Wilfrid W. Csaplar Jr., Ph.D. Economics 304 Exam #3 2010/4/6

Write your name on the cover of the test booklet and nowhere else. Enclose this sheet with the booklet. Failure to follow these directions will cost you 1 point. The test has 100 points (to be scaled up to 170 points) and is scheduled to take 50 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 14-point question should take 7 minutes. I cannot give extra time because some students have a class after your class.


1) (14 points) Answer EITHER Part A OR Part B.
A) Suppose the company you run has an average return of 10% and the risk-free return is 3%. What is your company's β? Show all work. What does that tell you about the company? Briefly explain your logic.
B) What number would you expect the β for the company in the cartoon would be? Explain your logic. If the risk-free return is 2%, then given your estimated value of β, what should their discount rate be? Show all work. More of his cartoons can be found at www.closetohome.com.

2) (14 points) Answer EITHER Part A OR Part B.
A) Suppose a bond has a face value of $200 and a coupon rate of 5%. The maturity date is 6 years from now. Set up the equation which will give the rate of return if the price you pay is $207. Briefly explain how you found the values for each entry. Without doing the calculation, is the return greater than 5%, equal to 5%, or less than 5%? Explain your logic.
B) Does the *risk premium* depend upon diversifiable risk or non-diversifiable risk? Explain your logic giving an example of both types of risk.

3) (14 points) Answer EITHER Part A OR Part B.
A) Draw the diagram which determines how much of an input is hired and at what price, for a firm which is a monopsony in hiring an input. Explain how the firm determines how much is hired and what price is paid. Briefly explain why the firm acts in that manner.
B) Draw the supply and demand for labor for a perfectly competitive labor market. Find the economic rent. Explain what it is and why it is where you drew it.

4) (16 points) Answer EITHER Part A OR Part B.
A) Draw the labor supply/demand for a firm with a monopolistic final product but is perfectly competitive in the hiring of labor. Show that the wage is below the value of the laborer. Explain the economic reason that the firm hires too few people. (Note: this is not the monopsony situation.)
B) In what type of market do we set MV = ME? What is the reason MV = ME?

5) (16 points) Answer EITHER Part A OR Part B.
A) Suppose that the Bosch washing machine costs $1000 and has an average yearly operating cost of $50 per year. The GE washing machine costs $900 and has an average yearly operating cost of $75/year. Set up the calculation which will determine which one you should buy if you expect to own it for 10 years. If you are missing an important piece of information, then choose a number and explain how you chose that number.

B) Suppose you are a Senior about to graduate. If you start working this June, you will earn $40,000 per year. For ease, we will assume all values are real so we do not have to worry about inflation. If you go to graduate school for two years, it will cost you $30,000 per year, but upon graduation, you will earn $50,000 per year after graduation. If you start working now you will work for 45 years including this year. If you start working after graduate school you will work for 43 years. Suppose you have a discount rate of 5%. Set up the calculation which will tell you whether or not graduate school is worth it. Briefly explain how you set it up.

6) (26 points) Answer EITHER Part A OR Part B.
A) Draw an Edgeworth box which has Beth and Tony trading bread and hats. Suppose that initially Beth has 12 loaves and 1 hat while Tony has 3 loaves and 19 hats. Assume their endowment point is not Pareto optimal. **Assume this is perfect competition and the prices of both goods will cause supply to equal demand.** Draw the indifference curves, initial point, **price line**, and contract curve. Explain how you used that information to draw the diagram. Show how they will trade to reach a Pareto optimal point. Explain how you found the point and who is trading which good.
B) Draw an Edgeworth box which has Barak and Michelle trading clothing and books. Draw it so that the endowment point is Pareto optimal. Prove that it is Pareto optimal using the definition of Pareto optimal. Why do we draw the contract curve through both origins?