Homework 1
Eco 446/546

4. The dollar rates of return are as follows:
   (a) \( \frac{($250,000 - $200,000)}{$200,000} = 0.25 \).
   (b) \( \frac{($275 - $225)}{225} = 0.22 \).
   (c) There are two parts of this return. One is the loss involved due to the appreciation of the dollar; the dollar appreciation is \( \frac{($1.38 - $1.50)}{1.50} = -0.08 \). The other part of the return is the interest paid by the London bank on the deposit, 10 percent. (The size of the deposit is immaterial to the calculation of the rate of return.) In terms of dollars, the realized return on the London deposit is thus 2 percent per year.

5. Note here that the ordering of the returns of the three assets is the same whether we calculate real or nominal returns.
   (a) The real return on the house would be 25% – 10% = 15%. This return could also be calculated by first finding the portion of the $50,000 nominal increase in the house’s price due to inflation ($20,000), then finding the portion of the nominal increase due to real appreciation ($30,000), and finally finding the appropriate real rate of return ($30,000/$200,000 = 0.15).
   (b) Again, subtracting the inflation rate from the nominal return we get 20% – 10% = 10%.
   (c) 2% – 10% = –8%.

6. The current equilibrium exchange rate must equal its expected future level since, with equality of nominal interest rates, there can be no expected increase or decrease in the dollar/pound exchange rate in equilibrium. If the expected exchange rate remains at $1.52 per pound and the pound interest rate rises to 10 percent, then interest parity is satisfied only if the current exchange rate changes such that there is an expected appreciation of the dollar equal to 5 percent. This will occur when the exchange rate rises to $1.60 per pound (a depreciation of the dollar against the pound).

7. If market traders learn that the dollar interest rate will soon fall, they also revise upward their expectation of the dollar’s future depreciation in the foreign-exchange market. Given the current exchange rate and interest rates, there is thus a rise in the expected dollar return on euro deposits. The downward-sloping curve in the diagram below shifts to the right and there is an immediate dollar depreciation, as shown in the figure below where a shift in the interest-parity curve from II to I’ leads to a depreciation of the dollar from \( E_0 \) to \( E_1 \).
9. (a) If the Federal Reserve pushed interest rates down, with an unchanged expected future exchange rate, the dollar would depreciate (note that the article uses the term “downward pressure” to mean pressure for the dollar to depreciate). In terms of the analysis developed in this chapter, a move by the Federal Reserve to lower interest rates would be reflected in a movement from R to R’ in figure 13.5, and a depreciation of the exchange rate from E to E’.

If there is a “soft landing,” and the Federal Reserve does not lower interest rates, then this dollar depreciation will not occur. Even if the Federal Reserve does lower interest rates a little, say from R to R”, this may be a smaller decrease than what people initially believed would occur. In this case, the expected future value of the exchange rate will be more appreciated than before, causing the interest-parity curve to shift in from II to I’ (as shown in figure 13.6). The shift in the curve reflects the “optimism sparked by the expectation of a soft landing” and this change in expectations means that, with a fall in interest rates from R to R”, the exchange rate depreciates from E to E”, rather than from E to E’, which would occur in the absence of a change in expectations.

Figure 13.5
Figure 13.6

(b) The “disruptive” effects of a recession make dollar holdings more risky. Risky assets must offer some extra compensation such that people willingly hold them as opposed to other, less risky assets. This extra compensation may be in the form of a bigger expected appreciation of the currency in which the asset is held. Given the expected future value of the exchange rate, a bigger expected appreciation is obtained by a more depreciated exchange rate today. Thus, a recession that is disruptive and makes dollar assets more risky will cause a depreciation of the dollar.