

Review

The role of Foreign Direct Investment (FDI) in a dualistic growth framework: A smooth coefficient semi-parametric approach

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Abstract

This paper examines the relationship between Foreign Direct Investment (FDI) and economic growth. We extend the dualistic growth framework by Feder (1982), whereby we divide the economy into an exports and a non-exports sector and assume that the FDI is mainly entering the former. In order to empirically estimate the effects of FDI on economic growth, we employ a smooth coefficient semi-parametric approach. Our results show that countries with higher levels of FDI inflows experience higher productivity in the exports sector as compared with those with low level of FDI inflows. In general, we provide some evidence that FDI inflows play an important role during the development process: Initially, as an important determinant of growth, later on, by helping improve factor productivity in the exports sector and finally, through spillover effects due to fostering the linkages between the Multinational Corporations (MNC) and their host economy partners. Copyright © 2014, Borsa İstanbul Anonim Şirketi. Production and hosting by Elsevier B.V. All rights reserved.

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1. Introduction

The role of Foreign Direct Investment (FDI) in economic development has been the subject of long debate. Many policy makers and academics have argued that FDI can have a positive impact on the development efforts of the host country and as such, developing countries should encourage FDI as a means of promoting economic growth. Central to the argument in support of FDI is that in addition to the direct capital financing, it can also be a source of valuable technology and know-how transfer while fostering linkages with foreign entrants and their host economy partners. According to this line of argument FDI is considered to be a vehicle through which

new ideas, advanced techniques, technology and skills are transferred across borders and provide substantial spillover effects. Yet, according to the results coming from a wide range of studies on almost every aspects of the FDI and growth nexus, FDI is not performing as expected. The evidence is ambiguous with a wide range of contradictory empirical results. For example, firm-level studies in given countries often find that FDI does not boost economic growth with minimal, if any, positive spillover effects (Aitken and Harisson, 1999; Haddad and Harisson, 1993). However, macroeconomic studies using aggregate FDI flows and a broad cross-section of countries often find a positive role of FDI in generating economic growth (Bende-Nabende and Ford 1998; Borensztein et al., 1998; De Gregorio, 1992).

As a result, determining the exact impact of FDI on economic growth in developing countries has proven to be empirically elusive. In this regard theory also provides conflicting predictions. On the one hand, for example Romer

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(1993) argued that there exists an “ideas gap” between rich and poor countries. In this regard, foreign investment can ease the transfer of technology and business know-how to poorer countries. According to this view, FDI may boost the productivity of all firms not only those receiving the foreign capital and that implies that the transfer of technology through FDI will have substantial spillover effects for the entire economy. On the other hand, some theories predict that FDI in the presence of preexisting distortionary economic policies will hurt resource allocation and slow down economic growth (see for example [Boyd and Smith \(1992\)](#)).

An important issue which has been raised recently regarding FDI-growth nexus is the increasing interest of developing countries to use exports as a platform for FDI. The idea behind the export platform FDI also known as “EPFDI” is that the Multinational Corporations (MNCs) and their foreign affiliates prefer to invest in the export oriented industries in the host countries and as such the local market in the host country is of no significance to the MNC's location decision. That is why EPFDI is observed in countries that view their economic growth as being “export-led”. These are the economies that seek access to international technology and have small domestic markets. The consequence is that countries that systematically promote EPFDI will create a type of dualism in their economies with little interdependence between MNCs and local enterprises. One of the interpretations of this type of dualism is the differences in the type of industries in which MNCs and local enterprises are active. For example, MNCs might operate in high-tech industries whereas the local enterprises are active in the traditional ones.

In order to study the EPFDI phenomenon in this paper we make use of the dualistic growth model developed by [Feder \(1982\)](#). The idea is that the overall economy is divided into an exports and a non-exports sector under the assumption that the exports sector introduces external effects on the rest of the economy. The main advantage of Feder's model is that it allows for separate measures of sector externality effects and factor productivity effects between the two sectors respectively. As a result we will be able to estimate the indirect effects of FDI on economic growth in developing countries, something that to our knowledge has not been studied before. Using the definition of EPFDI in this paper we assume that the FDI inflows are coming to the exports sector, mainly because of higher factor productivity in that sector. The intuition is that at the early stages of development capital intensive investment is mainly coming to the more productive industries (exports) and as the economy develops the technological demands of the more developed capital-intensive sector will lift the productivity of other sectors (non-exports) as well. Further, in order to capture the indirect effects of FDI on economic growth we assume that the external effects of the exports sector are a function of FDI inflows in the host country. It has been discussed in the literature that there are several ways FDI from MNCs can generate positive production externalities and improve the productivity of domestic enterprises. For example the presence of foreign affiliates in the economy: (i) can force the domestic enterprise to improve their productivity; (ii) may

lead to the diffusion of new technology and the production process to the local enterprises; and (iii) can enhance the development of local enterprises through creating backward and forward linkages. In other words we can say that exports along with FDI are the main channels through which the diffusion of technology from advanced countries to the developing countries will take place (See [Barro \(1999\)](#) for review).

Previous studies have mentioned two main channels through which FDI can enhance the overall growth of the host country. Firstly, FDI can encourage the adoption of new technology in the production process through capital spillovers and secondly, FDI may stimulate knowledge transfers, both in terms of labor training and skill acquisition, and by introducing alternative management practices and better organizational arrangements. Therefore, by using exports as a platform for FDI developing countries can benefit in two ways. Firstly, by gaining higher productivity in the exports sector which in-turn increases the aggregate output through an increase in demand for the country's output via exports. Secondly, through the spillover effects of FDI, a mechanism through which FDI generates positive externalities and improves the productivity of domestic enterprises. It is therefore not surprising that the attitude towards the inward FDI is considerably changed over the past decades. Most of the countries have liberalized their policies to attract all kinds of foreign direct investment. As we mentioned earlier, the indirect impacts of FDI on economic growth of the host country deserves more careful examination. This impact is essentially twofold: Firstly, by encouraging the incorporation of new inputs and foreign technologies in the production process of the recipient country. Secondly, by augmenting the existing stock of knowledge in the host country through labor training and skill acquisition on the one hand, and through the introduction of alternative management practices and organizational arrangements, on the other. Therefore, in the light of above discussion we can say that the investment through MNCs and their foreign affiliates can potentially increase the productivity of the host country and in this regard FDI is considered as a catalyst for domestic investment and technological progress.

As it was mentioned above, empirically the results appear ambiguous ([Carcovic and Levine, 2002](#); [Durham, 2004](#)). One of the reasons behind the lack of strong empirical support for the role of FDI in promoting economic growth is likely the presence of heterogeneity that manifests empirically as non-linearity in the FDI and growth relationship. Most of the previous studies either use a linear empirical growth model specification or try to bypass the nonlinearity issue by using ad hoc procedures such as adding quadratic or interaction terms in linear regressions.¹ Given the fact that growth theory provides little guidance about functional forms it is almost impossible to pinpoint the exact form of nonlinear

¹ An exception is [Kottaridi and Stengos \(2010\)](#) in the context of an extended Solow type framework. They use similar semiparametric techniques, but a different theoretical framework from what we do here to assess the presence of nonlinear effects in the FDI growth nexus.

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