Exam 2

ECON 380
Fall 2016
UNC Chapel Hill

Name: _____

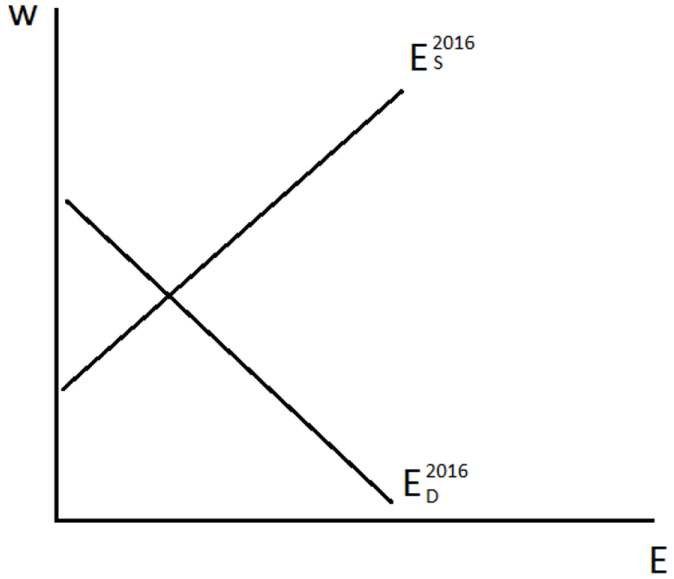
ONYEN: _____

Honor Code Signature: _____

- For partial credit, show all of your work on the following pages, and justify your answers where needed.
- Round answers to the nearest hundredth.
- Points available: 50
- Write legibly, write legibly, write legibly!
- Good luck! ☺

Competitive Markets and Immigration

1. Suppose the labor market in the nation of San Marcos is composed entirely of blue-collar workers. Initially, the labor market is in equilibrium in 2016 as illustrated in the following diagram:



(a) Suppose that a massive group of immigrants is allowed to enter San Marcos. These immigrants are composed entirely of blue-collar workers. Graphically, shift curve(s) to illustrate the short-run effect of this immigration influx on wages and employment levels. **[2 pts]**

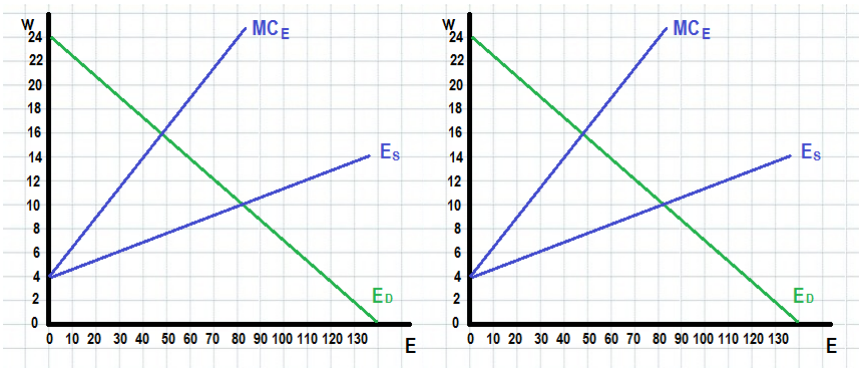
(b) What will be the short-run impact on each of the following: (i) native worker surplus, (ii) firm surplus, and (iii) total surplus? **[3 pts]**

(c) Explain why this effect on wages as illustrated in part (a) need not hold in the long-run, and illustrate this graphically. **[4 pts]**

Noncompetitive Labor Markets

1. The labor market in Saxapahaw is governed by the same labor supply and labor demand curves, but is instead a monopsonistic labor market, where the only firm hiring labor is the Saxapahaw Cotton Mill.

Figure 1: Monopsony



(a) Unregulated Market (b) Regulated Market

(a) Assuming Saxapahaw Cotton Mill is a non-discriminating monopsonist in an unregulated labor market, determine their optimal employment level and their wage rate (write this in the space below). On Figure 1a above, label the firm surplus, worker surplus, and deadweight loss resulting in the unregulated monopsony scenario. **[4 pts]**

(b) Now, suppose the government of Saxapahaw imposes a minimum wage of \$14. Determine Saxapahaw Cotton Mill's optimal employment level and their wage rate under this policy (write this in the space below). On Figure 1b above, label the firm surplus, worker surplus, and deadweight loss resulting in this scenario. **[4 pts]**

(c) What is the optimal minimum wage the government of Saxapahaw should enact in order to eliminate the deadweight loss associated with the monopsonist? How many workers will be employed at this wage? **[3 pts]**

Human Capital Theory

1. Suppose Shirley lives for three periods, $t = 1, 2, 3$. In period 1, she can either enter directly enter to labor force or she can go to college. If she enters the labor force in period 1, she will earn \$45,000, \$90,000, and \$80,000 in periods 1, 2, and 3, respectively. Instead, if she goes to college she will have to pay \$50,000 in tuition in period 1, but then will earn \$140,000 in both of the following periods.

(a) Write, but do not calculate, Shirley's net present value of each choice if her discount rate is 5%. **[4 pts]**

(b) Shirley would be indifferent between the two choices if her discount rate was ~10%. Given this, what is her optimal choice at her actual discount rate of 5%? What would be her choice if her actual discount rate were 15%? **[2 pts]**

The Schooling Model

1. Leslie's wage-schooling locus is presented in the chart below.

Table 1: Leslie's Wage-Schooling Locus

Years of Schooling	Earnings	MRR
11	\$36,000	—
12	\$40,000	
13	\$43,500	
14	\$46,000	
15	\$48,000	

(a) Fill in the chart with Leslies's marginal rate of return for years 12 through 15. **[2 pts]**

(b) Suppose that Leslie's discount rate is r = 6%. Determine her optimal level of schooling attainment. **[2 pts]**

2. Suppose we do not observe Leslie's full wage-schooling locus, but only her actual years of schooling and earnings as found in Question 1, part (b). We also observe Ron's wage-schooling outcome, which is different from Leslie's. In the context of human capital theory, why might we observe Leslie and Ron make different schooling choices? **[5 pts]**

Signaling

1. Suppose the market is populated by two types of workers. Barts have an inherently low productivity level and make up 70% of the population. A Bart produces $1,000,000 for a firm over their lifetime. Lisas, on the other hand, have an inherently high productivity level and make up 30% of the population. A Lisa produces $1,200,000 for a firm over their lifetime. Earning a college degree costs $250,000 for a Bart, while the same degree costs $50,000 for a Lisa. **[5 pts]**

   Firms do not observe a worker's type, but do observe their schooling level. If firms decide to pay $1,300,000 in lifetime wages to a worker with a college degree, but only $950,000 to a worker without a college degree, will this wage structure create an equilibrium such that a college degree will perfectly signal a worker's productivity level? Explain why or why not.

Labor and Development

1. In 3-5 sentences, briefly describe the two possible explanations as to why labor markets in developing countries might be "segmented." **[5 pts]**

2. In 2-3 sentences, briefly describe how access to education and health care has changed over the last ~50 years in low-income countries. **[5 pts]**