

ADDITIONAL PROBLEMS FOR CHAPTER 7

- 7-24** **Yield to maturity** Wilson Wonders' bonds have 12 years remaining to maturity. Interest is paid annually, the bonds have a \$1,000 par value, and the coupon interest rate is 10 percent. The bonds sell at a price of \$850. What is their yield to maturity?
- 7-25** **Current yield** Heath Foods' bonds have 7 years remaining to maturity. The bonds have a face value of \$1,000 and a yield to maturity of 8 percent. They pay interest annually and have a 9 percent coupon rate. What is their current yield?
- 7-26** **Current yield and yield to maturity** A bond that matures in 6 years has an 8 percent coupon rate, semiannual payments, a face value of \$1,000, and a 7.7 percent current yield. What is the bond's nominal yield to maturity (YTM)?
- 7-27** **Bond valuation** Suppose Ford Motor Company sold an issue of bonds with a 10-year maturity, a \$1,000 par value, a 10 percent coupon rate, and semiannual interest payments.
- Two years after the bonds were issued, the going rate of interest on bonds such as these fell to 6 percent. At what price would the bonds sell?
 - Suppose that, 2 years after the initial offering, the going interest rate had risen to 12 percent. At what price would the bonds sell?
 - Suppose that the conditions in part a existed—that is, interest rates fell to 6 percent 2 years after the issue date. Suppose further that the interest rate remained at 6 percent for the next 8 years. What would happen to the price of the Ford Motor Company bonds over time?
- 7-28** **Discount bond valuation** Assume that in February 1972 the Los Angeles Airport Authority issued a series of 3.4 percent, 30-year bonds. Interest rates rose substantially in the years following the issue, and as they did, the price of the bonds declined. Also, assume in February 1985, 13 years later, the price of the bonds had dropped from \$1,000 to \$650. In answering the following questions, assume that the bond requires annual interest payments.
- Each bond originally sold at its \$1,000 par value. What was the yield to maturity of these bonds when they were issued?
 - Calculate the yield to maturity in February 1985.
 - Assume that interest rates stabilized at the 1985 level and stayed there for the remainder of the life of the bonds. What would have been the bonds' price in February 2000, when they had 2 years remaining to maturity?
 - What was the price of the bonds the day before they matured in 2002? (Disregard the last interest payment.)
 - In 1985, the Los Angeles Airport bonds were classified as "discount bonds." What happens to the price of a discount bond as it approaches maturity? Is there a "built-in capital gain" on such bonds?
 - The coupon interest payment divided by the market price of a bond is called the bond's *current yield*. Assuming the conditions in part c, what would have been the current yield of a Los Angeles Airport bond (1) in February 1985 and (2) in February 2000? What would have been its capital gains yields and total yields (total yield equals yield to maturity) on those same two dates?