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## Final Exam

You have three hours to complete the exam though it is written to take only an hour and a half. Be certain to watch the clock and use your time wisely. Answer questions completely but concisely. Including additional incorrect information in an otherwise correct answer may result in a loss of points. As a rough rule of thumb, five points typically take two well-crafted sentences to answer correctly and completely. So a 10-point question typically requires four concise sentences to answer. You may refer to your notes, the lectures slides, readings and any other materials posted on our course Blackboard site. You may access either printed or electronic versions of these materials. You may not use the internet to search for additional information during the exam and you may not seek the help of any other individuals.

Good luck!

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**Name:**

**ID Number:**

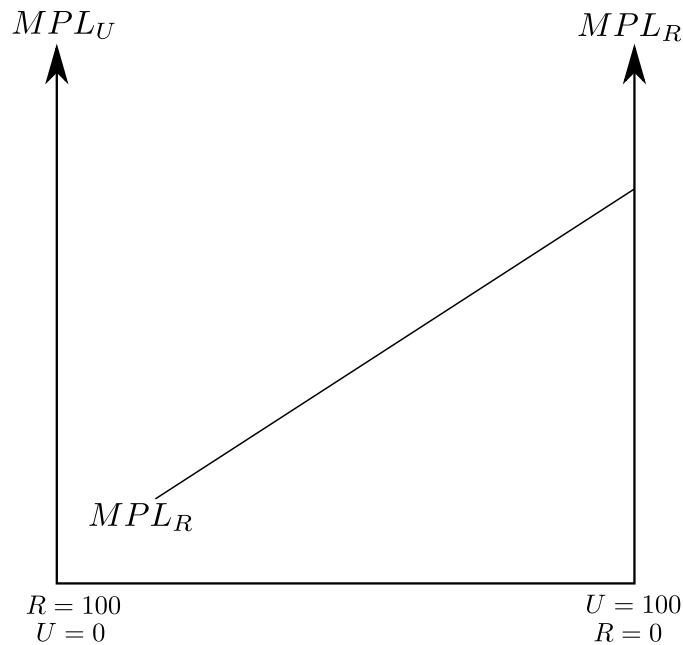
1. (15 points) In 1881, a railroad was constructed connecting Williamsburg to Richmond to the west and Newport News to the east. Richmond was already connected to many areas to the north and south through other rail routes. Newport News had fewer rail connections but did have access to ports.
  - (a) Of the three cities, Richmond, Williamsburg and Newport News, which would you expect to have the biggest increase in market access (as defined by Donaldson and Hornbeck (2016)) as a result of the new railroad connection through Williamsburg? Explain your answer in no more than three sentences.
  - (b) Is it possible that some city, whether one of those three or a different one altogether, had its market access decrease as a result of the new rail connection? Explain your answer in no more than three sentences.

2. (30 points) Collins and Wanamaker (2014) focus on the first wave of the Great Migration, looking at individuals who migrated between 1910 and 1930. A second wave of the Great Migration took place between 1940 and 1970. Records for all censuses from 1950 on are still restricted meaning you cannot use Collins and Wanamaker's approach of linking individuals across censuses to study this second wave of the Great Migration.

Even though you cannot create a linked dataset, you could still get an estimate of the return to migration during this second wave of the Great Migration by comparing the wages of black workers living in the North but born in the South to the wages of black workers both born and living in the South.

- (a) Explain two reasons why this approach might give a biased estimate of the return to migration. For each reason, be clear about what is creating the bias and whether it will lead to an overestimate or underestimate of the return to migration. Your reasons should be specific to this historical context: black workers migrating from the South to the North in the mid-twentieth century.
- (b) Suppose that you took the same approach to estimating the returns to migration for the first wave of the Great Migration (i.e., simply comparing wages of those who moved to the North to the wages of those who stayed in the South). Would you expect this estimate of the returns to migration during the first wave to be higher or lower than the estimate of the returns to migration for the second wave. Explain your answer in no more than four sentences.
- (c) While using a linking process to create panel data solves many problems, it does create some of its own. Explain one reason why the procedure used by Collins and Wanamaker may lead to a sample that is unrepresentative of the population and how this will lead to either an over- or underestimate of the returns to migration. Answer in no more than four sentences.

3. (30 points) The horizontal axis for the graph below shows how the population is distributed between urban and rural areas. The overall width is equal to the total population (100 people to keep things simple). The left end of the axis corresponds to everyone living in rural areas while the right end corresponds to everyone living in urban areas.



- (a) In 2020, 20% of the US population lived in rural areas. Assuming that there are no barriers to migration, labor markets are competitive and people move to where they can get higher wages, draw an urban marginal product of labor curve on the graph above consistent with this fact. Label the curve  $MPL_U$ . Label the equilibrium number of urban workers  $L_U^*$  and the equilibrium number of rural workers  $L_R^*$ .
- (b) Explain in no more than two sentences why your  $MPL_U$  curve does or does not have the same intercept as the  $MPL_R$  curve.
- (c) Explain in no more than two sentences why your  $MPL_U$  curve does or does not have the same slope as the  $MPL_R$  curve.
- (d) In 2007, a bill was introduced in the US Senate called the New Homestead Act. Much like the original Homestead Act, this bill was intended to provide incentives to encourage individuals to live in rural areas. Suppose the the act was passed and successfully shifted more people to rural areas. Using the graph above, show how this bill would change urban output and rural output.
- (e) In terms of efficiency (impacts on total surplus) and equity (the distribution of that surplus), would this New Homestead Act be a good bill to pass? Explain your answer in no more than four sentences.

4. (25 points) Ziebarth (2013) provides empirical evidence of the impact of bank failures and Federal Reserve policies during the Great Depression. This year, we have seen three large bank failures take place; Silicon Valley Bank, Signature Bank and First Republic Bank have all failed in the past two months.
- (a) In the cases of these bank failures, the federal government worked with other banks to help ensure depositors could access their funds. If we assume the economy still works in roughly the same way as in the early twentieth century, what does the Ziebarth article suggest would have happened if the federal government did not help smooth over the effects of the recent bank failures? Answer in no more than four sentences.
  - (b) Explain one reason why we likely cannot generalize from Ziebarth's findings to today. In other words, what is a major difference between the 1930s and the 2020s that would lead to bank failures having significantly different impacts. Explain your answer in no more than four sentences.
  - (c) Think of the other papers we have covered in class, both required and non-required. Which paper do you find most useful for understanding our modern economy? Explain your reasoning in no more than five sentences.