

**Finance 462
Practice Final**

- 1) Suppose that the demand for loans depends on the annual interest rate charged (r_l). Each loan is a \$100,000, 30 year fixed APR mortgage.

$$Q = 150 - 700r_l$$

The bank has a monthly fixed cost of \$12,000 plus an annual variable cost (interest paid on deposits plus various administrative expenses equal to 4% of the loans created)

- a) Solve for the profit maximizing interest rate. What are the banks monthly profits?
 - b) Calculate the interest elasticity of loan demand at the profit maximizing point.
 - c) Suppose that the banks cost of funds rose from 4% of loans to 6% of loans. Calculate the new profit maximizing point?
 - d) Suppose that the bank's fixed cost rose to \$15,000. How would this influence the bank's decision?
- 2) Suppose that you are the manager of a bank. Your balance sheet is as follows:

Assets	Liabilities
Cash/Reserves: \$10,000	Checking Accounts: \$100,000
15 Year Mortgages: \$150,000	5 Year CDs: \$200,000
30 Year Mortgages: \$200,000	10 year CDs: \$300,000

The reserve requirement is 6% while the equity capital requirement is 4% of non-cash assets.

- a) Calculate the bank's equity capital.
 - b) Is the reserve requirement satisfied?
 - c) Calculate the bank's duration gap. If the bank remains un-hedged, how much of an interest rate change could the bank withstand before it is undercapitalized?
- 2) Suppose that the Federal Reserve is maintaining a fed funds target of 2%. Explain how the fed would need to respond (i.e increase or decrease the money supply) to the following events.
- a) GDP is projected to increase by 3%.
 - b) Inflation is higher than previously expected.
 - c) Electronic banking allows households to carry less cash.

- d) What tools does the Fed have at its disposal to alter the money supply?
- 3) Suppose that the Federal Reserve is following a policy of maintaining full employment. How would the Fed need to respond to the following events?
- a) Consumer confidence drops by 5% (consumer confidence is a measure of the average household's feelings about the economy)
 - b) President Bush offers a \$2000 per person tax cut.
 - c) High oil prices causes firms to layoff workers and scale back planned investment expenditures.
 - d) Some FOMC members have advocated an inflation rule. That is, they would like the Fed to commit to maintaining a constant inflation rate. Is this a good idea? Why or why not?