Wilf Csaplar Jr.   Economics 304   Homework #6   **Due Wednesday 4/1**

Place your name on the back of this sheet of paper and nowhere else. Staple your answers face up on the front of this sheet of paper. Failure to follow these directions will cost you 1 point. Your assignment will be typed, except graphs can be drawn by hand and mathematical equations can be done by hand. Failure to type it will cost you 10 points. If you use double-sided printing or print on the back of scrap paper, I will give you one additional point.

1) (15 points) When using discount rates, how can you tell whether you should use nominal or real discount rates? Explain your logic giving an example for both.

2) (20 points) Suppose a bond with a face value of $1000 pays an interest rate of 3%. The bond pays interest yearly and matures in 10 years. Suppose the market return is 5%. Set up the equation which will determine the price the bond will sell for. State how you know what went where. Without doing the calculations, will this bond sell for more than $1000, $1000, or less than $1000. Explain your logic.

3) (20 points) When you buy a mutual fund, you reduce some risk but not all risk. Give an example of a type of risk which is reduced and explain how it is reduced.   Give an example of a type of risk which is not reduced and explain why it is not reduced.

4) (10 points) Suppose an asset is giving a 5% effective yield. The market yield is 6% and the risk free return is 2%. Use the CAPM formula to calculate β. Show all work. Explain what that number means.

5) (20 points) Suppose a factory will cost $400 to build this year. After it is built, it will make $100 of profits for 10 years. Set up the formula which will calculate the effective return on this factory. State how you know what to put in each spot. Without doing the calculations, explain how you would use this to calculate the effective rate of return.

6) (15 points) If you win "$1 million" in the lottery, they pay you $50,000 (before taxes) per year for 20 years. However, you can take a single payment. If you do that you typically get around $600,000 before taxes. Set up the equation which could be used to determine the discount rate they are using. State how you decided what to put in where.