Do Foreign Firms Crowd out Domestic Firms?

Dissertation Abstract

My dissertation examines the effect of foreign presence on the survival and growth of domestic firms in a transitional economy, the Czech Republic. Governments in developing and transitional countries often try to attract FDI by offering generous investment packages (e.g. tax holidays, import duty exemptions) or subsidies to foreign firms. One reason for these preferential policies is the belief that foreign affiliates confer “technology spillovers”, i.e. they transfer more efficient technology and management practices to domestic firms. This is expected to arise as domestic firms learn about the foreign technology, either through business contracts, labor turnover, or simply observation of a nearby foreign firm. However, evidence regarding the extent of FDI spillovers is quite mixed, especially for developing countries. Early case studies and industry-level analyses find positive effects, but more recent firm-level panel studies find negative or no spillover effects from FDI. Aitken and Harrison (1999) explain these contradictory findings via "market stealing" effects. They argue that even though technology spillovers may exist, more efficient foreign firms may draw demand from the less efficient domestic firms, forcing them to cut production. Aitken and Harrison suggest that the negative competitive effects may outweigh positive technology spillovers, particularly in short run. Other studies further suggest that positive FDI spillovers are less likely in developing than in developed countries, because a higher technology gap between domestic and foreign firms increases the likelihood that foreign affiliates will "crowd out" local companies from the product markets. These arguments raise a doubt whether the above-mentioned policies focused on attracting FDI are justified, especially in developing or transitional countries.

To provide more evidence on these issues I address two questions in my dissertation: 1) How significant is the impact of crowding out relative to technology spillovers in a transitional country? 2) What is the mechanism of crowding out? – is it a dynamic effect, i.e. domestic firms cut production over time as foreign firms grow in the domestic industry, or a static effect realized upon foreign entry into the industry?

To explore these questions, I use a methodology that overcomes the two shortcomings in the literature. First, I separate the crowding out from technology spillover effect. Previous studies usually included only one measure for FDI presence and as such they can only offer policy makers a sense of the net FDI impact, i.e. whether the positive technology transfer outweighs the negative competitive effects and vice versa. However, if the estimated effect is zero, as it is in several studies, we do not know whether spillover and competitive effects exist at all or whether they are just perfectly balanced. Second, I incorporate domestic firm exit decision into the analysis. Most previous research on FDI spillovers neglected the fact that domestic firms may exit as a result of foreign competition. Then the positive evidence on FDI spillovers, based only on sets of surviving firms, might be overestimated and mislead policy makers.

While previous studies analyzed the impact of FDI on domestic firms using production functions, I rely on a model that combines a dominant firm-competitive fringe framework with a model of firm and industry dynamics by Jovanovic (1982) and Sun (2002), from the industrial organization literature. In my model,
foreign firms as a group represent a dominant firm that moves first and sets prices in the industry. Domestic firms, which create a competitive fringe, take these prices as given in their maximization process and choose quantity. As in Jovanovic (1982) they face uncertainty about their production efficiency and learn about it while operating in the industry via Bayesian updating. Following Sun (2002) I also assume that domestic firms' production is affected by cumulative technology shocks (technology spillovers). The model predicts that domestic firm growth and survival are functions of foreign industry growth rates, technology spillovers, firm age, firm size, and industry demand. If crowding out is a dynamic effect, foreign industry growth rate should have negative impact on both growth rate and survival of domestic firms, but this effect should diminish over time as technology of domestic firms converges to the foreign technology. If crowding out is a static effect, there should be a negative relationship between domestic firm growth rate (survival) and the time of foreign entry into the domestic industry.

In the empirical section of my dissertation, I test these theoretical predictions using a unique firm-level panel dataset on foreign and domestic firms’ operations in the Czech Republic during 1994-2001. The predictions for domestic firm growth are estimated by linear models: OLS with clusters, random and fixed effects, plus a Tobit model to control for data censoring due to firm exit. Firm survival/exit are estimated by Weibull, Lognormal and discrete regression models. To control for endogeneity problems due to firm-level unobserved heterogeneity in non-linear models I model unobserved heterogeneity as a function of firm level means of included covariates (Wooldridge, 2002; Mundlak, 1978). My results show evidence of both technology spillover and crowding out effects. However, crowding out appears to be a short-term or static effect: initial foreign entry leads to increased exit of domestic firms, but subsequent to this initial entry, foreign industry growth actually increases both the growth rates and mean survival time of domestic firms.

In extensions of the empirical analysis, I explore how the aggregate results vary with industry and firm ownership characteristics, across different time periods and the country of origin of the foreign firms. In addition, I will investigate the relative crowding out effect of FDI and competition from imports. Preliminary results show that while my previous findings on crowding out effects are quite robust, the primary beneficiaries of technology spillovers are firms in industries with more advanced technologies.

Several contributions emerge from my dissertation. First, it improves our understanding of the impact of FDI on domestic firms. Second, it incorporates the impact of FDI presence on domestic firm survival/exit that has not been fully explored by previous studies. Third, it improves our understanding of market dynamics between domestic and foreign firms and, in particular, whether the adjustment process is a one-time shock or a gradual adjustment. Furthermore, since in many developing countries managers of domestic firms often lobby for protection against foreign competition, my results contribute more evidence whether such actions are really necessary. From a policy perspective, my research suggests that indeed FDI does generate positive benefits for domestic firms, providing some justification for transitional countries granting preferential investment incentives to foreign firms.