1. The following Table lists some exchange rates. Answer all questions as if there were no arbitrage costs.

<table>
<thead>
<tr>
<th>Currency</th>
<th>Exchange Rate (as US$ per foreign currency, except for Japan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada (dollar)</td>
<td>$.69/Can$</td>
</tr>
<tr>
<td>Euro 180-day forward rate</td>
<td>$1.09/Euro</td>
</tr>
<tr>
<td>British Pound</td>
<td>$1.57/£</td>
</tr>
<tr>
<td>Japanese Yen 180-day forward rate</td>
<td>119.69¥/$</td>
</tr>
</tbody>
</table>

a) What is the spot rate of the Yen in terms of the British pound?

b) Suppose the interest rate on US one year Treasury bills is 3.0% (the semi-annual rate is 1.5%). What interest rate on Euro securities would make you indifferent between investing in US or Euro bonds? What interest rate on Japanese securities would make you indifferent between investing in US or Japanese bonds?

c) Suppose your research department forecasts that, in 180 days, the spot price of the Euro will be $1.03. On the basis of this information, you sell 1 million Euro forward.

i. What are your speculative profits if your research department is correct?

ii. How does your action tend to affect the forward price of the Euro and what impact, if any, is it likely to have on the spot exchange rate? Explain.

2. Use the covered interest arbitrage relationship to explain how the following are likely to affect the spot $/Euro rate. In answering, explain your reasoning (and, in particular, what variables you are holding fixed):

a) An increase in Euro interest rates.

b) A change in expectations that leads people to expect an appreciation of the dollar (against the Euro) in six months.

c) A decrease in US interest rates.

3. The “Monetary Theory of Exchange Rate Determination” is the principal theory used to understand how exogenous events are likely to affect exchange rates. In applying the theory, a distinction is made between the “short-run”, when goods prices are held fixed, and the “long run”, when goods prices are assumed to change. Use the theory to explain how the following events are likely to effect the $/Euro exchange rate.

a) A temporary decrease in the U.S. money supply. Explain how this will affect the exchange rate, U.S. interest rates, the forward rate, and the price level in the short run (HINT: because the decrease in the money supply is temporary, expectations about...
the future spot exchange rate are unaffected).

b) A permanent one-time increase in the Euro money supply. Explain how this will affect the exchange rate, U.S. interest rates, the forward rate, and the price level in the short run and in the long run (HINT: since the money supply increase is permanent, expectations about the future spot exchange rate change)

c) An increase in the rate of monetary growth in the US from 3% to 6%. Show how this affects the relevant variables (interest rates, exchange rates, prices) assuming that goods prices adjust immediately.

d) A revised forecast in April 2003 indicating lower U.S. income levels for 2004 than previously believed. Indicate how this revised forecast will affect: the forward and spot exchange rates, U.S. interest rates, etc.

4. Using the aggregate demand-aggregate supply model of Chapter 16:

   a) Show how a permanent increase in the money supply affects the exchange rate and income levels in the short run and in the long run.

   b) Show how a temporary increase in government spending affects the exchange rate and income level in the short run. What is the short run effect of a permanent increase in government spending? Why?