

A note on steady state trade

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We have seen two scenarios where there is HO trade in the long run even though K is endogenous.

First, there is long run HO trade between identical economies if they start out with different levels of capital. This result is not robust, however, in the sense that introducing even a slight friction in trade leads to non-FPE and eventually the stocks of capital are sufficiently similar across countries that there would be no trade.

Second, there is HO trade across economies that differ in the incentives or costs to accumulate capital. For example, if the discount rates are different, the patient economy will export capital intensive goods in exchange for labor intensive goods from the impatient economy. This result is robust, in the sense that a small transportation cost would not make trade disappear in the long run. More generally, for every level of the transportation cost, there is a minimum gap between the discount rates such that if the actual gap is above this lower bound, then there is steady state HO trade.¹ Something similar would happen if there are different levels of taxation on the returns to capital across countries. It seems like an interesting exercise to do this formally, so that one can have precise conditions on the difference in tax rates for there to be steady state trade in the presence of trade frictions.

What seems troubling about this conclusion is that the empirical literature on the HO trade may be badly specified by not realizing that K is endogenous. Of course, if the only differences in K across countries come from things like income taxes, then this would not matter, since this is not likely to directly affect trade patterns. But consider the following scenario: imagine that there are also Ricardian productivity differences across countries, and imagine that there are differences in capital intensities across industries. Furthermore, imagine that all countries are identical in terms of discount rates and taxes. If there is no correlation between Ricardian productivities and capital intensities, there would only be Ricardian trade in steady state. But now imagine that there is such a correlation, so that some countries happen to have a Ricardian comparative advantage in capital intensive goods. Then in steady state one would have

¹The statement above about the non-robustness of steady state HO trade among identical economies is equivalent to saying that in this case there is zero steady state trade for all levels of the transportation cost except zero.

what looks like HO trade (capital abundant countries export capital intensive goods), when in fact what happens is that all trade is determined by Ricardian comparative advantage! What proportion of the trade that is actually classified as HO trade is really just Ricardian trade masquerading as HO trade in steady state?

A natural question to ask at this point is why there would be a correlation between Ricardian comparative advantage and factor intensity. Consider the following example. Imagine that innovation happens in the North, and that after a while the technology diffuses, so that goods can then be produced in the South. Imagine further that when goods are introduced as a result of innovation, they are produced with a capital-intensive technology, and that when goods diffuse, they can be produced with a labor-intensive technology. In other words, technologies differ in capital intensity according to which they have or have not diffused: new techniques that have not diffused are capital intensive, but then as they diffuse they become labor intensive. (This is in the spirit of the "product cycle" literature.) This would naturally generate a situation where North has a Ricardian CA on capital intensive goods and South has a Ricardian CA advantage on labor intensive goods, so in the long run equilibrium the North has a high level of capital relative to the South. Thus, the HO would appear to be confirmed, but it does not offer a good explanation of trade patterns!