

Homework on Human Capital (Taken from Borjas chapter 7)

Problems:

2. Peter has just graduated from high school. He will live for three more periods, and he is considering three alternative education-work options. He can start working right away, earning \$100,000 in period 1, \$110,000 in period 2 (as his work experience leads to higher productivity), and \$90,000 in period 3 (as his skills become obsolete and physical abilities deteriorate).he can also go to college in period 1, spending \$10,000 in that period, and then earn \$150,000 in period 2 and 3. Finally, he can get a doctorate degree after completing his college education. This last option will cost him nothing in the period when he is attending graduate school (his expenses on tuition and books will be covered by a research assistantship). After getting his doctorate, he will become a professor in a business school and earn \$300,000 in period 3. The rate of discount is 20 percent. What should Peter do?

5. Suppose that Carl's wage-schooling locus is given by:

Years of schooling	6	7	8	9	10	11	12	13	14
Earning(\$)	10,000	12,800	16,000	18,500	20,350	22,000	23,100	23,900	24,000

- a. Derive the marginal rate of return schedule. When will Carl quit school if his discount rate is 5 percent What if the discount rate is 10 percent?
- b. Suppose the government imposes an income tax of 20 percent on both labor earnings and interest income. What is the impact of this income tax on Carl's educational attainment?

9. Suppose Jane has 3 years of college, Pam has 2 years of college, and Mary has 1 year of college. Jane earns \$21 per hour, Pam earns \$19 per hour, and Mary earns \$16 per hour. We know their abilities are the same, and the difference in educational attainment is completely due to different discount rates. How much can the available information tell us about Jane's, Pam's and Mary's discount rates?