

55**YIELD AND YIELD SPREAD
MEASURES FOR FIXED-RATE
BONDS**

1. Jorge Fullen is evaluating a 7%, 10-year bond that is callable at par in 5 years. Coupon payments can be reinvested at an annual rate of 7%, and the current price of the bond is \$1,065.00 per \$1,000 of face value. The bond pays interest semiannually. Should Fullen consider the yield to first call (YTC) or the yield to maturity (YTM) in making his purchase decision?
(A) YTM, since YTM is greater than YTC.
(B) YTC, since YTC is less than YTM.
(C) YTC, since YTC is greater than YTM.
2. Neuman Company has bonds outstanding with five years to maturity that trade at a spread of +240 basis points above the five-year government bond yield. Neuman also has five-year bonds outstanding that are identical in all respects except that they are convertible into 30 shares of Neuman common stock. At which of the following spreads are the convertible bonds most likely to trade?
(A) +210 basis points.
(B) +270 basis points.
(C) +330 basis points.
3. A 20-year bond pays an annual coupon of 6% and has a par value of \$1,000. If its current yield is 7%, its yield to maturity is closest to:
(A) 8.6%.
(B) 7.4%.
(C) 7.0%.
4. A 15-year, 10% annual coupon bond is sold for \$1,150. It can be called at the end of 5 years for \$1,100. What is the bond's yield to call (YTC)?
(A) 8.0%.
(B) 8.4%.
(C) 9.2%.
5. Which of the following is the most accurate statement about stated and effective annual interest rates?
(A) The stated rate adjusts for the frequency of compounding.
(B) The stated annual interest rate is used to find the effective annual rate.
(C) So long as interest is compounded more than once a year, the stated annual rate will always be more than the effective rate.

6. A 10% annual coupon, \$1,000 par value bond that matures in 5 years is priced at 92.8. Its yield to maturity is closest to:
- (A) 12%.
 - (B) 10%.
 - (C) 11%.
7. Consider a 5-year, semiannual, 10% coupon bond with a maturity value of 1,000 selling for \$1,081.11. The first call date is 3 years from now and the call price is \$1,030. What is the yield-to-call?
- (A) 3.91%.
 - (B) 7.28%.
 - (C) 7.82%.
8. A coupon bond pays annual interest, has a par value of \$1,000, matures in 4 years, has a coupon rate of \$100, and a yield to maturity of 12%. The current yield on this bond is:
- (A) 10.65%.
 - (B) 11.25%.
 - (C) 9.50%.
9. A major brokerage house is currently selling an investment product that offers an 8% rate of return, compounded monthly. Based on this information, it follows that this investment has:
- (A) a periodic interest rate of 0.667%.
 - (B) a stated rate of 0.830%.
 - (C) an effective annual rate of 8.00%.
10. A disadvantage of G-spreads and I-spreads is that they are theoretically correct only if the spot yield curve is:
- (A) downward sloping.
 - (B) flat.
 - (C) upward sloping.
11. McClintock 8% coupon bonds maturing in 10 years are currently trading at 97.55. These bonds are option-free and pay coupons semiannually. The McClintock bonds have a:
- (A) current yield less than 8.0%.
 - (B) true yield greater than the street convention.
 - (C) yield to maturity greater than 8.0%.

12. Calculate the current yield and the yield-to-first call on a bond with the following characteristics:

- 5 years to maturity
- \$1,000 face value
- 8.75% semi-annual coupon
- Priced to yield 9.25%
- Callable at \$1,025 in two years

| | Current Yield | Yield-to-Call |
|-----|----------------------|----------------------|
| (A) | 8.93% | 11.02% |
| (B) | 8.93% | 5.51% |
| (C) | 9.83% | 19.80% |

13. Tony Ly is a Treasury Manager with Deeter Holdings, a large consumer product holding company. The Assistant Treasurer has asked Ly to calculate the current yield and the Yield to-first Call on a bond the company holds that has the following characteristics:

- 7 years to maturity
- \$1,000 face value
- 7.0% semi-annual coupon
- Priced to yield 9.0%
- Callable at \$1,060 in two years

If Ly calculates correctly, the current yield and yield to call are approximately:

| | CY | YTC |
|-----|-----------|------------|
| (A) | 7.78% | 15.82% |
| (B) | 7.80% | 15.72% |
| (C) | 7.80% | 15.82% |

14. A \$1,000 bond with an annual coupon rate of 10% has 10 years to maturity and is currently priced at \$800. The bond's yield-to-maturity is closest to:

- (A) 12.6%.
- (B) 11.7%.
- (C) 13.8%.

15. Other things equal, as the number of compounding periods increases, what is the effect on the effective annual rate (EAR)?

- (A) EAR increases.
- (B) EAR decreases.
- (C) EAR remains the same.

16. An 11% coupon bond with annual payments and 10 years to maturity is callable in 3 years at a call price of \$1,100. If the bond is selling today for 975, the yield to call is:
- (A) 10.26%.
 (B) 14.97%.
 (C) 9.25%.
17. If an investment has an APR of 18% and is compounded quarterly, its effective annual rate (EAR) is closest to:
- (A) 18.81%.
 (B) 18.00%.
 (C) 19.25%.
18. A 20-year, 9% annual coupon bond selling for \$1,098.96 offers a yield of:
- (A) 8%.
 (B) 10%.
 (C) 9%.
19. A fixed coupon callable bond issued by Protohype Inc. is trading with a yield to maturity of 6.4%. Compared to this YTM, the bond's option-adjusted yield will be:
- (A) higher.
 (B) lower.
 (C) the same.
20. What is the equivalent annual-pay yield for a bond with a semiannual-bond basis yield of 5.6%?
- (A) 5.52%.
 (B) 5.60%.
 (C) 5.68%.
21. An interpolated spread (I-spread) for a bond is a yield spread relative to:
- (A) benchmark spot rates.
 (B) risk-free bond yields.
 (C) swap rates.
22. A Treasury bond due in one-year has a yield of 8.5%. A Treasury bond due in 5 years has a yield of 9.3%. A bond issued by Galaxy Motors due in 5 years has a yield of 9.9%. A bond issued by Exe due in one year has a yield of 9.4%. The yield spreads on the bonds issued by Exe and Galaxy Motors are:

| | Exe | Galaxy Motors |
|-----|------------|----------------------|
| (A) | 0.1% | 0.6% |
| (B) | 0.1% | 1.4% |
| (C) | 0.9% | 0.6% |

23. A single yield used to discount all of a bond's cash flows when calculating its price is most accurately described as the bond's:
- (A) yield to maturity.
 - (B) simple yield.
 - (C) current yield.
24. A 6% bond paying coupons semi-annually has 10 years until maturity. The bond currently trades at 111.5. Its yield to maturity is closest to:
- (A) 4.529%.
 - (B) 4.543.
 - (C) 4.556%.
25. Venenata Foods has a 10-year bond outstanding with an annual coupon of 6.5%. If the bond is currently priced at \$1,089.25, which of the following is closest to the semiannual-bond basis yield?
- (A) 5.33%.
 - (B) 5.26%.
 - (C) 5.42%.
26. A local bank advertises that it will pay interest at the rate of 4.5%, compounded monthly, on regular savings accounts. What is the effective rate of interest that the bank is paying on these accounts?
- (A) 4.50%.
 - (B) 4.65%.
 - (C) 4.59%.
27. Which of the following adjustments is most likely to be made to the day count convention when calculating corporate bond yield spreads to government bond yields?
- (A) Adjust the government bond yield to actual months and years.
 - (B) Adjust the corporate bond yield to actual months and years.
 - (C) Adjust both the corporate and government bond yields to actual months and years.
28. A \$1,000 par value, 10%, semiannual, 20-year debenture bond is currently selling for \$1,100. What is this bond's current yield and will the current yield be higher or lower than the yield to maturity?
- | | Current Yield | Current Yield |
|-----|---------------|---------------|
| (A) | 8.9% | lower |
| (B) | 9.1% | higher |
| (C) | 8.9% | higher |

29. A stated annual interest rate of 9% compounded semiannually results in an effective annual rate closest to:
- (A) 8.81%.
 - (B) 18.81%.
 - (C) 9.2%.
30. What is the current yield for a 5% three-year bond whose price is \$93.19?
- (A) 2.68%.
 - (B) 5.00%.
 - (C) 5.37%.
31. A local bank offers an account that pays 8%, compounded quarterly, for any deposits of \$10,000 or more that are left in the account for a period of 5 years. The effective annual rate of interest on this account is:
- (A) 4.65%.
 - (B) 8.24%.
 - (C) 9.01%.
32. What is the yield to call on a bond that has an 8% coupon paid annually, \$1,000 face value, 10 years to maturity and is first callable in 6 years? The current market price is \$1,100. The call price is the face value plus 1-year's interest.
- (A) 6.00%.
 - (B) 7.14%.
 - (C) 7.02%.
33. If a \$1,000 bond has a 14% coupon rate and a current price of 950, what is the current yield?
- (A) 14.00%.
 - (B) 14.74%.
 - (C) 15.36%.
34. Harmon Moving has a 13.25% coupon semiannual coupon bond currently trading in the market at \$1,229.50. The bond has eight years remaining until maturity, but only two years until first call on the issue at 107.50% of \$1,000 par value. Which of the following is closest to the yield to first call on the bond?
- (A) 5.16%.
 - (B) 4.72%.
 - (C) 9.14%.
35. An investor purchases a 5-year, A-rated, 7.95% coupon, semiannual-pay corporate bond at a yield to maturity of 8.20%. The bond is callable at 102 in three years. The bond's yield to call is closest to:
- (A) 8.3%.
 - (B) 8.6%.
 - (C) 8.9%.

36. If a callable bond has an option-adjusted spread (OAS) of 75 basis points, this most likely suggests:
- (A) the bond has a zero-volatility spread greater than 75 basis points.
 - (B) the 75 basis points represent the investor's compensation for credit risk, liquidity risk, and volatility risk.
 - (C) the implied cost of the call option is the bond's nominal spread minus 75 basis points.
37. The bonds of Grinder Corp. trade at a G-spread of 150 basis points above comparable maturity U.S. Treasury securities. The option adjusted spread (OAS) on the Grinder bonds is 75 basis points. Using this information, and assuming that the Treasury yield curve is flat:
- (A) the zero-volatility spread is 75 basis points.
 - (B) the zero-volatility spread is 225 basis points.
 - (C) the option cost is 75 basis points.
38. A 20-year, \$1,000 face value, 10% semi-annual coupon bond is selling for \$875. The bond's yield to maturity is:
- (A) 11.43%.
 - (B) 5.81%.
 - (C) 11.62%.
39. A five-year bond with a 7.75% semiannual coupon currently trades at 101.245% of a par value of \$1,000. Which of the following is closest to the current yield on the bond?
- (A) 7.53%.
 - (B) 7.65%.
 - (C) 7.75%.
40. Bond X is a noncallable corporate bond maturing in ten years. Bond Y is also a corporate bond maturing in ten years, but Bond Y is callable at any time beginning three years from now. Both bonds carry a credit rating of AA. Based on this information:
- (A) Bond Y will have a higher zero-volatility spread than Bond X.
 - (B) The option adjusted spread of Bond Y will be greater than its zero-volatility spread.
 - (C) The zero-volatility spread of Bond X will be greater than its option-adjusted spread.
41. A stated interest rate of 9% compounded quarterly results in an effective annual rate closest to:
- (A) 9.4%.
 - (B) 9.3%.
 - (C) 9.2%.

42. Which of the following describes the yield to worst? The:
- (A) lowest of all possible yields to call.
 - (B) lowest of all possible prices on the bond.
 - (C) yield given default on the bond.
43. A semiannual-pay bond is callable in five years at \$1,080. The bond has an 8% coupon and 15 years to maturity. If an investor pays \$895 for the bond today, the yield to call is closest to:
- (A) 10.2%.
 - (B) 12.1%.
 - (C) 9.3%.
44. Consider a bond selling for \$1,150. This bond has 28 years to maturity, pays a 12% annual coupon, and is callable in 8 years for \$1,100. The yield to maturity is closest to:
- (A) 10.34%.
 - (B) 10.55%.
 - (C) 9.26%.
45. What is the yield to maturity (YTM) on a semiannual-bond basis of a 20-year, U.S. zerocoupon bond selling for \$300?
- (A) 3.06%.
 - (B) 6.11%.
 - (C) 7.20%.
46. What is the effective annual rate if the stated rate is 12% compounded quarterly?
- (A) 12.55%.
 - (B) 11.49%.
 - (C) 57.35%.
47. A 12% coupon bond with semiannual payments is callable in 5 years. The call price is \$1,120. If the bond is selling today for \$1,110, what is the yield-to-call?
- (A) 10.25%.
 - (B) 10.95%.
 - (C) 11.25%.
48. The zero-volatility spread (Z-spread) is the spread that:
- (A) is added to each spot rate on the government yield curve that will cause the present value of the bond's cash flows to equal its market price.
 - (B) is added to the yield to maturity of a similar maturity government bond to equal the yield to maturity of the risky bond.
 - (C) results when the cost of the call option in percent is subtracted from the option adjusted spread.

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49. A bond with a 12% semiannual coupon is currently trading at 102.25 per 100 of face value and has seven years to maturity. Which of the following is closest to the yield to maturity (YTM) on the bond?
- (A) 11.21%.
 - (B) 11.52%.
 - (C) 11.91%.
50. Consider a bond selling for \$1,150. This bond has 28 years to maturity, pays a 12% annual coupon, and is callable in 8 years for \$1,100. The yield to call is closest to:
- (A) 10.05%.
 - (B) 10.55%.
 - (C) 9.25%
51. For a callable bond, the option-adjusted spread (OAS):
- (A) is less than the zero-volatility spread.
 - (B) is greater than the zero-volatility spread.
 - (C) can be greater than or equal to the zero-volatility spread.
52. A 20-year, 9% semi-annual coupon bond selling for \$914.20 offers a yield to maturity of:
- (A) 8%.
 - (B) 10%.
 - (C) 9%.
53. A \$1,000 par value, 10% annual coupon bond with 15 years to maturity is priced at \$951. The bond's yield to maturity is:
- (A) less than its current yield.
 - (B) greater than its current yield.
 - (C) equal to its current yield.
54. A 20 year, 8% semi-annual coupon, \$1,000 par value bond is selling for \$1,100. The bond is callable in 4 years at \$1,080. What is the bond's yield to call?
- (A) 6.87.
 - (B) 7.21.
 - (C) 8.13..
55. A 20-year, 10% semi-annual coupon bond selling for \$925 has a yield to maturity (YTM) of:
- (A) 10.93%.
 - (B) 11.23%.
 - (C) 9.23%.

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56. A 30-year, 10% annual coupon bond is sold at par. It can be called at the end of 10 years for \$1,100. What is the bond's yield to call (YTC)?
- (A) 10.6%.
 - (B) 10.0%.
 - (C) 8.9%



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