

Economics 165: Midterm

Please be concise and to the point. Print your name on your exam and turn it in with your blue books. You have 110 minutes. Answer all four questions. Good luck!

1. (25 points)

Consider two large countries, A and B. A imports good x and exports good y , while B imports good y and exports good x . We showed in class that a *reciprocity rule* implies a fixed terms of trade if the rule requires that negotiated tariff changes must induce changes in a country's import volume that are equal to the changes in its export volume, in the particular sense that

$$p^{w0}[M_x^{A1} - M_x^{A0}] = E_y^{A1} - E_y^{A0},$$

where p^w is the relative price of x to y on world markets, and where "0"- and "1"- superscripts denote "pre-negotiation" and "post-negotiation" magnitudes, respectively (and where $M_x^{A1} > 0$ by assumption).

- (a) Suppose instead that we define the reciprocity rule so that negotiated tariff changes must induce changes in each country's import volume that are equal across countries, in the particular sense that

$$p^{w0}[M_x^{A1} - M_x^{A0}] = M_y^{B1} - M_y^{B0}.$$

Is a fixed terms of trade still implied? Prove or disprove.

- (b) Next, suppose instead that we define the reciprocity rule in terms of changes in import-competing *production* rather than imports, so that negotiated tariff changes must satisfy

$$p^{w0}[Q_x^{A0} - Q_x^{A1}] = Q_y^{B0} - Q_y^{B1}.$$

Is a fixed terms of trade still implied? Prove or disprove.

2. (25 points)

Consider two large countries, A and B. A imports good x and exports good y , while B imports good y and exports good x .

- (a) Using the Basic Trade Model, illustrate the distinct terms-of-trade effects of (i) import-biased growth in country A and (ii) export-biased growth in country A. All else equal, which kind of growth would the government of A like to foster if it seeks to increase the aggregate income of its economy? Which kind of growth would the government of B like A's government to foster if the government of B seeks to increase the aggregate income of its economy?
- (b) Now suppose that both A and B pursue their own growth policies in isolation (i.e., each government chooses whether to foster import-biased or export-biased growth while taking the choice of the other government as given). In light of your answer to part (a), comment on the likely efficiency properties of the resulting growth policies of the two governments from an international perspective (i.e., from the perspective of world aggregate income).

3. (25 points)

Consider two large countries, A and B. A imports good x and exports good y , while B imports good y and exports good x . Beginning from an initial free-trade equilibrium, use the Basic Trade Model to establish the following claims:

- (a) If the government of country A imposes a non-prohibitive import tariff and redistributes the tariff revenue back to its consumers lump sum, then aggregate income in country B must fall relative to the initial free-trade equilibrium.
- (b) If the government of country A imposes a non-prohibitive import tariff and redistributes the tariff revenue to B's consumers lump sum, and if B's consumers spend this revenue exactly as A's consumers would have spent it, then B's terms of trade must worsen relative to the initial free-trade equilibrium.

4. (25 points)

Consider a small country A who imports good x and exports good y , and whose social indifference curves are "right angles" (Leontief indifference curves). Using the Basic Trade Model, provide a ranking, from best instrument to worst instrument, over an import tariff, a production subsidy, and a consumption tax, for achieving:

- (a) A production goal that places production of x above its free trade level.
- (b) A consumption goal that places consumption of x below its free trade level.
- (c) Comment on your rankings relative to what one would expect from the general "targeting principle" discussed in class, and discuss the special features of country A in this problem that account for the difference.