

## Final Exam Key

*Instructions:* This exam has 6 questions and is worth 120 points. Point values for each question are indicated to the right of the question number. Calculators, notes and books are not allowed. Label all curves and axes in graphs. Good luck.

1. (24 points) State the important elements in the journal article by David Card and Alan B. Krueger that was published in *American Economic Review*, 84(4), September 1994, pp. 772-793. Include the following elements:

- **Primary question addressed in the paper**

How do employers in a low-wage labor market respond to an increase in the minimum wage?

- **The 2 methods used to analyze the question**

Difference-in-Differences  
Regression Analysis

- **Data source used in the article**

Phone survey of fast-food restaurants in New Jersey and eastern Pennsylvania

- **Results of each method, focusing on the implications for the primary question**

Difference-in-Differences Results: Employment increased in New Jersey after the minimum wage increased, despite an employment decrease in eastern Pennsylvania indicating depressed economic conditions.

Regression Results: The minimum wage is positively associated with employment change.

*Both methods* indicate that the April 1992 rise in the minimum wage did not decrease employment of teens in fast-food restaurants in New Jersey.

- **Policy implications.**

Minimum wages can be increased without any job loss. All low-wage workers win.

2. (18 points)

- a. Consider the market for registered nurses (RNs), and suppose that it is a perfectly competitive labor market. Draw a graph showing the equilibrium wage ( $W^*$ ) and employment ( $E^*$ ) in the market for RNs.

See graph below.

- b. Now suppose that a comparable worth policy is implemented requiring equal pay for comparable work. A panel of experts determines that the occupation of registered nurses is comparable to the occupation of civil engineers based on responsibilities, mental demands, and other job characteristics. Civil engineers, however, earn more than RNs. As a result of the policy, the wage of RNs is increased to the level of the wage of civil engineers ( $W_{CE}$ ).
- i. **Show graphically how the imposition of the higher wage,  $W_{CE}$ , affects the market for RNs. Based on the graph, who gains and who loses from the policy?**

On the graph below, when  $W_{CE}$  is imposed, the quantity of labor demanded falls to  $E'$  and quantity of labor supplied rises to  $E''$ . Unemployment results and is  $E'' - E'$ .

Workers who keep their jobs are better off at the higher wage, but workers who lose their jobs, i.e.,  $E^* - E'$ , are worse off.

- ii. **Overall, are the workers in the market for RNs better off or worse off than they were at the competitive equilibrium? How can you tell? Explain.**

Whether workers overall fare better or worse depends on the own-wage elasticity of labor demand ( $\eta_L$ ). If  $\eta_L > 1$ , the demand for labor is elastic, the imposition of  $W_{CE}$  will reduce the wage bill ( $W \cdot E$ ), and registered nurses as a group will be worse off. If  $\eta_L = 1$ , the demand for labor is unitary elastic, and the comparable worth policy will not change the wage bill. If  $\eta_L < 1$ , the demand for labor is inelastic, and the policy will increase the wage bill.

3. (18 points) Choose a presentation by one of your colleagues of interest to you. Discuss the question of interest, the main points of the paper, and the student's conclusion regarding the evidence and the original question.

*Answer varies.*

4. (20 points) Define the following terms:

a. **Consumer surplus**

Difference between what a consumer is willing to pay and what he/she actually pays.

b. **Public good**

Characterized by:

Nonrivalry in consumption– use of the good by one person does not diminish the quality or quantity of another's use.

Nonexclusion– cost of excluding non-paying consumers is prohibitively high.

c. **General equilibrium analysis**

Study of equilibrium of all markets simultaneously.

d. **Cost-benefit analysis**

Implicit or explicit assessment of the benefits and costs associated with a particular choice.

e. **Externality**

Unpriced benefit or cost imposed by one economic agent on another.

5. (15 points) a. Fill in the blanks.

**The employment provisions of the Americans with Disabilities Act prohibit**

✎ discrimination on the basis of disability in all employment practices

**and mandate**

✎ reasonable job accommodation.

- b. **State the 3 points of agreement on the decline in employment for the disabled by the authors who contributed to the volume edited by Stapleton and Burkhauser.**

- ① The employment rate for working-aged adults with disabilities, broadly defined, has declined during the 1990s, both absolutely and relative to the rate for those without disabilities.
- ② The proportion of people with disabilities who say they are able to work at all declined during the same period.
- ③ The employment rate for those with disabilities who say they are able to work at all increased.

6. (25 points)

- a. **Discuss the phase-in, stationary and phase-out ranges of the earned income tax credit (EITC) and draw a graph relating earnings to the amount of the credit. (You need not use specific numbers.) Label the maximum amount of the credit,  $\$B_{\text{EITC}}$ , where B stands for benefit.**

The phase-in range of the EITC begins at zero, when the person is not working, and rises as earnings rise. (See graph below.) The stationary range begins when EITC reaches its maximum; the credit stays at the same value as earnings rise until the phase-out stage begins. In the phase-out range, the credit falls as income (labor and non-labor) increases.

- c. **Why did both conservatives and liberals support the EITC?**

Conservatives supported the EITC because it provides an incentive to work, unlike traditional welfare which creates a disincentive to work. Liberals supported the EITC because it provides some relief from poverty for the working poor.

- d. Suppose there is a proposal to institute a Basic Income Guarantee (BIG) policy to ensure that every citizen has at least a subsistence level of income =  $\$B_{\text{BIG}}$ . Each citizen would receive the guaranteed income regardless of their wealth and regardless of whether or not they work.

i. Suppose that  $\$B_{\text{EITC}} = \$B_{\text{BIG}}$ . Show the EITC and BIG policies on 1 graph relating earnings on the horizontal axis to the amount of the benefit on the vertical axis. (If you like, you can just add the BIG policy to the same graph above if it is legible.) See graph above.

- ii. **List 1 advantage and 2 disadvantages of the BIG program relative to the EITC program. If 1 or more of your points relates to a particular phase of the EITC schedule, specify which phase is relevant.**

Advantage: Alleviates poverty for those not working and those with earnings in the phase-in range of the EITC.

Disadvantages: Creates a disincentive to work since individuals can receive the benefit without working.

Is poorly targeted— persons with higher incomes who do not need any financial assistance receive the benefit.