

SPILLOVERS FROM MULTINATIONALS TO HETEROGENEOUS DOMESTIC FIRMS: EVIDENCE FROM HUNGARY

Gábor Békés, Jörn Kleinert & Farid Toubal

NON-TECHNICAL SUMMARY

It is widely believed that multinational firms increase competition, transfer technology and help to achieve more efficient allocation of resources. Inward Foreign Direct Investment (FDI) is often seen as a catalyst for development by many governments because it increases domestic firms' productivity by creating linkages between multinational and domestic firms. This explains various programs that Governments in Central and Eastern European countries have launched to attract FDI in the early nineties.

Firms cluster their economic activities to exploit technological and informational spillovers from other firms. Spillovers from multinational firms can be particularly beneficial to domestic firms especially in less developed economies, because technological superiority and management experience of foreign multinational firms should theoretically yield various opportunities for learning. The empirical literature on FDI spillovers finds however mixed support concerning the impact of spillovers on domestic firms' total factor productivity (TFP).

Certainly, firms react to foreign presence in a rather heterogeneous manner. According to a recent survey conducted by the World Bank among Czech and Latvian firms, 23 per cent of firms state that the presence of multinational firms enhances their knowledge about new technologies, 13 per cent state the enhancement of their marketing know-how. However, about 29 per cent of the domestic respondents consider inward FDI to be responsible for their loss of market share.

We expect a similar pattern for Hungarian firms. Some domestic firms can reap spillovers from multinationals, but others may not. We argue that the impact multinationals have on domestic firms depends on (i) the intensity of the linkage, (ii) domestic firms' absorptive capacity and (iii) their ability to face competition. The competitive pressure from multinational firms could be the starting point for a positive development if it raises process and product innovations (Aghion et al., 2005). It could turn out to be negative for domestic firms if they just lose their market share. The liberalization process in Hungary could have increased competition, pushing some domestic firms to exit the market and others to innovate. Our aim is to analyse the different responses of heterogeneous domestic firms to the expansion spread of multinational firm presence in Hungary.

We use a large and extensive dataset on Hungarian manufacturing firms. It contains information on domestic and export sales and on the ownership structure of all firms. Further, we have information on employment, capital and other firm-level characteristics that enable us to compute the TFP of each domestic firm. We work with an unbalanced panel of manufacturing firms for the period 1992-2003.

Our empirical analysis makes use of variables that have to be constructed in a first step. First, we compute the TFP of domestic Hungarian firms using the semi-parametric Olley and Pakes (1996) methodology. Second, we construct horizontal and vertical linkage variables following Javorcik (2004). Our linkage variables differ slightly because we take the extreme view that spillovers from multinationals can only be reaped by domestic firms located in the same county, whereas (for a small country) she assumed country-wide spillovers. Thus, we assume that spillovers are generated only if geographical distance between multinational and domestic firms is small, as has been suggested by Audretsch and Feldman (1998).

We estimate the effect of linkages with foreign multinational firms on the average domestic firm's TFP using a firm fixed-effects panel model. The firm-specific effects allow us to control for the firm's technology, thereby isolating the spillover effects. Then, we look at the difference in the spillover effect from linkages for firms that differ in productivity by estimating simultaneous quantile regressions. We follow Girma et al. (2008) and analyse the effect of spillovers on the domestic firm's TFP for exporters and nonexporters separately.

We find that horizontal spillovers affect positively the productivity of the average domestic firm that sales locally. We do not find robust evidence of forward spillovers for this firm. However, the TFP of the average Hungarian exporter is affected positively by backward spillovers. More importantly, we find that horizontal spillovers benefit the most productive firms but affect negatively the productivity of the least productive firms. We find strong evidence of positive effects of backward linkages for medium and high productivity firms. There are no robust evidence of heterogeneous effects of forward spillovers on Hungarian firms.

J.E.L. Classification: F23, D21, D24, R12, R30.

Keywords : FDI. Multinationals. Productivity. Spillover. Quantile regression.