ECON 133 – Securities Markets – FALL 2010, UCSC

Practice Questions for Midterm 2

Question 1

Calculate the price and duration of the following bonds:

a) 3 year, 3% coupon, 4.5% YTM, compounded quarterly.

b) 4 year, 5% coupon, 3% YTM, compounded annually.

c) 2 year, 8% coupon, 8% YTM, compounded semiannually.

Question 2

You are the principal investment adviser to an endowment trust fund and are analyzing a variety of bonds for potential purchase. You are looking at a 4 year, 9.5% coupon bond (payable semiannually), with a 10% yield to maturity.

a) Without doing any calculations determine whether this is currently a premium, par, or a discount bond?

b) What is the purchase price of this bond?

c) Using duration table, compute the bond's duration.

d) Assuming that you purchase this bond, and yields immediately rise to 12%, what is the bond's new price?

e) What is the bond's holding period yield for that year?

f) How would you immunize yourself from potentially adverse yield changes?

g) Using modified duration, estimate the bond price change from the rise in rates from 10% o 12%.

h) How does this compare to your answer in part d)? What account for the difference if any?

Question 3

Compute the intrinsic value of the following equity securities.

a) Stock ABC pays a constant dividend of $0.35. The stock's required rate of return is 12.5%.

b) Stock DEF pays a current dividend of $1.00 and has an expected growth rate of 10%. The stock's required rate of return is 12.5%.

c) Stock XYZ has current EPS of $2.75 and has a retention rate of 60%. The stock's expected growth rate is 5% for the first two years and 10% thereafter. The required rate of return is 15%.

Question 4

XXX stock has a stable expected standard deviation of 20%. Regression analysis shows that the R-squared between the stock price and the market is 36%. XXX has a corporate policy of retaining 25% of its earnings for reinvestment in the company's operation. The company has ROE of 15%. The company's current EPS is $3.50. The broad market is expected to return 18%, with a standard deviation of 15%. The risk free rate of return is 5%, while the current borrowing rate is 7%. The stock is trading at $30/share currently.

a) Compute the intrinsic value of the following stock, determine if it is over-, under-, or fairly-valued. What is your trade recommendation?

b) The board of directors of XXX has voted to increase its retention ratio to 40% after year 3. What impact will this have on the stock price when this is announced?

Question 5

You are a bond analyst and have estimated the following forward yields based on upon your survey of expectations in the marketplace:

2 year forward rate, one year from now = 5%
2 year forward rate, three year from now = 7%
1 year forward rate, two years from now = 6%
1 year forward rate, four years from now = 9%

a) Based upon the information given above, draw a timeline that indicates the current term structure of interest rates.

b) Using this information, construct the appropriate yield curve, labeling all axes, and relevant points.