

ECO361: LABOR ECONOMICS

FINAL EXAMINATION

DECEMBER 17, 2009

Prof. Bill Even

DIRECTIONS.

The exam contains a mix of short answer and essay questions. Your answers to the 15 short answer portion of the exam (3 points each) should be listed on the first page of your bluebook. Your answers to the essay questions (60 points total) should be placed, in order, in the remainder of the bluebook.

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1. Based upon the economic model of migration, we would predict that the percentage of people that move between states during a given year would
 - a. fall when interest rates rise
 - b. fall if people have more children
 - c. fall if the percentage of married couples who both work rises
 - d. All of the above

2. Suppose that immigration into the U.S. is expanded. For **native** workers that are **gross substitutes** for the immigrants,
 - a. Wages should rise and employment should fall.
 - b. Wages should fall and employment should rise
 - c. Wages and employment should fall
 - d. Wages and employment should rise.

3. Suppose that immigration into the U.S. is expanded. For **native** workers that are **gross complements** to the immigrants,
 - a. Wages should rise and employment should fall.
 - b. Wages should fall and employment should rise
 - c. Wages and employment should fall
 - d. Wages and employment should rise.

4. In a monopsonistic model of labor market discrimination, workers with a lower cost of moving have more
 - e. elastic labor supply and are paid higher wages than workers with high moving costs.
 - f. inelastic labor supply and are paid higher wages than workers with high moving costs.
 - g. elastic labor supply and are paid lower wages than workers with high moving costs.
 - h. inelastic labor supply and are paid lower wages than workers with high moving costs.

5. According to the data presented in class,
 - a. The percentage of U.S. immigrants arriving from Europe has been declining over the past 50 years.
 - b. The percentage of U.S. immigrants arriving from Asia has been rising over the past 50 years.
 - c. Nearly one half of U.S. immigrants in the 1990s came from the Americas (North, Central and South America, excluding the U.S.)
 - d. All of the above.

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To answer the next 2 questions, suppose that a monopsony employs two types of workers (call them type A and B). Both worker types are identically productive and currently paid the same wage rate of \$20 per hour. The firm has determined that type A workers have more inelastic labor supply than type B workers.

6. Based on the information provided, at the current wage rate of \$20
 - a. The marginal expense of labor for both type A and type B workers is greater than \$20
 - b. The marginal expense of labor for type A workers is greater than \$20, but the marginal expense of labor for type B workers is less than \$20.
 - c. The marginal expense of labor for type A and type B workers is less than \$20
 - d. None of the above.

7. Based on the information provided, at the current wage rate of \$20, the firm could keep output constant and reduce its total cost of labor by ____ wages for type A workers and ____ wages for type B workers because the marginal expense for type A workers is currently ____ than the marginal expense for type B workers.
 - a. increasing; decreasing; greater
 - b. increasing; decreasing; less
 - c. decreasing; increasing; greater
 - d. decreasing; increasing; less.

8. In the 2004 study by Jirjan and Stephan discussed in class, it was reported that women are more likely to be paid by the piece rate than men. According their study, the **most important explanation** for this fact was:
 - a. women have shorter expected tenure than men and are less willing to accept jobs with deferred pay.
 - b. women have greater demand than men for the flexibility in work hours that piece rate jobs offer.
 - c. women prefer piece rates because they are less likely to be discriminated against.
 - d. in a given job, women tend to produce more than men and the piece rate results in greater pay.

9. In the 2000 article by Lazear discussed in class, the effect of a change in compensation policy of an auto glass company was analyzed. The study illustrated that a switch from hourly pay to piece rate
 - a. caused less productive installers to quit.
 - b. increased the productivity and earnings of installers that stayed with the firm.
 - c. increased the profits of the firm.
 - d. all of the above.

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10. A profit maximizing firm should be more likely to offer an efficiency wage if:
- it is more capital intensive since this increases the cost of worker shirking.
 - there are legal institutions that make it costly to damage the reputation of a worker who is fired for poor performance (e.g. by writing a negative performance evaluation to future potential employers)
 - worker's have long expected careers since a given efficiency wage premium will have a greater deterrent effect.
 - all of the above.
11. According to a study by Raff and Summers (1989), the \$5 day offered by Henry Ford in 1914
- was an efficiency wage as evidenced by the substantial queues of job applicants
 - increased productivity of workers because they were aware that dismissal for shirking meant they would lose a job that paid substantially above their next best alternative.
 - improved the profits of Ford because the increased productivity of workers exceeded the cost of the additional wages paid.
 - all of the above.

To answer the next two questions, suppose that an economist uses wage data and estimates the following regression equation for men:

$$W = 6 + 2*EDUC + .3*EXP$$

Where W is the hourly wage rate, EXP is a person's years of experience and EDUC is a person's years of education. If the average level of education is 13 years for men and 14 years for women, and the average level of experience 14 years for men and 10 years for women.

12. What is the predicted wage difference between men and women that is due to male-female differences in education alone? (Round your answer to the nearest penny. Be sure to make it a positive number if predicted male-female gap is positive, negative otherwise).
13. What is the predicted wage difference between men and women that is due to male-female differences in both education and experience? (Round your answer to the nearest penny. Be sure to make it a positive number if predicted male-female gap is positive, negative otherwise).
14. According to the 1999 article by Barth and Dale-Olsen discussed in class, the turnover of men was (more, less) sensitive to wages than that of women. This implied that men had more (elastic, inelastic) labor supply and thus the firm would have an incentive to pay men (more, less) than women.
- Less; elastic; less
 - More; elastic; more.
 - More; inelastic; more
 - Less; inelastic; less.
 - None of the above.

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15. Gary Becker argued that competition will eliminate some types of discrimination against minorities or women. However, there are some types of discrimination that are profitable and may persist in a very competitive environment. Which of the following types of discrimination can result in greater employer profits?

- a. customer discrimination.
- b. statistical discrimination.
- c. monopsonistic discrimination
- d. all of the above.

FOR ALL YOUR ANSWERS TO THE ESSAY QUESTIONS, BE SURE TO USE MAKE USE OF RELEVANT THEORIES/CONCEPTS DISCUSSED IN THE LABOR ECONOMICS COURSE. THE QUALITY OF YOUR ANSWER WILL BE DEPEND LARGELY ON YOUR ABILITY TO MAKE USE OF THE RELEVANT CONCEPT(S) DISCUSSED IN THIS CLASS.

1. (20 points) To answer the questions below, suppose that the legislature is considering a proposal that would create a separate immigration quota designed to increase the number of immigrants with nursing certification. This bill will be referred to as the Nursing Immigration Act (NIA).

a. Draw a labor demand and labor supply curve for nurses assuming that no immigration of nurses is allowed. Use this diagram to illustrate how passage of the NIA will affect the wages and employment of **native** nurses (i.e. the nurses that were in the U.S. before immigration of additional nurses is allowed). **You must label your diagram appropriately and refer to it in your verbal explanation to receive full credit for your answer.**

b. Suppose that there are two senators debating the merits of the NIA. Senator Smith is against increased immigration of nurses because he believes it will **“have devastating effects on the wages and employment of native nurses”**. Senator Jones argues that it will have a minimal impact on the wages and employment of native nurses. Use a labor supply and demand diagram to illustrate how the difference in opinion could be the result of different beliefs about the elasticity of demand for nurses. **You must label your diagram appropriately and refer to it in your verbal explanation to receive full credit for your answer.**

c. Given your intuition about the elasticity of demand for health care, who do you think is more likely to be correct? Explain.

d.. Suppose that an association representing medical doctors is reviewing the NIA. Assuming that the association is concerned with maximizing the wages and employment of doctors, should they lobby for or against the proposal? Why?

e. While the senators must consider the preferences of the nurses, doctors and other workers affected by the NIA (e.g. those in support industries for medical services), other constituents are likely to be affected. Other than the affected workers, name a group that would be

- i. for the NIA
- ii. against the NIA

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2. (20 points) Suppose that a crab boat currently pays its workers \$20 per hour while working on the boat. It pays time-and-a-half for more than 40 hours per week. The workers average 60 hours per week when they are out to sea. There are 20 men on the fishing crew and during the typical week at sea, they catch 100,000 pounds of crab. Also, the captain has surveyed competing boats and discovered that they also pay \$20 per hour and overtime. The captain has sought advice on how to improve performance of his fishing crew so as to increase profits. A business consultant has made a few recommendations for the captain to consider.

- a. The first recommendation is to increase the hourly pay from \$20 to \$23 per hour (plus overtime). The captain is skeptical of doing this because the competition only pays \$20 and he can find plenty of workers at the \$20 wage. The consultant says it is possible that it could actually improve the captain's profits. How could paying a higher wage increase profits?
- b. The second recommendation is to replace the hourly pay with a piece rate schedule.
 - i. If the captain intends to maintain a 60 hour work week, what sort of piece rate (\$ per ton) should he offer (i.e. how much per ton per worker)? Keep in mind that he needs to compete for crew with the other captains that pay \$20 per hour. Also, it will be difficult to assign a specific catch to each worker, so the captain will have to split the piece rate pay for the entire catch equally among the 20 crew members.
 - ii. Compared to the \$20 per hour wage rate, what would the advantages of paying by the piece rate be?
 - iii. Compared to the \$20 per hour wage rate, what would the disadvantages of the pay by the piece rate be?
- c. The third recommendation is to replace the \$20 hourly wage (plus overtime) with a \$15 per hour wage and a bonus to the crew that varies depending upon their rank among all the crews in terms of tons of crabs caught. The size of the prizes is yet to be determined, but will be announced prior to going to sea and it will be sufficiently high so that the captain can compete with the other boats for workers.
 - i. compared to the pure hourly wage rate, what type of workers would be attracted in terms of skill and risk aversion?
 - ii. compared to the pure hourly wage rate, will the tournament structure lead to greater or lesser work effort on the part of workers? Will the level of effort depend on where the workers think they stand in the rankings as the season goes on? Explain.

Answer 2 of the next 3 questions (10 points each).

1. Suppose the compensation committee for a corporation is preparing to hire a new CEO and debating which of two pay packages to offer. Package A includes an annual salary of \$2 million plus 10,000 shares of stock. Package B also has a salary of \$2 million, but has 100,000 options to purchase the company at its current price of \$5.
 - a. Draw a graph showing the relationship between the CEO's total compensation (vertical axis) and the stock price (horizontal axis) for the two pay schemes. Clearly label the two compensation methods in your graph.
 - b. Compared to the stock plan, does the stock incentive plan create a greater or lesser incentive for the CEO to put forth effort to increase stock price? If the answer varies depending on how the stock price varies relative to its current value of \$5, explain.

2. Executive compensation in the banking industry is receiving considerable attention recently. Suppose that you are the pay czar and you are opposed to the current system that gives CEOs stock in the bank. The argument is that much of the increased bank profitability over the past year is the result of intervention by the Federal Reserve and U.S. treasury -- not the CEOs. At the same time, you would like to reward the CEOs that have done the "best" job in the banking industry relative to those who have done poorly.
 - a. Based on our discussion of optimal pay schemes, describe a new pay scheme that would achieve your objective. This pay scheme must be something that is defined in terms of something that is easily measured and observed.
 - b. Describe any potential shortcomings of the pay scheme that you described from the perspective of the bank stockholders..

3. Many economists argue that much of the pay gap between black and white Americans is the result of differential educational backgrounds. Moreover, there are some who argue that fundamental change is needed to correct this imbalance.
 - a. Some have argued that the method of education finance in Ohio has contributed to the continuation of lower academic performance among black students. Provide a brief explanation of the method of finance and how it may contribute to the problem.
 - b. Some have argued that a voucher system could help correct the racial inequality in educational outcomes. However, others have argued that a voucher system could worsen the problem. Discuss why there are different points of view on this matter and how the **asymmetry of peer effects** (or lack thereof) plays a role in this debate.

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Multiple choice answers:

1d

2c

3d

4e

5d

6a

7c

8c

9d

10d

11d

12 \$2

13 \$3.20

14b

15d