
Final Exam

You have until **3:30pm** to complete the exam, be certain to use your time wisely. Answer all questions directly on the exam. You may use any printouts and notes that you brought with you. No electronic devices may be used during the exam. 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. (15 points) Consider the occupational transition matrices used by Long and Ferrie. Recall that Long and Ferrie divided occupations into white collar, farming, skilled/semi-skilled and unskilled categories for these matrices. Given Clark's social evolution explanation of the Industrial Revolution, how would you expect the matrices for England to compare to those of China at the start of the nineteenth century? Be certain to fully explain your answer, highlighting both the similarities and differences between the countries' matrices.

2. (20 points) When discussing the distribution of gains from industrialization, we used the following variation on our growth accounting equations:

$$g_A = ag_r + bg_w + cg_s$$

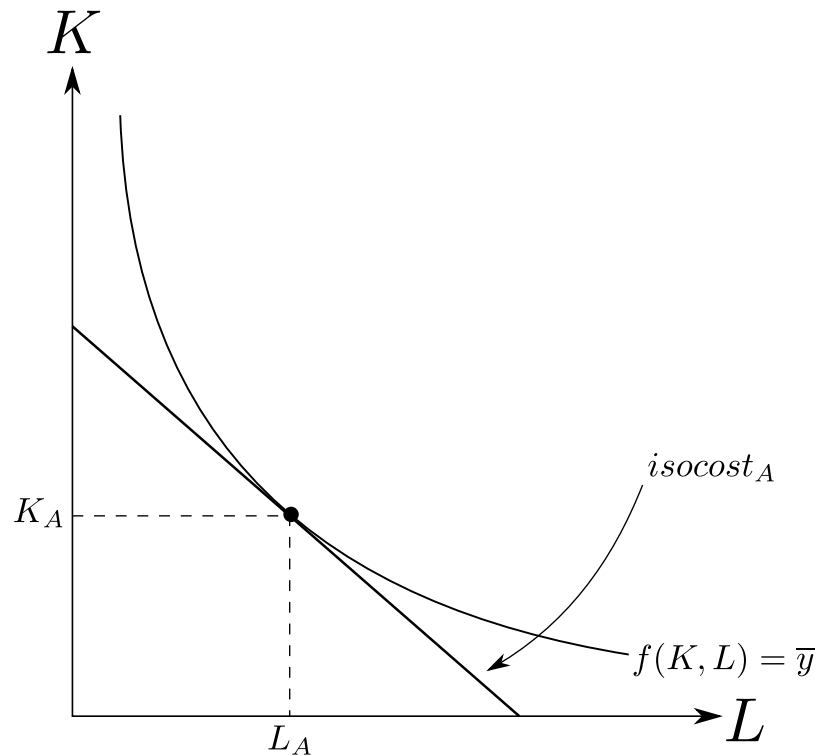
where r is the rental rate of capital, w is the wage for a unit of labor, and s is the price of a unit land.

- (a) Explain why growth in technology must lead to growth in the amount paid per unit of inputs, not just growth in total payments for inputs.
- (b) In class, we made the assumption that g_r is approximately zero. In his work on inequality, Thomas Piketty has argued that g_r is positive (and larger than g_y) in modern economies. Explain how this changes our conclusions about the wage gains associated with growth in technology.
- (c) Is the empirical evidence discussed in class regarding the distribution of gains consistent with your answer in part (b)? Fully explain your answer.

3. (30 points) In lecture and in the readings, we have seen many different academics point to good institutions as a potentially necessary condition for economic development.
 - (a) Briefly describe one institution that is good for economic growth and explain why it promotes economic development.
 - (b) Briefly describe one institution that is bad for economic growth and explain why it hinders economic development.
 - (c) Explain the piece of empirical evidence from class or the readings regarding the importance of institutions that you found most convincing. Discuss why you found it particularly convincing.
 - (d) Explain the piece of empirical evidence from class or the readings regarding the importance of institutions that you found least convincing. Discuss why you found it particularly unconvincing.

4. (15 points) The East-West axis of Eurasia played an important role in Diamond's story of long run economic development. Do you think that the East-West axis is still relevant for explaining cross-country differences in economic development today? Be certain to fully justify your answer.

5. (20 points) Suppose that two countries, A and B , have the same production technology in the mid-1800s. The graph below depicts a particular isoquant for this production technology that applies to both countries. An isocost line for country A tangent to the isoquant at (K_A, L_A) is also shown.



- (a) Suppose that country A manufactures the machines needed to produce y but country B must import the machines, raising their cost relative to country A . Wages are higher in country A than in country B . On the graph, use an isocost line for country B to show how country B 's optimal levels of capital and labor compare to those for country A , assuming both countries produce \bar{y} . Provide a written explanation of why country B 's optimal levels of capital and labor do or do not differ from those for country A .
- (b) Which country do you expect to receive more foreign financial investment? Fully explain your answer.
- (c) In the late 1800s, long-distance commercial steam ships became available, substantially reducing the cost of shipping both finished goods and machines. Explain how this would change your answers to parts (a) and (b).