

Borders, Trade and Welfare
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Summary

We show that border barriers inhibit large amounts of trade. There are consequently large real income gains to be realized from deep international economic integration. We demonstrate this with three policy exercises using a common modeling approach based on taking the gravity model seriously in all its implications (extending our earlier work in Anderson and van Wincoop, 2001).

The gravity model is commonly used to infer implicit trade costs, for example showing by how much, all else equal, trade is lowered by a language barrier. The empirical gravity model is misspecified, as we show in our other paper. Moreover, the theoretical gravity model is a full general equilibrium model. We exploit this feature here to analyze the effect of border barrier removals on real income based on our estimated model.

In contrast to the usual computable general equilibrium (CGE) models of international policy changes, the gravity model is estimated rather than assumed. Another advantage is its relative simplicity as compared to the black box complexity of standard CGE models. Finally, our NAFTA exercise shows that our gravity model comes much closer to generating the actual trade flow changes than the set of CGE models of NAFTA.

This paper shows that the proper treatment of border barrier removal depends critically on whether the barriers generate rent (as do tariffs or quotas) or represent real costs. We show how to decompose the effects of border barrier removal into direct effects and terms of trade effects. In the case of regional trade agreements (with application to NAFTA) we further decompose the direct effects into trade creation and trade diversion.

Our first policy exercise is the removal of implicit border barriers. Taking the extreme position that all border barriers confer no benefits, we show that welfare gains from deep integration are very

large, especially for relatively small countries. For example, treating border barriers as Canada's welfare rises 52% from complete border removal. At the other extreme, even the US gains over 6%. These calculations assume that border barriers generate no rents. Making the opposite assumption that all barriers generate rents, the gains fall to 30% for Canada and 3% for the US.

Our second exercise is measuring the effect of currency unions. We assume (reasonably) that separate currencies confer no rents. We show that EMU nets a gain of 11% of welfare. For smaller countries such as Canada or Mexico, dollarization nets gains well over 20%. A theme of both exercises is that smaller countries gain more from integration. This indeed is a well known rule of thumb among trade economists, given a more solid foundation in the multi-country gravity model context by our earlier paper.

Our third exercise measures the effect of NAFTA. We find small net effects, positive for the US and Canada, and negative for Mexico. Interestingly, the decomposition shows that Mexico loses substantially on terms of trade effects, enough to offset the balance of trade creation over trade diversion from its reduction of its large tariffs. Large terms of trade effects are also found in our other exercises and are inevitable with the gravity model framework. An implication of our work is that standard models may understate terms of trade effects. Our model understates the gains from NAFTA for Mexico, in contrast, because it is static and does not allow for gains from production reallocation