

- b. Suppose a change in expectations regarding future U.S. inflation causes the expected future spot rate to decline to \$1.52:£1. What should happen to the U.S. interest rate?
6. Suppose that in Japan the interest rate is 8% and inflation is expected to be 3%. Meanwhile, the expected inflation rate in France is 12% and the British interest rate is 14%. To the nearest whole number, what is the best estimate of the 1-year forward exchange premium (discount) at which the pound will be selling relative to the euro?
7. An economic analysis firm has just published projected inflation rates for the United States and Germany for the next 5 years. U.S. inflation is expected to be 10% per year, and German inflation is expected to be 4% per year.
- a. If the current exchange rate is \$0.95/€, forecast the exchange rates for the next 5 years.
- b. Suppose that U.S. inflation over the next five years turns out to average 3.2%, German inflation averages 1.5%, and the exchange rate in 5 years is \$0.99/€. What has happened to the real value of the euro over this 5-year period?
8. During 1995, the Mexican peso exchange rate rose from Mex\$5.33/U.S.\$ to Mex\$7.64/U.S.\$. At the same time, U.S. inflation was approximately 3% in contrast to Mexican inflation of about 48.7%.
- a. By how much did the nominal value of the peso change during 1995?
- b. By how much did the real value of the peso change over this period?
9. Suppose 3-year deposit rates on Eurodollars and Euro francs (Swiss) are 12% and 7%, respectively. If the current spot rate for the Swiss franc is \$0.3985, what is the spot rate implied by these interest rates for the franc 3 years from now?
10. Assume that the interest rate is 16% on pounds sterling and 7% on euros. At the same time, inflation is running at an annual rate of 3% in Germany and 9% in England.
- a. If the euro is selling at a 1-year forward premium of 10% against the pound, is there an arbitrage opportunity? Explain.
- b. What is the real interest rate in Germany? In England?
- c. Suppose that during the year the exchange rate changes from €1.8:£1 to €1.77:£1. What are the real costs to a German company of borrowing pounds? Contrast this cost to its real cost of borrowing euros.
- d. What are the real costs to a British firm of borrowing euros? Contrast this cost to its real cost of borrowing pounds.
11. Suppose the Eurosterling rate is 15% and the Eurodollar rate is 11.5%. What is the forward premium on the dollar? Explain.
12. Suppose the spot rates for the euro, pound sterling, and Swiss franc are \$1.34, \$1.98, and \$0.815, respectively. The associated 90-day interest rates (annualized) are 8%, 16%, and 4%; the U.S. 90-day rate (annualized) is 12%. What is the 90-day forward rate on an ACU (ACU 1 = € 1 + £1 + SFr 1) if interest rate parity holds?
13. Suppose that 3-month interest rates (annualized) in Japan and the United States are 7% and 9%, respectively. If the spot rate is ¥142:\$1 and the 90-day forward rate is ¥139:\$1,
- a. Where would you invest?
- b. Where would you borrow?
- c. What arbitrage opportunity do these figures present?
- d. Assuming no transaction costs, what would be your arbitrage profit per dollar or dollar-equivalent borrowed?
14. Here are some prices in the international money markets:
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|-----------------------|------------------|
| Spot rate | = \$1.34:€ |
| Forward rate (1 year) | = \$ 1.36:€ |
| Interest rate (€) | = 3.5% per year |
| Interest rate (\$) | = 4.75% per year |
- a. Assuming no transaction costs or taxes exist, do covered arbitrage profits exist in this situation? Describe the flows.
- b. Suppose now that transaction costs in the foreign exchange market equal 0.25% per transaction. Do unexploited covered arbitrage profit opportunities still exist?
- c. Suppose no transaction costs exist. Let the capital gains tax on currency profits equal 25% and the ordinary income tax on interest income equal 50%. In this situation, do covered arbitrage profits exist? How large are they? Describe the transactions required to exploit these profits.
15. Suppose today's exchange rate is \$1.35/€. The 6-month interest rates on dollars and euros are 6% and 3%, respectively. The 6-month forward rate is \$1.3672. A foreign exchange advisory service has predicted that the euro will appreciate to \$1,375 within 6 months.
- a. How would you use forward contracts to profit in the above situation?
- b. How would you use money-market instruments (borrowing and lending) to profit?
- c. Which alternatives (forward contracts or money market instruments) would you prefer? Why?