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Trade liberalization, product variety and growth in a small open economy: a quantitative assessment

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Abstract

We develop a numerical growth model that quantifies the welfare effects of trade liberalization. Additional intermediate input varieties provide the engine of growth and dramatically magnify the welfare gains from trade liberalization. In our central model, a 10% tariff cut leads to a 10.6% estimated gain in Hicksian EV. Systematic sensitivity analysis shows that there is virtually no chance of a welfare increase less than 3%, but a 6.6% chance of a welfare gain greater than 18%. We show that complementary reforms are crucial to fully realize the potential gains from the trade reform. © 2002 Elsevier Science B.V. All rights reserved.

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1. Introduction

International trade economists have typically argued that an open trade regime is very important for economic development. This view has been based partly on neoclassical trade theory, which generally finds that a country improves its welfare from trade liberalization, partly on casual empirical observation that countries which remain highly protected for long periods of time appear to suffer

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significantly and partly on several empirical papers (e.g., Dollar, 1992; Edwards, 1993; Sachs and Warner, 1995) that find that trade or trade liberalization is beneficial to growth.¹ A troubling problem is that the numerical modeling estimates of the impact of trade liberalization have generally found that trade liberalization increases the welfare of a country by only about one-half to one percent of GDP, gains which are very small in relation to the paradigm.² The consistently small estimated welfare gains in constant returns to scale (CRTS) models of trade liberalization came to be known as the ‘Harberger constant.’ Although increasing returns to scale (IRTS) models (such as Harris, 1984) have produced gains up to 10% of GDP, the estimates remain less than convincing for a strong version of the paradigm.³ For many years authors have claimed that the welfare gains from trade liberalization would be much larger if the dynamic impact of trade liberalization were taken into account, but we are only beginning to develop such models.⁴

There are endogenous growth models, such as Young (1991), that show that if trade leads to specialization in products without productivity enhancing characteristics and there are no spillovers from trade, openness can be immiserizing. And Grossman and Helpman (1990) have shown that trade can induce shifts between

¹Of course, all aspects of the paradigm that trade or trade liberalization leads to faster growth have been subject to criticism. See, for example, criticisms by Rodrik (1992) and Harrison and Hanson (1999). Importantly, causality has been questioned in ordinary least squares results, see Rodriguez and Rodrik (2000). However, after developing an instrumental variable for trade, Frankel and Romer (1999) find that ordinary least squares does not overestimate the positive impact of trade on growth.

²Examples of constant returns to scale models with estimates of welfare gains from trade liberalization of less than one percent of GDP include: de Melo and Tarr (1990, 1992, 1993); Harrison et al. (1993a,b, 1997a,b); Morkre and Tarr (1980, 1995); and Tarr and Morkre (1984).

³Estimates from some of the IRTS based models have been controversial, since in the trade liberalization counterfactual other behavioral assumptions were simultaneously modified (see Harrison et al., 1993a, 1997a).

⁴Keuschnigg and Kohler (1996) and Rutherford and Tarr (1997) have developed CRTS Ramsey type models. Their results show that a comparative static model may be a close approximation to the annual welfare gains from trade liberalization in a dynamic model, if the dynamic model does not have an increasing returns to scale sector. The only numerical application of an endogenous growth model we know is Connolly (1999). Using a quality ladder model, she estimates that the Southern country will gain from 20 to 29% of GDP from an exogenous shift from autarchy to 13% imports of intermediates. Some numerical general equilibrium modelers have produced comparative ‘steady state’ estimates of the welfare gains which are two to four times the comparative static estimates of their models (e.g., Harrison et al., 1996, 1997a; Francois et al, 1996; and Baldwin et al., 1997). These are multi-sector quantifications of the Baldwin (1989) ‘medium term growth bonus,’ which hold the rental rate on capital constant and allow the capital stock to vary. Harrison et al. (1996, 1997a) and Rodrik (1997) have explained, however, that these estimates overestimate the gains from trade liberalization in a fully dynamic representation of their models because they fail to adjust for the foregone consumption cost of achieving the higher capital stock. Nonetheless, the estimates for Hicksian equivalent variation remain less than 5% of GDP, except for the Baldwin, Francois and Portes paper; and Rodrik (1997) has estimated that after adjusting for the foregone consumption cost of investment, the estimated equivalent variation in the Baldwin, Francois and Porter paper would also be less than 5%.

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