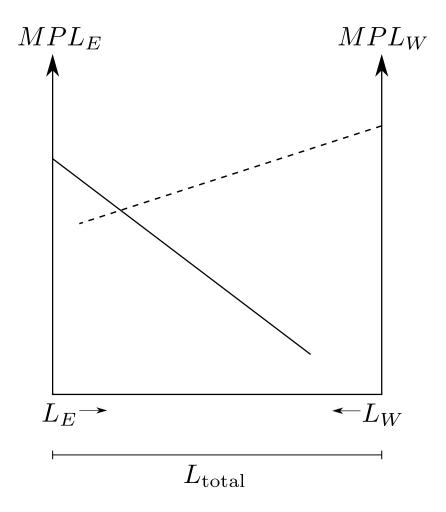
You have until 5pm to complete the exam, be certain to use your time wisely. Answer all questions directly on the exam. You may use any handwritten or typed notes that you brought with you that you wrote yourself. You may not use any other materials (articles, lecture slides, etc.). Answer questions completely but concisely. Including additional incorrect information in an otherwise correct answer may result in a loss of points. Remember to put your name on the exam. Good luck!

## Name:

- 1. (20 points) Collins and Wanamaker (2014) explore the impact of the Great Migration on both black and white workers. While both groups moved out of the South in large numbers, their experiences differed in many important ways.
  - (a) Explain two ways that the push factors behind out-migration from the South differed between black and white workers. Be certain to reference specific evidence from Collins and Wanamaker or class.
  - (b) Explain two ways that the pull factors behind out-migration from the South differed between black and white workers. Be certain to reference specific evidence from Collins and Wanamaker or class.

2. (10 points) We have seen several different empirical studies looking at the impact of economic, political and social institutions on black socioeconomic outcomes. These studies cover the period of slavery, Reconstruction, Jim Crow, and the Civil Rights Era. Which single study did you find the most convincing? Which single study did you find find least convincing? When answering each of these questions, be certain to briefly summarize the approach and key conclusions of your chosen study and why you found it particularly convincing or unconvincing. Your explanation of why a study is convincing or unconvincing should focus on empirical methodology and/or data.

3. (25 points) The graph below depicts the marginal product of labor as a function of the number of workers for both the eastern United States and the western United States. The number of workers in the East  $(L_E)$  is measured from left to right with the marginal product of labor in the East  $(MPL_E)$  given by the solid line. The number of workers in the West  $(L_W)$  is measured from right to left with the marginal product of labor in the West  $(MPL_W)$  given by the dashed line.



- (a) Suppose that both curves represent the marginal product of labor in agriculture in the 19th century. Explain why it makes sense that the  $MPL_W$  curve has both a greater intercept and a flatter slope than the  $MPL_E$  curve.
- (b) On the graph, label a distribution of workers,  $L_W^o$  and  $L_E^o$ , that corresponds to an inefficiently large number of workers in the East due to high transportation costs of moving to the West.

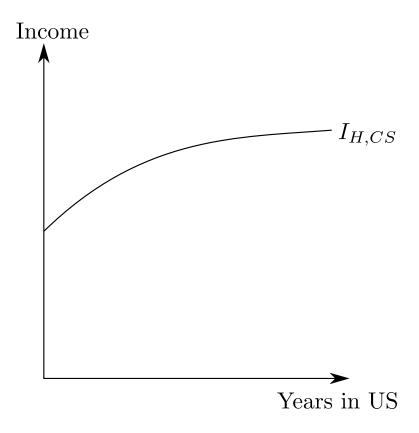
(c) Now suppose that the railroad network expands, reducing transportation costs and moving us closer but not all the way to the efficient distribution of workers across regions. Label this new distribution of workers  $L_W'$  and  $L_E'$  on the graph. Assume that the MPL curves are unaffected by the expansion of railroads.

- (d) On the graph, label the gain in total output,  $\Delta Y$ , generated by this redistribution of the population due to the reduction in transportation costs, once again assuming the MPL curves are unaffected by the expansion of railroads.
- (e) This assumption that the marginal product of labor is unaffected by railroads is likely incorrect. Considering what you read in Donaldson and Hornbeck (2016), explain how the expansion of railroads likely impacted the  $MPL_E$  and  $MPL_W$  curves. Keep your answer specific to agricultural workers.

4. (25 points) Galenson (1981) uses evidence from indentured servant records to assess markets for human capital in early American history. This question will explore his evidence and how indentured servitude compared to slavery.

- (a) Galenson focused on contract length as a way to assess returns to human capital. Explain why contract length for an indentured servant is expected to vary with the servant's level of human capital.
- (b) What aspects of human capital will not get priced into contract lengths?
- (c) In class, we saw a wide array of quantitative data focused on the characteristics and productivity of slaves in the antebellum South. Considering the various data sources we discussed, explain what data you would use to assess the value that slaveholders placed on the human capital of slaves, being as specific as possible.
- (d) Discuss two worker characteristics that indentured servant markets and slave markets would price differently. Be certain to fully explain why the two markets would price the characteristics differently.

5. (20 points) The graph below shows the mean annual earnings over time in the United States for immigrants from a high income country (H) measured using a single cross section of data (CS). This graph corresponds to immigrants migrating during the Age of Mass Migration. For all of the questions below, base your answers on the findings of Abramitzky, Boustan and Eriksson regarding this period.



- (a) On the graph, draw another curve that corresponds to mean earnings over time in the United States for immigrants from a low income country. Assume this curve is estimated using a single cross section of data. Label this curve  $I_{L,CS}$ .
- (b) On the graph, draw another curve that corresponds to mean earnings over time in the United States for immigrants from a high income country assuming the curve is estimated using repeated cross sections of data. Label this curve  $I_{H,RCS}$ .
- (c) Add one final curve corresponding to mean earnings over time in the United States for immigrants from a high income country assuming the curve is estimated using panel data. Label this curve  $I_{H,P}$ .

(d) Explain why the shape if your  $I_{H,RCS}$  curve differs from the shape of the original  $I_{H,CS}$  curve.

(e) Explain why the shape if your  $I_{H,P}$  curve differs from the shape of your  $I_{H,RCS}$  curve.