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College of Business Administration
Department of Economics
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ECO 3223-0001
Fall 2005

QUIZ I

- This closed book QUIZ is worth 100 points.
  The QUIZ totals 40 Multiple-Choice Questions and 1 Short-Essay Question.
  Each Multiple-Choice Question is worth 2.25 points.
  The Short-Essay question is worth 10 points.
  Allocate your time accordingly.
- Including the cover page, the QUIZ totals 9 pages.
- DO NOT forget to write your name and your student id on the exam booklet.
- DO NOT forget to write your name and your student id on the computer sheet.
- Non-Programmable calculators and language dictionaries are allowed.
- At the end of the exam, hand-in the exam booklet and the computer sheet to the examiner.
- **Write clearly. Write clearly. Write clearly.**

September 13, 2005

6:00 p.m. – 7:30 p.m.

BA 1-147

ECO3223-Fall-2005-QUIZ-I KEY

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1. *(p. 67)* Tom deposits funds in his savings account at the bank which is paying 3.5% interest. If he keeps his funds in the bank for one year he will have \$155.25. What amount is Tom depositing?
   a. \$151.75
   B \$150.00
   c. \$148.75
   d. \$147.50

Valuing Monetary Payments Now and in the Future.

2. *(p. 131)* As general business conditions improve, we would witness the following in the bond market:
   a. The bond demand curve shifting left.
   b. The bond supply curve shifting right.
   c. Bond prices decreasing.
   d. a and c
   E b and c

The Bond Market and the Determination of Interest Rates.

3. *(p. 67)* The present value of \$500 that you have to wait four years and three months to receive is best expressed by:
   a. (\$500/4.25) x (1+i)
   b. \$500 x 4.25 x (1 +i)
   C $\$500/(1+i)^{4.25}$
   d. None of the above

Valuing Monetary Payments Now and in the Future.

4. *(p. 64)* Compound interest is the idea:
   a. That says you get an interest deduction for paying your loan off early.
   B That says you get interest on interest.
   c. That says you get an interest deduction if you take out a loan for longer than one year.
   d. That says interest rates will rise on larger loans.

Valuing Monetary Payments Now and in the Future.

5. *(p. 130)* If the demand for bonds exceeds the supply of bonds:
   A Bond prices would rise and yields would fall.
   b. Bond prices would fall and yields would increase.
   c. Bond prices will rise and yields will remain constant.
   d. Bond prices and yields would increase.

The Bond Market and the Determination of Interest Rates.

6. *(p. 69)* Doubling the future value will cause:
   a. The present value to fall by half.
   b. The interest rate i, to double.
   c. No change to present value, only the interest rate.

d. b and c
E None of the above.

Valuing Monetary Payments Now and in the Future.

7. *(p. 122)* If a consol is offering an annual coupon of $50 and the annual interest rate is 6%, the price of the consol is:
   a. $47.17
   b. $813.00
   C $833.33
   d. None of the above

Bond Prices.

8. *(p. 72)* People with a high discount rate will require:
   a. A low interest rate to entice them to save.
   b. Investment options with longer maturities.
   C A higher interest rate to entice them to save.
   d. b and c

Valuing Monetary Payments Now and in the Future.

9. *(p. 131)* If the U.S. Government borrowing needs increase, in the bond market this would be seen as:
   a. The bond demand curve shifting right.
   b. A movement up the bond supply curve.
   c. A movement down the bond demand curve.
   D The bond supply curve shifting right.
   e. None of the above.

The Bond Market and the Determination of Interest Rates.

10. *(p. 130)* Bond prices and yields:
   a. Move together directly.
   b. Bond yields do not change since the coupon is fixed.
   C Move together inversely.
   d. Are independent of each other.

Bond Yields.

11. *(p. 170)* The presence of the risk premium says:
   a. The yield curve always slopes upward.
   b. Bonds of similar risk but with different maturities are not perfect substitutes.
   c. We should expect the yield curve to usually be flat.
   d. We should expect the yield curve to usually slope upward.
   E b and d

The Information Content of Interest Rates.

12. *(p. 77)* The coupon rate for a coupon bond is equal to:
   A The annual coupon payment divided by the face value of the bond.
   b. The annual coupon payment divided by the purchase price of the bond.
   c. The purchase price of the bond divided by the coupon payment.
   d. The annual coupon payment divided by the selling price of the bond.

Applying Present Value.

13. *(p. 104)* High oil prices tend to harm the auto industry and benefit oil companies.
   a. High oil prices are an example of systematic risk.
   B High oil prices are an example of idiosyncratic risk.
   c. Neither systematic or idiosyncratic.
   d. None of the above.

Sources of Risk: Idiosyncratic and Systematic Risk.

14. *(p. 99)* An investment will pay $2000 a quarter of the time; $1,600 half of the time and $1,400 a quarter of the time. The standard deviation of this asset is:
   a. 217.94
   b. $1,650
   c. 47,500dollars2
   D $217.94

Measuring Risk.

15. *(p. 72)* If the market interest rate is above an individual's personal discount rate:
   a. We would expect that individual to borrow.
   b. We would expect that individual to not borrow or save.
   C We would expect that individual to save.
   d. None of the above.

Valuing Monetary Payments Now and in the Future.

16. *(p. 124)* A $1000 face value bond purchased for $965.00, with an annual coupon of $60, and 20 years to maturity has:
   a. A current yield and coupon rate equal to 6.22%.
   B A current yield equal to 6.22% and a coupon rate below this.
   c. A coupon rate equal to 6.00% and a current yield below this.
   d. A yield to maturity and current yield equal to 6.00%.
   e. A yield to maturity and coupon rate equal to 6.00%.

Bond Yields.

17. *(p. 84)* A borrower is offered a choice between a fixed rate mortgage and a variable rate mortgage. The fixed rate mortgage may be more attractive if:
   a. The borrower expects inflation to decrease.
   B The borrower expects inflation to increase.
   c. The borrower expects the home price to increase.
   d. The borrower expects the home price to decrease.

Real and Nominal Interest Rates.

18. *(p. 156)* Which of the following is true?
   a. Long term bond yields move together but short-term do not.
   b. Short-term bond yields move together but long-term do not.
   C U.S. Treasury Bill yields are lower than the yields on commercial paper.
   d. Only a and b are true.
   e. a, b and c are true.

Ratings and the Risk Structure of Interest Rates.

19. *(p. 102)* The most a risk-averse individual would pay to participate in a flip of a fair coin with a payoff of $500 if the correct outcome is called is:

a. $500
B An amount less than $250.
c. $250
d. An amount not to exceed $500
e. None of the above

Risk Aversion, the Risk Premium, and the Risk-Return Tradeoff.

20. *(p. 107)* If an investment offered an expected payoff of $100 with $0 variance, you would know that:

a. Half of the time the payoff is $100 and the other half it is $0.
B The payoff is always $100.
c. Half of the time the payoff is $200 and the other half it is $0.
d. None of the above.

Sources of Risk: Idiosyncratic and Systematic Risk.

21. *(p. 161)* A proposed increase in the federal income tax rate should:

A Have no impact on the slope of the yield curve since the tax laws impact maturities the same.
b. Cause the slope of the yield curve to become inverse.
c. Increase the slope of the yield curve since it increases the risk premium of longer maturities.
d. Flatten the yield curve.

The Term Structure of Interest Rates.

22. *(p. 71)* A monthly growth rate of 0.6% is an annual growth rate of:

a. 7.20%
b. 6.00%
c. 7.60%
D 7.44%

Valuing Monetary Payments Now and in the Future.

23. *(p. 159)* If the federal government replaced the current income tax with a national sales tax:

a. The prices of corporate bonds would rise.
b. The price of municipal bonds would rise.
c. The price of corporate bonds would fall while the price of municipal bonds would rise.
D The price of municipal bonds would fall while the price of corporate bonds would rise.

Differences in Tax Status and Municipal Bonds.

24. *(p. 67)* A saver knows that she will receive $100 from the bank one year from now, this includes the interest she will earn. What is the interest rate she is earning if she put $95 in the bank today?

a. 5.10%
b. 6.00%

c. 5.52%
D 5.26%
e. None of the above

Valuing Monetary Payments Now and in the Future.

25. *(p. 124)* A $1000 face value bond purchased for $965.00, with an annual coupon of $60, and 20 years to maturity has:
A A current yield equal to 6.22%.
b. A current yield equal to 6.00%.
c. A coupon rate equal to 6.22%.
d. A yield to maturity and current yield equal to 6.00%.
e. A yield to maturity and coupon rate equal to 6.00%.

Bond Yields.

26. *(p. 163)* Assume the Expectation Hypothesis regarding the term structure of interest rates. If the current one year interest rate is 4% and the two year interest rate is 6%, then:
a. Investors are expecting the *future* one year rate to be 4%.
B Investors are expecting the *future* one year rate to be 8%.
c. Investors are expecting the future one year rate to be 6%.
d. None of the above.

The Term Structure of Interest Rates.

27. *(p. 120)* A consol is:
a. Another name for a zero coupon bond.
b. A bond with a maturity date exceeding 10 years.
C A bond which makes periodic interest payments forever but never matures.
d. A form of a bond that is issued quite often by the U.S. Treasury.
e. c and d

Bond Prices.

28. *(p. 63)* Which of the following expresses 4.85%?
A 0.0485
b. 4.850
c. 0.00485
d. 0.485

Valuing Monetary Payments Now and in the Future.

29. *(p. 170)* Increasing tensions in many parts of the world should:
a. Cause the demand for all government securities including U.S. Treasuries to decrease.
b. See the risk spread between U.S. Treasury bonds and other bonds increase.
c. The price of U.S. Treasury bonds increase and the yield on other bonds increase.
D b and c

Ratings and the Risk Structure of Interest Rates.

30. *(p. 103)* The risk premium for an investment:

a. Is negative for U.S. Treasury Securities.
b. Is a fixed amount added to the risk-free return.
<u>C</u> Increases with risk.
d. Is zero (0) for risk averse investors.

Risk Aversion, the Risk Premium, and the Risk-Return Tradeoff.

31. *(p. 127)* The yield on a discount basis for a $100 Treasury bill that sells for $98.50 and matures in 90 days is:
a. 1.50%
<u>B</u> 4.80%
c. 6.00%
d. 4.94%

Bond Yields.

32. *(p. 161)* Any theory of the term structure of interest rates needs to explain each of the following, *EXCEPT*:
a. The yield curve usually slopes upward.
b. The yields of different maturities tend to move together.
<u>C</u> Short term yields are usually higher than long term yields
d. Long term yields are usually higher than short term yields.

The Term Structure of Interest Rates.

33. *(p. 106)* A risk neutral investor:
a. Highly values diversification.
b. Is the only type of investor who benefits from diversification.
<u>C</u> Gains nothing from diversification.
d. None of the above.

Sources of Risk: Idiosyncratic and Systematic Risk.

34. *(p. 163)* Under the Expectations Hypothesis, a downward sloping yield curve suggests:
<u>A</u> Investors expect future short term interest rates to fall.
b. Investors expect future short term interest rates to rise.
c. This is a trick question, the yield curve always slopes upward.
d. Investors expect future short term interest rates to remain constant.

The Term Structure of Interest Rates.

35. *(p. 143)* Interest rate risk would not matter to which of the following bondholders:
a. A holder of a U.S. Government bond.
b. A holder of a U.S. Government bond indexed for inflation.
c. A holder of a U.S. Government bond who plans on selling it in one year.
<u>D</u> A holder of a U.S. Government bond that plans on holding it until it matures.
e. None of the above.

Why Bonds are Risky.

36. *(p. 82)* From the Fisher equation we see the relationship between the nominal interest rate and expected inflation is:
a. Inverse.
b. Direct but less than one-to-one.

C Direct and one-to-one.
d. There is no relationship between these two variables.

Real and Nominal Interest Rates.

37. *(p. 77)* If a bond has a face value of $1,000 and the bondholder receives coupon payments of $27.50 semi-annually, the bond's coupon rate is:
a. 2.75%
B 5.50%
c. 27.5%
d. Cannot be determined from the information provided.

Applying Present Value.

38. *(p. 104)* Idiosyncratic risk:
a. Affects all firms in the economy.
B Affects one or a few firms, not everyone.
c. Is fixed across all firms.
d. Impacts all firms in the same industry equally.
e. b and d

Sources of Risk: Idiosyncratic and Systematic Risk.

39. *(p. 100)* The greater the standard deviation of an investment:
a. The lower the return.
B The greater the risk.
c. The lower the risk.
d. The greater the return.

Measuring Risk.

Investment A pays $1,200 half of the time and $800 half of the time. Investment B pays $1,400 half of the time and $600 half of the time.

40. *(p. 99)* Which of the following statements is correct?
a. Investment A and B have the same expected value, but A has greater risk.
b. Investment B has a higher expected value than A, but also greater risk.
C Investment A and B have the same expected value, but A has lower risk than B.
d. Investment A has a greater expected value than B, but B has less risk.

Measuring Risk.

NAME: ___________________________ **Student ID:** __________________________

Short Question (10 points)

What impact would a stock-market collapse have on bonds? Why?

Answer: The perceived riskiness of bonds relative to stocks would fall and investors would shift their money into bonds. Demand for bonds would shift right, causing prices to rise and yields to fall.