetary policy remains accommodative and, coupled with robust underlying growth in productivity, is providing ongoing support to economic activity. Output appears to be growing at a moderate pace despite the rise in energy prices, and labor market conditions continue to improve gradually. Inflation and longer-term inflation expectations remain well contained.

The Committee perceives the upside and downside risks to the attainment of both sustainable growth and price stability for the next few quarters to be roughly equal. With underlying inflation expected to be relatively low, the Committee believes that policy accommodation can be removed at a pace that is likely to be measured. Nonetheless, the Committee will respond to changes in economic prospects as needed to fulfill its obligation to maintain price stability.

What can you conclude from this statement about the current target rate for the federal funds? Why was (or wasn't) it changed? Is it more likely to be increased or decreased in the future?

5. (5 points) You purchase a 30-year, \$1000 face-value, zero-coupon bond. The interest rate is 6%. One year later the interest rate has changed to 5% and you decide to sell the bond. What is your one-year holding period return?

6. (10 points) What are the two main elements of the price of an option and explain what each of them means?

7. (10 points) Show on a T-account how the following transactions affect the balance sheet of a central bank:

a. A customer withdraws \$1000 from a checking account.

b. Central Bank sells \$1000 worth of T-Bills.

c. Central Bank gives a \$1000 discount loan.

8. (5 points) Why countries with more generous deposit insurance can be more likely to suffer from financial crises?

9. (5 points) What is a mutual fund and what is the difference between closed-end and open-end mutual funds?

10. (5 points) What are the arguments against central bank independence?
11. (5 points) Suppose that the currency-to-deposits ratio is 0.2, the required reserve ratio is 0.1, and the excess reserves ratio is 0.05. Compute the money (M1) multiplier and interpret what it means?
12. (10 points) Assume that the Fed predicts that the following demand for reserves on the federal funds market: $R^D = 1000 - 100 \cdot i$, where R^D is the quantity of reserves demanded (in billions of dollars) and i is the current federal funds rate. Fed's target federal funds rate is 5%. Current supply of reserves is \$400 billion. Explain using a graph what the Fed has to do to achieve its target federal funds rate?

The formulas you may or may not need:

$$PV = [C/i] * [1 - 1/(1+i)^n],$$

$$PV = FV/(1+i)^n,$$

$$\text{Expected value} = \text{value} * \text{prob}(\text{value}) + \text{value} * \text{prob}(\text{value}) + \dots$$

$$\text{Variance} = (\text{value} - \text{expected value})^2 * \text{prob}(\text{value}) + (\text{value} - \text{expected value})^2 * \text{prob}(\text{value}) + \dots$$

$$i_{n(t)} = (i_{1(t)} + i_{1(t+1)} + i_{1(t+2)} + \dots + i_{1(t+n-1)})/n.$$