EU eastern enlargement and foreign investment: Implications from a neoclassical growth model

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In this paper, we study how eastward enlargement of the EU may affect the economies of old and new EU members and non-accession countries in the context of a multi-country neoclassical growth model where foreign investment is subject to border costs. We assume that at the moment of the EU enlargement border costs between the old and new EU member states are eliminated but remain unchanged between the old EU member states and the non-accession countries. In a calibrated version of the model, the short-run effects of the EU enlargement proved to be relatively small for all the economies considered. The long-run effects are however significant: in the accession countries, investors from the old EU member states become permanent owners of about 3/4 of capital, while in the non-accession countries, they are forced out of business by local producers. *Journal of Comparative Economics* **36** (2) (2008) 307–325. EERC at the National University "Kyiv-Mohyla Academy", 04070 Kyiv, Ukraine; Departamento de Fundamentos del Análisis Económico, Universidad de Alicante, 03080 Alicante, Spain.
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1. Introduction

On May 1, 2004, eight Central and Eastern European (CEE) transition countries, Cyprus and Malta joined the EU, which had previously been composed of 15 developed countries.[1] This EU enlargement was an unprecedented attempt at political and economic integration in terms of its scope, diversity and possible consequences. The channels through which EU enlargement may affect economies in the region are various: monetary union, foreign investment, migration, trade, etc.[2] In this paper, we focus on one of these channels, foreign investment.[3] We argue that this

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[1] Elsewhere in the text, we therefore refer to the EU existing before the enlargement as the EU15 and to the enlarged EU as the EU25.

[2] The monetary-union channel is explored in Kollmann (2004) in the context of a two-country computable general equilibrium model.

[3] By foreign investment, we mean both portfolio investment and foreign direct investment (FDI).

channel is important because there is a major difference between the capital stocks and hence, between the Marginal Productivities of Capital (MPC) of the EU15 and the non-EU15 transition countries, which is likely to generate large capital flows from the former to the latter countries.[4]

In the case of previous EU enlargements, the empirical literature shows that poor countries joining the EU experienced a subsequent increase in capital inflows, e.g., Baldwin et al. (1997), Grabbe (2001). Furthermore, in the wake of the 2004 EU enlargement, there were major differences in Foreign Direct Investment (FDI) stocks between accession and the non-accession transition countries, see, e.g., Egger and Pfaffermayr (2002) and Henriot (2003). In the paper, we argue that the these patterns arise because accession of a country to the EU reduces the costs that EU15 agents incur when investing in such a country (we refer to these costs as "border costs"). Border costs can be interpreted as "risk to invest" (in a broad sense) and all kinds of costs associated with managing foreign investment (e.g., cost of acquiring information, cost of monitoring), which is reduced or entirely removed if a country becomes an EU member; the reason is that an accession country takes over the whole legal stock of the EU which includes the four freedoms (free movement of goods, services, labour and capital) and also, a common competition law.

We introduce border costs in a multi-country neoclassical growth model. We first consider a two-country variant of the model where one country represents the EU15 and the other represents the new accession countries. We assume that border costs between the EU15 and the accession countries are eliminated after EU accession. Using this model, we ask: How may EU enlargement affect output, consumption, labour and welfare of the EU15 and the accession countries?

We then consider a three-country setup, where the three countries belong to the EU15, the accession and the non-accession groups of countries. We assume that at the moment of accession, border costs are entirely eliminated between the EU15 and the accession countries but remain unchanged between the enlarged EU and the non-accession countries. In the context of the three-country model, we address the following two questions. First, how can the introduction of poor non-accession countries affect the model's predictions with regard to the EU15 and the accession countries? Second, how may the EU accession of some transition countries affect the remaining (i.e., non-accession) transition countries?

Our analysis is related to recent empirical literature investigating FDI determinants in transition countries.[5] Furthermore, our border costs can be viewed as a measure of distance (in a broad sense) between countries, and are similar to the distance measures used in the FDI gravity literature, e.g., trade freight costs and tariffs in Brainard (1997).

The presence of border costs complicates the solution procedure considerably: our multi-country model has occasionally binding inequality constraints, so that equilibrium allocation is in general not interior, and policy functions have a kink. A one-country model with occasionally binding inequality constraints is extensively studied in Christiano and Fisher (2000), however, to the best of our knowledge, similar multi-country models have not been studied yet. To simplify the computation of equilibrium, we use two complementary strategies: one is to reduce the number of Kuhn–Tucker conditions by establishing some properties of equilibrium analytically, and the other is to convert a three-country model into a two-country model by using aggregation theory. In addition, we restrict the admissible set of initial conditions to be consistent with the optimal policy functions; this allows us to reduce the number of state variables in the model.

We calibrate the model to match the population sizes and the capital stocks of the EU15, the new accession and non-accession groups of countries, and we compute the transitional dynamics. Our main findings are as follows: In the short run, the implications of the model under the non-accession and accession scenarios are similar both qualitatively and quantitatively. To be specific, under both scenarios, a large initial difference in the MPC between the rich EU15 and the poor non-EU15 (accession or non-accession) countries leads to massive capital flows from the former to the latter; this decreases (increases) wages, output and consumption in the EU15 (non-EU15) countries. The long-run consequences of the non-accession and accession scenarios are however very different: under the former scenario, residents of the non-accession countries eventually buy out all domestic capital from EU15 investors, while under the latter scenario, EU15 investors continue to hold a part of the accession country's capital in perpetuity. Quantitatively,

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[4] Non-EU15 countries are those that do not enter the EU15. Similarly, non-EU25 countries are those that do not enter the EU25.

[5] See, e.g., Lankes and Venables (1996), Baldwin et al. (1997), Di Mauro (2000), Grabbe (2001, 2003), Buch et al. (2001), Åslund and Warner (2002), Egger and Pfaffermayr (2002), Deichmann et al. (2003), Henriot (2003), Carstensen and Toubal (2004).