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# **Part I**

## **Theory and Review of the Latest Research on the Effects of FDI into Central East Europe**

# 1

## Introduction: The Scope of the Review

*Björn Jindra*

This review of the existing literature on the effects of FDI on the economies of CEE employs a microeconomic perspective on technology transfer via foreign subsidiaries in transition countries. It thus does not include the nexus between FDI, technology transfer and economic growth – i.e. the link between FDI inflows and economic growth at the aggregate level. The reason for this decision is based on the fact that economic growth analysis of post-communist economies is extremely difficult. First, only a short period of time is available for analysis, which is unfavourable in growth accounting econometric studies. Second, current research in this area shows an overwhelming consensus that traditional factor inputs, including investment, have no role in explaining growth (Havrylyshyn, 2001). Apart from a study by Campos and Kinoshita (2002), FDI is found in most studies not to be significant as an economic growth-enhancing factor. This is because in the transition-specific context reform policies seem to be the most important explanatory variables (Havrylyshyn, 2001).

This review contrasts a detailed theoretical framework of technology transfer via FDI with firm-level evidence from empirical studies in transition countries. As there is no comprehensive theory of technology transfer, the first task is to formulate a synthesis of general theoretical thought on technology transfer in respect to terminology, the general channels of international technology transfer, the explicit channels of technology transfer via FDI and their possible impacts and determinants. In our analysis, we distinguish between *direct*, *vertical* (forward, backward), *horizontal* and *regional* types of technology transfer via inward FDI. We propose a classification of determinants into host country-, industry-, MNC- and foreign subsidiary-specific factors related to each type of technology transfer.

The analysis scrutinises the empirical evidence with the help of research questions such as:

- Does technology transfer take place?
- What is the impact and what are the dynamics of technology transfer?
- What are the significant technology channels and the significant determinants for each type of technology transfer?

The bulk of empirical work has been produced by econometric studies employing the production function approach. After discussing the methodological challenges involved, a simple form of meta-analysis is conducted with a sample containing nineteen studies across twelve transition countries during the 1990s. The meta-analysis shows that direct effects are the most important channel for technology transfer via FDI in transition countries. Horizontal effects are found not to be significant in most cases. Only a few studies test for vertical effects and find positive backward linkages, which are larger than horizontal effects where they exist. Forward linkages tend to be negative. Regional effects exist independent from external effects at the national level. This pattern of technology transfer mirrors the findings from other regions. It is fair to say that the more advanced transition countries such as the Czech Republic, Hungary, Poland and Slovenia tend to show strong evidence for positive direct effects, which is likely to be coupled with positive backward linkages. This seems not to be the case for the less advanced countries such as Bulgaria and Romania. Traditional econometric studies do not offer insights into the explicit channels of technology transfer via FDI. The coverage of determinants for technology transfer tested is far less than the list of factors developed by the theoretical literature. In particular MNC- and subsidiary-specific factors are insufficiently explored.

This chapter also looks at the newly emerging research from mezzanalysis, which includes *qualitative data* in the analysis. The respective studies find that MNCs operating in Central and Eastern European Countries (CEECs) seem to prefer a headquarter-centred approach to foster the growth of their affiliates. A number of subsidiary-specific determinants are found to be relevant for direct technology transfer. Yet a variety of factors in respect to direct as well as vertical technology transfer need further consideration.

Rodrik (1999) argues that 'today's policy literature is filled with extravagant claims about positive spillovers from FDI, but the hard

evidence is sobering' (1999: 37). The findings of our analysis support this claim. Much theoretical and empirical work has been dedicated to spillover effects. However, direct technology transfer dominates. This raises serious questions:

- Is there productivity convergence or divergence between MNCs and domestic firms?
- To what extent and how do consumers and domestic producers benefit from FDI, if most of the effects are appropriated by the MNC or its foreign affiliate?

The chapter is organised as following way. The first section introduces the theoretical framework and is subdivided into parts dealing with terminology, international technology transfer, technology transfer via inward FDI and the determinants of technology transfer types. Also, three basic research questions are outlined. The next section considers empirical evidence from the transition countries. In the first part methodological challenges are explored, following a meta-analysis of relevant studies. The second part considers the empirical evidence from the field of mezzo-analysis. The final section concludes, suggests possible paths for the enhancement of current research and indicates some emerging research trends.

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