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Inter- and intra-industry linkages as a determinant of FDI in Central and Eastern Europe

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ABSTRACT

This paper uses an unpublished dataset on disaggregated foreign direct investment (FDI) in Central and Eastern European countries (CEECs), and is rooted in new economic geography literature. A 10% increase in access to suppliers based in the FDI recipient country or access to the EU15 market for intermediate goods increases FDI by about 2% in Central European countries and by 1% in Eastern European countries. We argue that Central (core) European countries specialise in upstream industries and re-export goods toward FDI-origin countries, while Eastern (periphery) European countries are also involved in this production chain, but to a lesser extent.

1. Introduction

Central and Eastern European Countries have been among the largest recipients of increasing flows of FDI over the last two decades. For example, according to our data, the stock of manufacturing FDI increased in Hungary from 5.7 billion dollars in 1998 to 26.1 billion dollars in 2006, and in Poland from 5.1 billion dollars (1997) to 42.8 billion dollars (2006). The literature provides several explanations for the increasing attractiveness of European transition countries, the most important being the political and EU agendas. Between 1991 and 1993, Central and Eastern European Countries (CEECs thereafter) opened to foreign investment and initiated large-scale privatisation programs (Estrin et al., 2009). Between 1991 and 1996, they signed the Europe Association Agreements that *de facto* launched the

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accession process, resulting in EU membership for all CEECs (but Croatia) in two waves. The first wave in 2004 saw the accession of most of these countries, and the second in 2007 took place for two important periphery CEECs, namely Bulgaria and Romania. In order to become eligible for accession to the EU, these CEECs had to remove, albeit gradually, their barriers to trade with the EU, introduce trade-facilitating measures, and reform their customs administration. They were also required to make reforms in order to converge to the *Acquis Communautaire*. These measures have contributed to the emergence of well-functioning and business-friendly environments, which are both necessary conditions for attracting foreign investors. While traditional FDI determinants have been extensively analysed (see Lefilleur (2008) for an exhaustive review of the literature on FDI), little attention has been paid to the role of agglomeration forces in determining the localisation of FDI in the region. Noticeable exceptions among recent studies include De Simone (2008), Altomonte (2007), Pusterla and Resmini (2007) and Boudier-Bensebaa (2005). The aim of this paper is to add additional insight into the role of agglomeration forces as determinants of FDI in the region. More specifically, we try to assess the role of inter- and intra-industry linkages in the localisation of FDI. In other words, we test whether firms invest where they are able to minimise trade costs related to the purchase and the sale of intermediate inputs (forward and backward linkages).

The approach adopted in this paper is original in two ways. First, we take into account the various degrees of inter-industry linkages. For example, proximity to a steel plant is likely to be more valuable to a car producer than proximity to a textile manufacturer. Second, we account for the possibility that firms purchase their inputs and sell their output not only in the CEEC, where they are located, but also in neighbouring countries. Neighbouring countries are disentangled between CEECs and the EU15. Our results indicate that proximity to EU15 markets for intermediate goods and proximity to suppliers based in the country impact foreign entry, whereas proximity to suppliers from EU15 countries and to CEEC markets has no effect.

In contrast to previous work, which relies on selective samples reflecting investors' decisions about localisation, we use a comprehensive dataset about FDI flows at the disaggregated NACE2 level over the period 1993–2005. Our database was specifically compiled for the purpose of this paper and is one of the most complete datasets that can be obtained with homogeneous data. We added an input–output (I/O) table relevant for CEECs to this original dataset, which allows us to proxy supplier and market access that each industry enjoys at the NACE 2 level.

Section 2 reviews the related literature and discusses a number of stylised facts. The model, the dataset, and the variables are described in Sections 3 and 4. In Section 5 we comment on the results. A conclusion summarises our work.

2. Stylised facts, related literature

2.1. Stylised facts

Fig. 1 reports the increase in FDI in the manufacturing industry over the period 1997–2006, which is impressive in Central European countries (CECs thereafter), but more modest in Eastern European countries (EECs thereafter).[1] Both FDI *per capita* and FDI as a percent of GDP exhibit higher figures in CECs (resp. 1164 USD *per capita* and 27.9%) than in EECs (resp. 532 USD *per capita* and 14.3%).

From Fig. 2, one can also clearly distinguish EECs from CECs in terms of FDI sectoral composition. CECs accommodate mature and skill-intensive industries with strong technological contents (transport equipment, electrical and optical equipment, and machinery equipment), whereas EECs seem to be more attractive for traditional industries with lower added value, such as resource-based industries (wood, petroleum, and metal) or labour-intensive industries (e.g. clothing in "textile and textile products"). The gap between sectoral FDI stocks between CECs and EECs widened, the two regions displaying quite different specialisation patterns in 2005.

[1] "CECs" refers to Poland, Czech Republic, Slovakia, Slovenia, and Hungary; "EECs" refers to Estonia, Latvia, Lithuania, Croatia, Romania, and Bulgaria; "CEECs" refers to CECs and EECs; "EU15" refers to the 15 countries that comprised the EU before the enlargement of May 1st, 2004.