Wilf Csaplar Jr. Economics 304 Homework #6 Due Wednesday 3/30

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) Without using a graph, explain why unions have the effects which are described in the book.

2) (20 points) Suppose a person is currently earning $50,000/year. The average growth of wages is 5%, the interest rate is 6%, and the probability of being alive for year t in the future is 0.9^t. (Note that I did not give you m_t, rather I gave you the probability of being alive.) Suppose the person would have worked for another 10 years. Set up the equation which would give you the PDV of the lost wages. Briefly explain why you put the numbers in where you put them in. Do NOT calculate the number.

3) (20 points) In class, I explained how to use Table 15.1 to find how much $1 saved now will be worth in the future. Given that table, how much would $1 saved now be worth in 20 years if you earned 7% interest? What would it be worth in 30 years? How did you get those numbers? What does that say about when you should start saving for retirement? Explain your logic.

4) (25 points) The market return has averaged 8%. Suppose the risk-free return is 3% and your company's β is 1.2. What is the discount rate you should use in your NPV calculations? Explain how you calculated that number. Suppose that a new machine would cost you $20,000 this year. You will not be able to use it until next year. You expect that you will lose $3,000 next year but make $5,000 profits every year for the five years after that. You expect to be able to sell the machine for parts at the end of that last year for $1000. Set up the calculation which will tell you the NPV of the machine. Briefly explain why you put the numbers where you did. Do NOT do the calculations. How can you use the NPV to determine whether or not the machine is worthwhile purchasing?

5) (20 points) Suppose a bond has a face value of $100 and a coupon rate of 6%. 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 $97. Briefly explain how you found the values for each entry. Without doing the calculation, is the return greater than 6%, equal to 6%, or less than 6%? Explain your logic.