

## **FOREIGN DIRECT INVESTMENT - GROWTH NEXUS: A REVIEW OF THE RECENT LITERATURE**

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### **Abstract**

This paper reviews the literature dealing with the effects of FDI on Growth. Numerous empirical studies have been conducted to investigate whether growth is influenced by FDI. The overall evidence is best characterized as mixed as the results are regarding to the importance of labor costs, openness, investment climate, countries considered (developed vs developing) and fiscal incentives. However, free trade zones, trade regime, the human capital base in the host country, financial market regulations, banking system, infrastructure quality, tax incentives, market size, regional integration arrangements and economic/political stability are very important determinant for FDI that creates a positive impact on overall economic growth. In summary, consensus has been reached among academia and practitioners that FDI tends to have significant effect on economic growth through multiple channels such as capital formation, technology transfer and spillover, human capital (knowledge and skill) enhancement, and so on.

**Key words:** FDI, Economic Growth

**JEL Classification:** F39, O40

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### **I. Introduction**

During the fluctuations of capital flows in the 1990s, foreign direct investment (FDI) was the main source of flows to developing countries. Contrary to other capital flows, FDI is less volatile and does not show a pro-cyclical behaviour. It has therefore become the “favourite capital inflows” for developing countries. The FDI increased rapidly during the late 1980s and the 1990s in almost every region of the world revitalizing the long and contentious debate about the costs and benefits of FDI inflows. On one hand many would argue that, given appropriate policies and a basic level of development, FDI can play a key role in the process of creating a

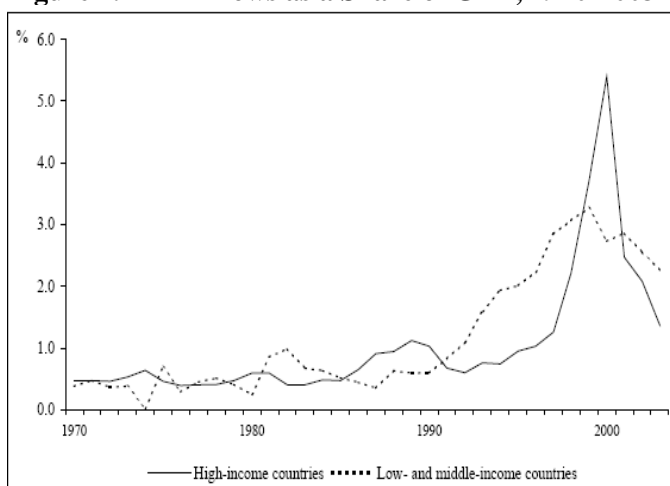
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better economic environment. On the other hand potential drawbacks do exist, including a deterioration of the balance of payments as profits are repatriated and negative impacts on competition in national markets. At present, the consensus view seems to be that there is a positive association between FDI inflows and growth provided receiving countries have reached a minimum level of educational, technological and/or infrastructure development.

As mentioned by Busse and Groizard (2005), the enormous increase in FDI flows across countries is one of the clearest signs of the globalisation of the world economy over the past 20 years. Total FDI flows increased from some US \$55 billion in 1985 to US \$1,511 billion before falling back to US \$573 billion in 2003 (World Bank 2005). Even as a share of Gross Domestic Product (GDP), we do observe an enormous increase in the significance of FDI. In high-income countries, this share increased from some 0.5 to 1.0 per cent in the 1980s to more than 5 per cent in 2000 and then declined to 1.4 per cent in 2003 (Figure 1). While the increase in FDI inflows was less drastic in low- and middle-income countries, the percentage of FDI in GDP remained at more than 2 per cent after the year 2000, indicating a slightly higher significance of FDI flows in developing countries in the most recent period.

**Figure 1. FDI Inflows as a Share of GDP, 1970-2003**



Source: Busse and Groizard (2005)

In summary, consensus has been reached among academia and practitioners that FDI tends to have significant effect on economic growth through multiple channels such as capital formation, technology transfer and spillover, human capital (knowledge and skill) enhancement, and so on. The rest of the paper is organized as follows: Section II describes the theory. Section III reports the literature survey, and the last section is the conclusion.

## **2. Theory**

The relationship between FDI and economic growth has motivated a voluminous empirical literature focusing on both developed and developing countries. Several studies find a clear positive link, while others do not. Research that focuses on data from only less developed countries (LDC's) has tended to find a clear positive relationship, while studies that have ignored this distinction, or have focused on data from only developed countries (DC's), have found no growth benefit for the recipient country. Neoclassical models of growth as well as endogenous growth models provide the basis for most of the empirical work on the FDI-growth relationship. The relationship has been studied by explaining four main channels: (i) determinants of growth, (ii) determinants of FDI, (iii) role of multinational firms in host countries, and (iv) direction of causality between the two variables (Chowdhury and Mavrotas, 2005).

According to the neoclassical growth theory, economic growth generally comes from two sources: factor accumulation and total factor productivity (TFP) growth (Felipe, 1997). Of these two sources, the empirical literature usually focuses more on studying the growth of factor inputs than the growth in TFP. This is due to the fact that factor growth is easier to quantify and analyze while difficulties abound in the measurement of TFP growth due to the lack of appropriate econometric modeling techniques as well as unavailability of appropriate data.

As opposed to the limited contribution that the neoclassical growth theory accredits to FDI, the endogenous growth literature points out that, FDI can not only contribute to economic growth through capital formation and technology transfers (Blomstrom et al., 1996; Borensztein et al., 1995) but also do so through the

augmentation of the level of knowledge through labor training and skill acquisition (de Mello 1997, 1999).

In the framework of endogenous growth models, several channels are at work. More precisely, three main channels can be detected through which FDI affects growth. First, FDI increases capital accumulation in the receiving country by introducing new inputs and technologies (Dunning, 1993; Blomstrom et al., 1996; Borensztein et al. 1998). Second, it raises the level of knowledge and skills in the host country through labor and manager training (de Mello, 1996, 1999). Third, FDI increases competition in the host country industry by overcoming entry barriers and reducing the market power of existing firms.

As mentioned by Chowdhury and Mavrotas (2005), a large number of empirical studies on the role of FDI in host countries suggest that FDI is an important source of capital, complements domestic private investment, is usually associated with new job opportunities and enhancement of technology transfer and spillover, human capital (knowledge and skill) enhancement, and boosts overall economic growth in host countries<sup>1</sup>. On the other hand, a number of firm-level studies do not lend support for the view that FDI promotes economic growth<sup>2</sup>.

Concerning developing countries, macro-empirical work on the FDI-growth relationship has shown that—subject to a number of crucial factors, such as the trade regime, the human capital base in the host country, financial market regulations, banking system and

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<sup>1</sup> See de Mello (1997, 1999) for a comprehensive survey of the nexus between FDI and growth as well as for further evidence on the FDI-growth relationship, Mody and Murshid (2002) for a recent assessment of the relationship between domestic investment and FDI, Asiedu (2002), Chakrabarti (2001) and Tsai (1994) on the determinants of FDI, Blomstrom and Kokko (1998) for a critical review of the role of FDI in technology transfer, and Asiedu (2003) for an excellent discussion of the relationship between policy reforms and FDI in the case of Africa.

<sup>2</sup> See Carkovic and Levine (2003) and the references therein. Hanson (2001) has found weak evidence that FDI generates positive spillovers for host countries. See Gorg and Greenaway (2004) for the comprehensive discussion at the firm level.

the degree of openness in the economy—FDI has a positive impact on overall economic growth<sup>3</sup>.

More recently, a series of papers have been published that examined the linkages between the effectiveness and regulations of financial markets, FDI and growth. In essence, Hermes and Lensink (2003), Durham (2004) and Alfaro et al. (2004) all find that countries with better financial systems and financial market regulations can exploit FDI more efficiently and achieve a higher growth rate. These studies argue that countries need not only a sound banking system, but also a functioning financial market to allow entrepreneurs to obtain credit to start a new business or expand an existing one. The emerging literature on FDI stipulates that FDI's positive impact on growth depends on local conditions and absorptive capacities. Essential among these capacities is financial development. These results imply that countries should reform their domestic financial system before working on attracting FDI. Vast literature on the determinants of FDI in developing countries clearly indicates the importance of infrastructure, skills, macroeconomic stability and sound institutions for attracting FDI flows<sup>4</sup>.

During the last decade, a number of interesting studies of the role of foreign direct investment in stimulating economic growth has appeared. In the survey of de Mello (1997), two main channels through which FDI may be growth enhancing are listed. First, FDI can encourage the adoption of new technology in the production process through capital spillovers. Second, FDI may stimulate knowledge transfers, both in terms of labour training and skill acquisition and by introducing alternative management practices and better organizational arrangements. A survey by OECD (2002) underpins these observations and documents that 11 out of 14 studies

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<sup>3</sup> See Balasubramanyam et al. (1996, 1999) and Borensztein et al. (1998), and Nair-Reichert and Weinhold (2001) for a critical assessment of the empirical literature. See Aitken and Harrison (1999) and Harrison (1994) regarding recent assessments for the micro studies at the firm level that examine the impact of FDI on growth in developing countries.

<sup>4</sup> See Borghesi and Giovannetti (2003) for the role of institutions in attracting FDI.

have found FDI to contribute positively to income growth and factor productivity. According to de Mello (1997) and OECD (2002), FDI affects growth is likely to depend on the economic and technological conditions in the host country. In particular, it seems that developing countries have to reach a certain level of development, in education and/or infrastructure, before they are able to capture potential benefits associated with FDI. Therefore, FDI seems to have more limited growth impact in technologically less advanced countries. The main result of OECD survey (2002) is that there seems to be a strong relationship between FDI and growth. Although this relationship is highly heterogeneous across countries generally agree that FDI, on average, has an impact on growth in the Granger-causal sense.

While the literature has heeded the importance of FDI to growth and development, it also realizes that economic growth could be an important factor in attracting FDI flows. The importance of economic growth to attracting FDI is closely linked to the fact that FDI tends to be an important component of investing firms' strategic decisions.

As indicated in several empirical studies<sup>5</sup>, according to the market size hypothesis, the markets with large population size and/or rapid economic growths (as measured by real GDP per capita or its growth) tend to give multinational firms more opportunities to generate greater sales and profits and thus become more attractive to their investments. Wheeler and Mody (1992) have tried to determine the relative importance of these two explanatory variables and found that market size is more important for developed countries, while per capita GDP for developing countries.

Next to the direct increase of capital formation of the recipient economy, FDI may also help increasing growth by introducing new technologies, such as new production processes and techniques, managerial skills, ideas, and new varieties of capital goods. In the new growth literature the importance of technological change for economic growth has been emphasised (Grossman and

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<sup>5</sup> Wang and Swain (1995); Moore (1993); Schneider and Frey (1985); Bajorubio and Rivero (1994); Frey (1984); Billet (1991); Horisaka (1993); and Eaton & Tamamura (1994).

Helpman, 1991; Barro and Sala-i-Martin, 1995). The growth rate of less developed countries (LDCs) is perceived to be highly dependent on the extent to which these countries can adopt and implement new technologies available in developed countries (DCs). By adapting new technologies and ideas (i.e. technological diffusion) they may catch up to the levels of technology in DCs. One important channel through which adoption and implementation of new technologies and ideas by LDCs may take place is FDI. The new technologies they introduce in these countries may spillover from subsidiaries of multinationals to domestic firms (Findlay, 1978). The use of new technologies may be important in contributing to higher productivity of capital and labour in the host country. The spillover may take place through demonstration and/or imitation (domestic firms imitate new technologies of foreign firms), competition (entrance of foreign firms leads to pressure on domestic firms to adjust their activities and to introduce new technologies), linkages (spillovers through transactions between multinationals and domestic firms), and/or training (domestic firms upgrade the skills of their employees to enable them to work with the new technologies) (Kinoshita, 1998; Sjöholm, 1999a).

The next question is what conditions in the host country are important to maximise the technology spillovers discussed above? In the literature it has been emphasised by some that the spillover effect can only be successful given certain characteristics of the environment in the host country. These characteristics together determine the absorption capacity of technology spillovers of the host country. Thus, FDI can only contribute to economic growth through spillovers when there is a sufficient absorptive capacity in the host country. Several country studies have been carried out, providing diverging results on the role of FDI spillovers with respect to stimulating economic growth. These studies deal with the productivity effects of FDI spillovers on firms or plants using micro level data. Whereas positive effects from spillovers have been found for, e.g. Mexico (Blomström and Persson, 1983; Blomström and Wolff, 1994; Kokko, 1994), Uruguay (Kokko et al., 1996) and Indonesia (Sjöholm, 1999b), no spillovers were traced in studies for Morocco (Haddad and Harrison, 1993) and Venezuela (Aitken and

Harrison, 1999). These diverging results may underline the crucial role of certain host country characteristics necessary to let FDI contribute positively to economic growth through spillovers. They emphasise the difference in absorptive capacity between countries to adopt FDI.

Some authors argue that the adoption of new technologies and management skills requires inputs from the labour force. High-level capital goods need to be combined with labour that is able to understand and work with the new technology. Therefore, technological spillover is possible only when there is a certain minimum, or 'threshold' level of human capital available in the host country (Borensztein, et al., 1998). This suggests that FDI and human capital are complementary in the process of technological diffusion. Other authors argue that the process of technological spillovers may be more efficient in the presence of well-functioning markets. Under these circumstances, the environment in which FDI operates ensures competition and reduces market distortions, enhancing the exchange of knowledge among firms (Bhagwati, 1978; Ozawa, 1992; Balasubramanyam, et al., 1996).

Some authors stress that the establishment of property rights – in particular intellectual property rights – is crucial to attract high technology FDI (Smarzynska, 1999). If intellectual property rights are only weakly protected in a country, foreign firms will undertake low technology investments, which reduces the opportunities for spillover effects and improvements of productivity of domestic firms.

### **3. Literature survey of empirical studies**

Many empirical contributions have tried to explain the relationship between FDI and growth (see Table 1). A detailed literature survey on the effects of FDI on growth has been outlined in this section. As it can be seen in the most of these studies, FDI has positive effect on growth.



**Table 1. FDI and Growth: Literature Survey**

<b>Studies</b>	<b>Sample</b>	<b>Period</b>	<b>Effects of FDI on Growth</b>
Blomström (1986)	Mexico		<i>Positive</i>
Saltz (1992)	68 developing countries	1970-80	<i>Negative</i>
De Gregorio (1992)	12 Latin American Countries	1950-85	<i>Positive and significant correlation between FDI and growth.</i>
Fry (1993)	16 developing countries (5 East Asian economies)	1966-88	<i>Positive for overall sample</i>
Kokko (1994)	Mexico		<i>Positive</i>
Blomström, Kokko and Zejan (1994)	Uruguay		<i>Positive</i>
Blomström, Lipsey and Zejan (1994)	78 developing countries	1960-85	<i>Positive</i>
Borenztein et al. (1995, 1998)	69 developing countries	1970-89	<i>FDI exerts a positive effect on growth only when a minimum level of human capital exists.</i>
Balasubramanyam et al. (1996, 1999)	46 developing countries	1970-85	<i>Positive for overall sample</i>
Mody and Wang (1997)	7 Chinese coastal regions	1985-89	<i>Positive</i>
Oloffsdotter (1998)	50 developing countries	1980-90	<i>Positive</i>
Nyatepe-Coo (1998)	South East (4) Latin America (4)	1963-92	<i>Positive</i>

	Sub-Saharan Africa (4)		
Bosworth and Collins (1999)	58 developing countries (18 emerging markets)	1978-95	<i>Positive through impact on TFP</i>
De Mello (1999)	32 countries (15 OECD and 17 non-OECD)	1970-90	<i>Not strong: Positive for OECD, but negative effect for non-OECD</i>
Sjoholmn (1999a)	Indonesia	1980-91	<i>Positive</i>
Soto (2000)	44 developing countries	1986-97	<i>Positive</i>
Bende-Nabende et al. (2000)	Asia Pacific Region (5 countries)	1970-94	<i>FDI has positive effect for three out of five countries. FDI has negative effect on growth for singapore and Thailand.</i>
UNCTAD (2000)	100 LDC	1970-95	<i>Positive</i>
Bengoa (2000)	18 Latin American countries	1972-1997	<i>Positive and significant correlation between FDI and Growth if exists a minimum threshold of development associated with "social capability"</i>
Alfaro et al. (2001)	Different samples 39 countries mixed 41 developed c. 49 developing	Three periods 1981-97 1977-97 1970-95	<i>Positive</i>

	c.		
Nair-Reichert and Weinhold (2001)	24 developing countries	1971-95	<i>Significant and positive</i>
Ericsson and Irandoust (2001)	Sweeden, Norway, Denmark, Finland		<i>Causal relationship only for Sweeden</i>
Hanson (2001)			<i>Positive but weak</i>
Lensink and Morrissey (2001)	115 countries	1975-98	<i>Positive</i>
Reisen and Soto (2001)	44 countries	1986-97	<i>Positive</i>
Carkovic and Levine (2002, 2005)	72 countries	1960-1995	<i>No effect</i>
Chakraborty and Basu (2002)	India	1974-96	<i>Causality runs from real GDP to FDI. FDI in India is labor displacing</i>
Campos and Kinoshita (2002)	25 transitional economies	1990-98	<i>positive</i>
Wang (2002)	12 Asian economies	1987-97	<i>Positive</i>
Bazzoni et al. (2002)	11 MED countries	1970-99	<i>Positive</i>
Liu et al. (2002)	China	1981-97	<i>Positive</i>
Basu et al. (2003)	23 developing countries		<i>Positive but depends on trade openness</i>
Kumar and Pradhan (2002)	107 developing countries	1980-99	<i>Panel data estimations in a production function framework suggest a positive effect of FDI on growth. However, tests of causality find that in a majority of cases the direction of causation is not pronounced and in a substantial</i>

			<i>number of cases the direction of causation actually runs from growth to FDI</i>
Choe (2003)	80 countries	1971-95	<i>Positive but weak</i>
Hermes and Lensink (2003)	67 developing countries	1970-95	<i>Positive for 37 countries (Latin America and Asia region), for all others no effect</i>
Omran and Bolbol (2003)	17 Arab countries	1975-99	<i>Positive</i>
Alfaro (2003)	47 countries	1981-99	<i>FDI exerts an ambiguous effect on growth. FDI in the primary sector, however, tend to have a negative effect on growth, while investment in manufacturing a positive one. Evidence from the service sector is ambiguous.</i>
Mencinger (2003)	8 transition countries	1994-2001	<i>Robust negative causal relationship between FDI and growth</i>
Alfaro et al. (2004)	Different samples 71 countries	1975-95	<i>Positive</i>
Nath (2004)	10 transition economies of CEE	1990-2000	<i>Positive</i>
Hansen and Rand (2004)	31 developing countries	1970-2000	<i>Positive</i>
Basu and Guariglia (2005)	119 countries	1970-99	<i>Positive</i>
Nath (2005)	13 economies of CEE and CEEB	1990-2003	<i>In the presence of trade, FDI does not have any significant effect on growth</i>
Kang and Du (2005)	20 OECD countries	1981-2000	<i>No significant effect</i>
Chowdhury	Chile,	1969-	<i>GDP causes FDI in Chile and not</i>

and Mavrotas (2005)	Malaysia, Thailand	2000	<i>vice versa. There is a bi-directional causality between GDP and FDI in Malaysia and Thailand</i>
Li and Liu (2005)	84 countries	1970-99	<i>Positive</i>
Busse and Groizard (2005)	82 countries	1975-2003	<i>Effect depends on regulations and institutional framework</i>
Darrat et al. (2005)	6 MENA and 17 CEE countries	1979-2002	<i>The effect of FDI inflow on economic growth is generally negative or statistically insignificant in MENA and non-EU accession CEE countries. However, it is positive in the case of EU accession countries of the CEE region.</i>
Bacic et al. (2005)	11 transition economies	1994-2002	<i>Insignificant and mixed results</i>
Karbasi et al. (2005)	42 countries	1971-2000	<i>Positive effect. The contribution of FDI on economic growth is enhanced by its positive interaction with human capital and sound macroeconomic policies and institutional stability.</i>
Lensink and Morrissey (2006)	87 countries	1975-97	<i>Positive</i>

#### 4. Conclusion

This paper provides an extensive survey of the literature on FDI and Growth, examining both the theory that underlies the work in this area and the results of empirical studies published since 1986. Overall, a larger number of studies appear to favour the conventional assumption that FDI has positive effect on growth. The consensus has been reached among academia and practitioners that FDI tends to have significant effect on economic growth through multiple channels such as capital formation, technology transfer and spillover, human capital (knowledge and skill) enhancement, and so on.

A number of policy implications emerge from the study. For instance, results suggest that the country's capacity to progress on economic growth will depend on its policies to promote FDI. The most efficient way to attract FDI is to focus on straighten the deficiencies on the following areas; such as free trade zones, trade regime, tax incentives, the human capital base in the host country, financial market regulations, banking system (financial system), infrastructure quality, tax incentives, market size, regional integration arrangements and economic/political stability.

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In direct investment, the investor participates in the control and management of such business venture which is outside the investor's country (Dunning and Lundan 2008). Foreign firms set up plants to supply the host country's market as well as the host nation's neighboring countries. Foreign firms can also invest in other countries for the sake of supply chain control (Demirhan and Masca 2008). The rest of the paper is organized as follows: Sect. 2 provides a brief review of the literature, Sect. 3 dwells into the methodology and analyses the results of the regression estimates while Sect. 4 concludes. Literature review. The study concluded that FDI foreign direct investment had a significant positive impact on economic growth in the country. Full Length Research Paper. Foreign direct investment - economic nexus: The role of the level of financial sector development in Africa. Ibrahim Dolapo RAHEEM. 1. This study examines the relationship between foreign direct investment (FDI) and economic growth considering the influence of financial sector development (FSD). We empirically determine the threshold level of three FSD indicators that would ensure the positive association between FDI and growth once these threshold levels are exceeded. The policy implication of this study is that policies directed towards attracting FDI should go along with and not precede policies that aim at promoting FSD. Key words: Growth, foreign direct investment, financial sector development and threshold. INTRODUCTION... This paper reviews the literature dealing with the effects of FDI on Growth. Numerous empirical studies have been conducted to investigate whether growth is inf. Suggested Citation: Suggested Citation. Ozturk, Ilhan, Foreign Direct Investment - Growth Nexus: A Review of the Recent Literature. International Journal of Applied Econometrics and Quantitative Studies, Vol. 4, No. 2, 2007, Available at SSRN: <https://ssrn.com/abstract=1127314>. Ilhan Ozturk (Contact Author). (2000). Capital Flows and Growth in Developing Countries: Recent Empirical Evidence, No 160, OECD Development Centre Working Papers. (1999). Composition of Foreign Direct Investment and Protection of Intellectual Property Rights in Transition Economies, unpublished working paper. Ozturk, I. Foreign Direct Investment-Growth Nexus: A Review of Literature Choe, (2002). Foreign Direct Investment and growth in India: a cointegration approach, (2005). Foreign direct Investment and Growth: Empirical Analyses on Twenty OECD Countries. Foreign direct investment for development: Maximising benefits, minimizing costs, OECD publishing, (1993). Foreign Direct Investment in Southeast Asia Differential Impacts, Institute of Southeast Asian Studies For decades, foreign direct investment (FDI) has often been claimed to play a vital part in the connection between economic growth and globalization. This has seen many countries including developing ones positively embracing this international FDI network. 2. Literature Review. The FDI-growth nexus has attracted a lot of empirical research on many economies over the years. Highlighted below, are some of the studies that provide excellent surveys of recent results in this literature. Using cointegration approach, Granger causality test and Error Correction Model (ECM), Zhang (2001) carried out a causality test between FDI and economic growth in nineteen countries of Latin America and South-East Asia.