What Has Determined the Rapid Post-War Growth of Intra-EU Trade?

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Abstract: Based on the gravity model by Baier and Bergstrand (2001), we use a static and dynamic panel approach to estimate the determinants of the growth of intra-EU trade from 1960 to 2000. The results suggest that income growth was the major force, accounting for approximately two-thirds of total growth. Trade liberalization still had a sizeable effect, while other factors had only a little impact (income convergence, real effective exchange rate changes) or played no role (trade costs). Our estimation results for intra-EU trade, using a variety of extensions, underline the robustness of the Baier–Bergstrand cross-section findings for world trade. JEL no. C23, F12, F14, F15

Keywords: European integration; gravity model; international trade

1 Introduction

Over the period 1960–2000 intra-EU trade grew by an impressive 1,200 per cent in real terms (6.7 per cent per annum), compared with a more moderate 730 per cent growth of the EU countries’ trade with the rest of the world. This impressive growth performance indicates strong trade-creating forces in Europe and offers a valuable source for investigating the determinants of the growth of trade in general and the role of European integration in particular.

Krugman’s (1995) statement that the fundamental question of the determinants of the growth of trade has remained surprisingly disputed over a long time, triggered an ongoing debate on this issue. Recently, Baier and Bergstrand (2001) have undertaken a comprehensive investigation of the determinants of the growth of world trade. Estimating a cross-section gravity equation they conclude that income growth and tariff reductions were

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1 See Table A1 in the Appendix.
the major propelling forces. The reduction in trade costs still played some role, while income convergence was only of minor importance. An implicit conclusion is that the GATT/WTO liberalization, accounting for a large part of the tariff reductions, was a propelling force of world trade. This (indirect) conclusion of the results was called into question at least partially by Rose (2002: 22), who finds mixed results concerning the effect of GATT/WTO membership (measured by zero-one dummies) and concludes that "it is surprisingly hard to demonstrate convincingly that the GATT and the WTO have encouraged trade." Surprisingly, Rose also finds that out of ten regional trade associations analyzed, nine had a significant and sizeable effect on trade, but that "[c]uriously, the outlier is the EEC/EC/EU." (Rose 2002, Appendix: 10).

Against the background of these somewhat ambiguous results, in particular for the case of European integration, more empirical work on this issue seems warranted. The enormous growth of intra-EU trade, together with considerable variation across bilateral trade flows, offers a potentially valuable source to re-examine these questions in a more comprehensive approach. In particular, the availability of data over the comparably long period of 1960–2000 allows us to use a panel approach. Besides the obvious advantage of more observations and potentially more precise estimates, it allows us to control for country-specific and time-specific effects. Furthermore it enables us to conduct a more rigorous robustness analysis, including the extension to a dynamic specification and the consideration of potential endogeneity concerns. Finally, the focus on intra-EU trade allows us to assess the role of European integration, since the elimination of intra-EU tariffs is unambiguously linked to European integration.

The remainder of the paper is organized as follows. In Section 2 we briefly review the model by Baier and Bergstrand (2001), on which our empirical analysis will be based. In Section 3 we present the data used in the estimation of our empirical model in Section 4. In Section 5 we summarize the results and conclude.

2 Theoretical Background and Empirical Model

The theoretical background for our study is provided by the model of Baier and Bergstrand (2001), which is a synthesis and generalization of previous work on the gravity equation. Accounting for expenditure constraints, em-