ECONOMICS 26
FINANCIAL INTERMEDIARIES & MARKETS
PROFESSOR KATERINA SIMONS
FALL 2002

PROBLEM SET #2 - MORTGAGES, FOREIGN EXCHANGE, AND BANK MANAGEMENT
DUE IN CLASS ON 11/1/02

1. Two years ago, Professor Simons took out a one-point 30-year fixed rate mortgage for 7.125%. His house cost $265,000 and he was required to put 20% down.

   (a) What is Professor Simons' monthly payment? After 2 years, how much principal has he paid on the loan? How much interest has he paid?

   (b) Rates have dropped significantly over the past 8 months and Professor Simons is considering refinancing to a 28-year fixed rate mortgage at 6.5%. If it costs $2000 to refinance and he plans to own his house for the term of the loan, should he refinance? What if he is planning to sell his house in 2 years? What is the most he should be willing to pay to refinance in each case?

2. 26 week T-bills in the US are yielding 5.99%. 26 week Japanese government bills are yielding 3.00%. The spot (current) exchange rate is 108 yen per dollar. What is the 6 month forward rate on yen per dollar?

3. Suppose that the demand for French exports to the U.S. rises while tariffs on imports from the U.S. are lowered. Will the franc tend to appreciate or depreciate in the long run?

4. If expected inflation in Mexico falls and decreases interest rates in Mexico, what will happen to the peso per dollar exchange rate?

5. Bob's Bank has checkable deposits of $1.5 million, NOW accounts of $2 million, savings deposits of $2.5 million, and has issued $3 million in negotiable CDs. It also has $4 million in home mortgage loans, $3 million in commercial loans, $2.5 million in U.S. Treasury bonds, and physical capital (e.g., its building and equipment) worth $1 million.

   (a) Given the information above, what does the bank's balance sheet look like?

   (b) If reserve requirements are 10%, how much should the bank hold be holding in reserves?

   (c) Suppose the bank aims to meet its reserve requirements by adjusting its bond holdings. What would it do and what would its balance sheet look like after this change?

   (d) Suppose instead that it aims to meet its reserve requirements by adjusting its liabilities. How would it do so and what would it balance sheet look like after this change?

   (e) Over the next year, Bob's Bank will earn 7.0% on its home mortgage loans, 9.0% on its commercial loans, and 6.0% on its bond holdings. It will pay out an average of 6.1% on its CDs, 4.0% on its savings accounts, and 2.7% on its NOW accounts. What will the bank's net interest margin be for the coming year?