

Answer all of the following questions clearly but concisely. Your paper is due by due at noon on Thursday May 3. Your exam must be legible.

1) For the past 10 years, the U.S. has experienced a large influx of foreign workers, legal and illegal, from Mexico and Central America. An economist has collected data from Mexican and Central American born workers on both sides of the Mexican border. He runs a regression of the following form

$$\ln(W_{ij}) = \alpha + X_{ij}'\beta + \gamma US_{ij} + \sum_j \delta_j D_{ij} + \varepsilon_{ij}$$

where $\ln(W_{ij})$ is the log of earnings for the i th worker from birthplace j ; X_{ij} is a vector of human capital and demographic variables including years of education, work experience, job tenure, and racial and gender attributes; D_{ij} are dummy variables indicating state of birth; and US_{ij} is a dummy variable which takes the value of 1 if the worker is in the United States. The α , β , γ , and δ are parameters. The economist finds that the coefficient γ is positive and statistically significant with a coefficient of 0.2. He concludes that the return to migrating from Central America to the U.S. is 22% ($=\exp(.2)$).

- a)** Do you agree with the economist's interpretation of the coefficient γ ? Are there other equally plausible interpretations?
- b)** Discuss possible problems with this specification that would lead to a biased estimate of γ .
- c)** Propose a superior estimation strategy that will yield an estimate that corrects for at least one of the biases that you point out in part b). (You can presume that you will have access to additional data or variables as needed to accommodate your estimation strategy).

2) Suppose that the regression in question (1) corrects for any problems that you have identified and also includes an additional regressor, d_{ij} , the worker's distance from the Mexican border. The distance is interacted with dummy variables indicating whether or not the worker is in the United States, so that the regression is

$$\ln(W_{ij}) = \alpha + X_{ij}'\beta + \gamma US_{ij} + \sum_j \delta_j D_{ij} + \phi^C (1-US_{ij})d_{ij} + \phi^U US_{ij}d_{ij} + \varepsilon_{ij}$$

- a)** What would you hypothesize the signs would be on the coefficients ϕ^C and ϕ^U ? What is the economic rationale for your expectations?
- b)** Suppose that you find $\phi^C = \phi^U = 0$. How would you interpret this result with regard to the market for immigrant labor from Mexico?

3) Evaluate the following statements as true, false or both true and false. State the theoretical and/or empirical economic rationale for your evaluation.

- a)** High levels of union density lower wage inequality.
- b)** Restrictions on firing workers increase the demand for temporary workers.
- c)** Wage inequality is rising primarily a result of increasing residual variance (i.e. we don't know why wage inequality is rising).
- d)** Discrimination against women in private business can lower average wages for women in academia.
- e)** When labor productivity increases in the U.S., firms will lower employment.
- f)** It is irrational for firms in cities to pay more for workers of equal skill than would firms in rural areas.