

**Econ 116b**  
**Problem Set 3**

1. Assume that a bank has on its asset side reserves of 500 and loans of 3000 and on its liability side deposits of 3500. Assume that the required reserve ratio is 10 percent.
  - (a) How much is the bank required to hold as reserves given its deposits of 3500?
  - (b) How much are its excess reserves?
  - (c) By how much can the bank increase its loans?
  - (d) Suppose a depositor comes to the bank and withdraws 200 in cash. Show the bank's new balance sheet, assuming the bank obtains the cash by drawing down its reserves. Does the bank now hold excess reserves? Is it meeting the required reserve ratio? If not, what can it do?
2. The T-account analysis in class showed that the Fed can increase the money supply by buying government securities. Why does this action lower the interest rate? What assumptions are you making about the demand for money in your answer? Explain carefully.
3. Since the U.S. Treasury must sell government securities to finance any deficit that it may run, is it ever possible for a deficit to be financed by "printing money?" Explain carefully. (Hint: the answer is yes.) How is the interest rate affected, if at all, when deficits are financed without printing money?
4. As recently as last year when Professor Fair went to an ATM machine to withdraw money from his interest bearing money market account he withdrew \$300. Now he withdraws \$500. Is this rational on his part? Why or why not? (Professor Fair will not feel bad if you say he is not rational as long as this is the correct answer.)
5. Say you bought a 10-year government bond last year that yielded 4.5 percent per year. Assume that since that time the 10-year government bond rate has dropped to 3.0 percent. Are you better off or worse off after this drop? Explain carefully. How is this related to Professor Serebryakov?