

FDI role in promoting economic growth – An international review

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Abstract

The advantages and shortcomings of foreign investments flows in the transition countries occasion a real dispute between theoreticians, statisticians and public authorities. The sections of the paper regroup the theoretical and empirical arguments that sustained progressively different hypothesis on FDI-economic growth relationship. Beginning with the extreme cases where the FDI catalytic role is accepted or rejected, we finish with a more nuanced approach. As we believe, the FDI positive impact in economy is guaranteed only if the absorption capacity is ameliorated and the efforts should be concentrated in this area. The study also argues for a future analyze on the FDI-growth causal relationship, based on Granger causality.

Keywords: FDI, economic growth, transition economies, panel, absorption capacity, causality

JEL Classification: F21, F23, F43, O40

Introduction

The advantages and shortcomings of foreign direct investments flows (FDI) in the emergent countries are more and more discussed in the 21 century, after a transition period to a market economy characterized by a real enthusiasm upon their enhancing growth role. This is a sensitive and also controversial subject, occasioning a real dispute between theoreticians, statisticians and public authorities.

Historically speaking, the 1960s and the 1970s were characterized especially by a negative perception upon the FDI role that had changed in a positive one in the 1980s and the 1990s. It was the era of the structural changes and orientation to global economy through trade and FDI liberalization. As actors in the global economy, the multinationals and their investments became more and more attractive for at least two reasons: (i) the access to other financial sources (official or private) was restrictive, and (ii) the multinationals could enhance the technology and know-how transfer. In such view, the economic growth could be the result of a significant materials stock accumulation, and mostly the result of qualifications, knowledge and technology in the production process. Still, the 2000 years reality underline fatal influences of foreign presence in the host country economy, respectively the positive externalities absence, repatriated profits, and recently and most important, the frequent delocalization to other countries becoming more attractive. In that way, the FDI unstable character becomes more and more obvious nowadays.

Intuitively, FDI could be economic growth enhancing in the host country through many ways. Firstly, FDI could contribute to economic growth through capital accumulation, or facilitating the new inputs and technologies incorporation in the production function. The effect occurs in the production process of firms with foreign participation, and also for domestic firms benefiting from the interaction with foreign firms. Secondly, FDI are technological change source and labor force improvement

way. The technological progress takes place through capital intensification process resulting from the diversification of capital goods incorporating advanced technology. Labor factor confront itself with the productivity increasing and accumulate competences through the interaction with transnational corporations.

On the other hand, the FDI non-enhancing growth argument is based on the national and international imperfect markets interaction¹. Coming from imperfect industrial markets and benefiting in terms of preferential access to the capital and stock exchange domestic market, the foreign investors can obtain advantages so that the savings and investments gap already important, become deeper. Other negative effects concretize in local producer bankruptcy, multinationals market power extension, and profits repatriation. Nor the impact on the revenues distribution and social development is not favorable. Capital intensive technology transferred by the foreign investors, favor the labor force elite while the other workers are excluded in a rigid labor market. More, the tight control on the technological and managerial competences transfer and on the export channels hinders the positive externalities in the host country.

Largely debated is the idea according to which the existence of a sufficiently developed economic environment in the host country, determine the FDI contribution to economic growth. The country specific factors that reinforce the "FDI - growth" relation are grouped under "absorption capacity" collocation (Nunnenkamp&Spatz, 2003). Firstly, the bigger the human capital endowment and the GDP per capita, the bigger the capacity of multiplying the benefices from technology transfer initiated by foreign subsidiaries in favor of national firms. Secondly, more open are the host economies to the international trade, less restrictive is the intermediary goods import indispensable for the investors. Thirdly, the institutional development level (the legal framework, the corruption amplexness, the public management quality, the ownership protection, and the government discretionary interference) condition the technology and know-how transfer to the subsidiaries. Finally, the capital markets under-developed keep the host country from largely benefiting of foreign presence (Alfaro, Chanda, Kalemli-Ozcan&Hayek, 2002). To take advantage of externalities, the national firms need financial resources for internal structure reorganization, for equipment purchase, and for qualified managers and workers employment. The absence of financial funds or their expensiveness in the context of a national capital market insufficiently developed, restrict the national firm's development that can not meet the international competition or benefit from the foreign presence. Is not only the loan availability that counts, but also the good functioning of the stock market which, in fact, is the place where the link between the national and foreign investor is established.

There is a wide theoretical framework which sustains the existence of a positive relation between FDI and economic growth. There are relevant for their theoretical role the models of endogenous economic growth that belong to Romer (Romer, 1986, 1990, 1993) and Barro&Sala-i-Martin (Borensztein, De Gregorio&Lee, 1998). Between the empirical studies that confirm this hypothesis we present those of Krkoska (2001), Borensztein, De Gregorio&Lee (1998), Damijan J.P. (2003). The majority of these studies identify the technology transfer as the main way across which FDI contributes to economic growth.

But as the empirical results don't always confirm the positive relation "FDI - economic growth" (especially in the microeconomic studies), there

¹ The imperfect competition is one of the sine qua non conditions for the FDI to take place (Hymer, Vernon, Kindleberger).

were set off and empirically verified also those theoretical fundamentals behind the hypothesis of the correlation absence or even of the negative correlation (Solow - 1956, Singer - 1950, Karl Marx, Aitken&Harrison - 1999, Carkovic&Levine - 2002, Lyroudi - 2004, Dutt - 1997).

The hypothesis under which, the existence of a sufficiently developed economic environment condition the FDI contribution to economic growth, has an important theoretical and empirical support. We can mention here the contributions of Leahy&Neary (2004), Wang (2003), Bengoa Calvo&Sanchez-Robles (2003), Nunnenkamp&Spatz (2003), Sinani&Meyer (2004).

In such framework, our interest concerns the FDI-economic growth relationship in Romania. Due to the fact that the catalytic FDI role upon economic growth isn't very well clarified in CEECs, and particularly in Romania, we realized a micro-level (for 1995-2002) and a macro-level (1994-2004) analysis of this correlation, hoping to find some robust results for the two approaches reconciliation (Serbu, 2007a, Serbu, 2007b). But some contradictions appear. If for the whole 19 CEECs the macroeconomic analysis indicates us a complementarity between FDI and national investment, the micro-level analysis for Romania contradicts this result. The foreign presence on Romanian market generates negative externalities: when raising the foreign presence in the sector of 10%, the companies' productivity decreases by 4.6%. In change, conditioning the economic growth of the FDI complementarity with qualification of labor force is confirmed by the macroeconomic study as well as the microeconomic one. FDI produce positive effects on growth only in countries where it is attained a minimum threshold of 20%, representing the active population with superior studies (Bulgaria, Estonia, Lithuania, Russia and Ukraine). In Romania countries having research-development expenses of at least 1.4 million dollars annually could experiment positive externalities from foreign companies. In conclusion, FDI are followed by positive externalities only if the technologic gap between the foreign companies and the national ones isn't too high. A less robust result of both categories of studies suggests that FDI are more efficient than domestic investments in promoting economic growth. In particular, in Romanian sectors with a large foreign participation, companies with foreign participation benefit in terms of production and productivity due to the foreign investments and to externalities resulted by the foreign presence in sector, while domestic companies confront themselves with negative externalities that affect their production and productivity. Our results confirm the hypothesis in accordance with the non-positive FDI effects in an insufficiently developed financial institutions framework. During 1994-2004, FDI led up to the economic growth only in those CEECs where the financial sector represented 54% GDP, the lending activity was entirely decentralized, and market capitalization surpassed the 18% GDP threshold. The FDI benefits internalization in the host country depends also by the political stability and by an appropriate trade liberalization policy. In order that CEECs benefit from FDI from 1994 till 2004, the political stability needed to be of a minimum of 1.2 and the trade openness of at least 195% GDP. None of the observed countries accomplished the criteria in the whole period.

Our previous studies did not always lead to optimistic results, some were even contradictory, and that argue our new studies and a new reevaluation of theoretical and empirical literature. Moreover, the FDI-growth positive correlation, where it is obtained, does not necessarily mean a causal relationship. Consequently, new studies perspectives are opened, through the FDI-growth causality analysis in Romania.

Economical literature developed in the FDI-economic growth relationship area is divided in three categories: (i) the studies that identifies FDI

among growth determinants; (ii) the FDI determinants literature; (iii) the studies on causal relationship between FDI and growth.

This study, constituting a literature review, takes part of the first category; it also argues for a future analyze on the FDI-growth causal relationship in the third category.

All sections in the paper regroup the theoretical and empirical arguments that sustained progressively different hypothesis relating to FDI-economic growth relationship. The paper is structured as follows: section 2 present the reasons to accept the FDI's catalytic role, while section 3 retort through the arguments for rejecting the relationship existence. In section 4 the approach is more nuanced, arguing a conditional FDI catalytic role. Finally, in last section we conclude and establish further research directions.

Theoretical and empirical arguments for accepting the FDI's catalytic role

The FDI theoretic model framework is based on the investments-growth models. Growth promotion factors have been considered succesively: savings and investments (clasical models), technical progress (neoclassical models), respectively R&D, human capital, capital accumulation, externalities (in the new growth theory) (Argiro Moudatsou, 2001).

Among the pioniers who have developed this kind of models, Harrod in 1939 and Dommar in 1946 keep our attention. They underline the difference between the natural growth rate based on labor rise, and the guarantee growth rate based on savings and investments increase (Muhamad Arshad Khan, 2007). The prevailing hypothesis here concern the savings gap that limit the long-term growth rate.

The standard neoclassical model developed by Heckscher and Ohlin suppose the absence of technical differences at international level and the immobility of production factors. In change, the Solow (1956) neoclassical model allows the capital mobility and its accumulation. Still, the capital accumulation can explain only the short run economic growth because the physical capital has decreasing turnovers in the long run. The apparent solution is to accept the existence of technological differences and that is the Solow's main contribution. He introduces the technology and knowledge among the production inputs, because both contribute to the factors productivity increase susceptible of economic growth promotion. But technological changes are supposed exogenous and that implies the inexistence of technological transfers between the nations, and consequently, the long-run economic growth is limited.

In the Solow's short-run economic growth (Solow, 1956), the final good is produced with two production factors (capital and labor): $Y = F(K, L)$. The capital stock increase is the result of that part of revenue saved and invested: $\dot{K} = sY$. Consequently, $\dot{K} = sF(K, L)$. As the population increasing is exogenous, it is supposed that labor force rise with a constant rate n : $L(t) = L_0 e^{nt}$. The fundamental equation is obtained $\dot{K} = sF(K, L_0 e^{nt})$ and it allows for the identification of capital accumulation trend, under the hypothesis of total available labor force involved. The saving propensity s indicates how much of the net revenue is saved and invested. From here results the capital net accumulation during the current period. Added to the already existing stock, it led to the total available capital in the next period and the whole process repeat.

This is a model which does not offer the long-run economic growth equation, but it allows the production level identification, at a certain moment depending to the level registered in the previous period. The capital stock and flow (capital accumulation) have a significant role while explaining the production level.

In this model, the FDI role is to contribute to capital accumulation, which is an idea defended also by Bergten in 1978 (Muhamad Arshad Khan, 2007), and later by De Mello (1999) who bound FDI transferring supplementary capital from FDI transferring know-how. In Bergten's view FDI has a positive contribution to the host country economic growth and ameliorate the social welfare. These effects take place through the capital accumulation and savings increasing, and also through public revenues rise from taxes and balance of payments deficit diminishing.

In the neoclassical model framework, FDI affect growth in the short-run, but the long-run effect is not obvious because the hypothesis of the diminishing returns at a certain technology is accepted. In the recently theoretical framework of economic growth (endogenous growth theory), the technology is considered endogenous and it can be transferred between nations. The know-how comes together with the equipments and production units as capital elements, while explaining the economic growth. In addition, the know-how creation and transfer enhance significantly the long-run economic growth, and FDI seem to have an important role here. The FDI role is to diffuse the advanced technology from the developed countries to developing ones (Buckley, 2002). Alternative accessing channels to the advanced technologies are numerous (imports of products incorporating advanced technology, foreign technology assimilation, and qualified human capital acquisitions), but the most important channel remain the FDI attraction. The multinationals are the most technological advanced companies.

Generally, the theoretical demarches which have as a result an endogenous growth theory are based on: (i) the condition of optimal consumption of final product obtained from capital goods², (ii) profitability rate equation under the nulls profits constraint, and (iii) equality at equilibrium between the consumption growth rate and production growth rate (Borensztein, De Gregorio&Lee, 1998).

The Romer's (1986, 1990) and Aghion&Howit's (1992) endogenous growth theoretical model underlay the role of technological progress, innovation, research and development in enhancing the economic growth.

In the Romer's long-run economic growth model (1986), knowledge is present as a production input, and technological changes are considered endogenous. In contrast with models based on diminishing returns (see Solow), in Romer's model the economic growth rates are increasing over time.

Romer considers a discreet growth model with two periods. The model hypothesis concern the dependence of consumption good production on two categories: (i) the knowledge level k accumulated as a result of previous consumption and processed with a research technology, and (ii) the additional factor set as physical capital and labor force are (x vector). The supplier makes an option between insuring a great consumption today or accumulating the necessarily knowledge for a greater consumption tomorrow. The production function F of firm i , depends on specifically inputs (k and x) and on knowledge aggregate level in the economy $K = \sum_{i=1}^N k_i$, where N is the

² The condition of optimal consumption is the result of utility function maximization.

firm number $[F(k, K, x)]$. The two major hypothesis of the model concern the F function concavity for any fix K , and respectively the increasing marginal productivity of knowledge. The model equilibrium is a standard competitive equilibrium with externalities. Maximizing the utility function resulting from the good consumption in two successive periods, under a set of restrictions, the equilibrium points are obtained (k values that maximize the utility).

Consequently, the available knowledge for a firm (depending on the knowledge stock in the economy) determines the production and long-run economic growth.

A nation suffer from an "idea gap" if the necessarily knowledge for value creation is missing. In the Romer's view (1993), FDI facilitate the gap overtaking through the know-how transfer and all firms productivity increasing. Romer introduces FDI in an endogenous economic growth model, where the growth results directly from physical capital investments which at their turn are the result of R&D investments. Those goods, used as production inputs at others economical levels, have the capacity to perpetuate the knowledge accumulation. Romer considers that the creation of goods incorporating advanced technology depends of human capital stock and its growth. In that way, the firms operating in countries with an important human capital can innovate more rapidly and enjoy the technical progress and productivity increasing. In the absence of an adequate human capital, the FDI attraction is an accepted solution for enhancing economic growth, because it makes possible the know-how transfer.

The FDI role in technologies and know-how transfers is accepted even before the Romer's endogenous growth model takes contour. Kojima underlined in 1978 the FDI role in labor force formation and in transfers of advanced technologies, and competencies in marketing, management coming from the industrialized countries. Kojima shows also that FDI enhance the competition which have as a result a better resource allocation, efficiency in capital use and renouncement to the inadequate managerial practice; all that generate productivity improvement. Under the competition forces on the national and international markets, the local producers have more technological transfers' opportunities. Hymer in 1976 presents FDI as constituting more than a capital transfer, including also the transfer of managerial practices and new technology (Muhammad Arshad Khan, 2007). He is one of the industrialization theory partisans that assert that multinationals are global industrial organizations.

Another endogenous growth theory approach belongs to Barro and Sala-i-Martin (Borensztein, De Gregorio&Lee, 1998).

The model supposes the existence of an economy where the technological progress results from the capital goods diversification. The production is limited to a single consumption good, as in the following technology $Y_t = AH_t^\alpha K_t^{1-\alpha}$, where A represents the economic environment quality (exogenous variables on control and politics, influencing the productivity), H is the human capital and K the physical capital. In contrast to the human capital which is given, the physical capital accumulates by diversification. The national capital stock is given by

$$K = \left\{ \int_0^N x(j)^{1-\alpha} dj \right\}^{\frac{1}{1-\alpha}}, \text{ where capital goods types are } \mathbf{x}(j). \text{ From } N \text{ capital}$$

goods, \mathbf{n} are produced by the national firms and \mathbf{n}^* by the foreign firms beneficiating of FDI. It was assumed that the technological adaptation process required by the new capital goods creation is costly; it demands a

fixed cost F prior to new capital good production. F negatively depends by the foreign firms weight in the host economy (n^*/N), and positively by the national capital goods weight in those produced in the developed countries (N/N^*). In fact, the foreign firms bring to developing countries the necessary knowledge for new capital goods production. On the other hand, the existence of a technological gap augments the imitation possibilities and the new technology become cheaper; it's cheaper to imitate already existing products than to create the new ones. The author's subsequent demarche (maximizing the profits and utility function) conduct to the

following expression for the growth rate: $g = \frac{1}{\sigma} [A^{1/\alpha} \phi F (n^*/N, N/N^*)^{-1} H - \rho]$,

where $\phi = \alpha(1-\alpha)^{(2-\alpha)/\alpha}$. The FDI impact on growth becomes transparent in this expression. FDI, measured by n^*/N , reduces the new capital goods cost, so that the new technology become less expensive, being encouraged. Moreover, the FDI effect on growth is positively correlated with human capital level. The know-how from Romer's model is present in Barro&Sala-i-Martin model through the F cost imposed by the technological adaptation process. In both models, the foreign firms are those who facilitate the knowledge diffusion. De Mello (1999) is the economist to whom we own the dual approach of FDI contribution to economic growth, bounding FDI transferring supplementary capital from FDI transferring know-how. The FDI from the first category can lead to capital and new technology accumulation in the host country, without a long-run impact on growth. The effect is present only under the FDI-domestic investments complementarily hypothesis. But we can assist to an adverse effect: the new technologies brought by foreign investors could accelerate the traditional technologies wear, substituting domestic investments and reducing national savings. In that case, the economic growth is slow down. On the contrary, those FDI that involves knowledge transfers lead to knowledge stock increase in the host country and enhance the long-run economic growth. In the same way can act the multiplication of competencies and qualifications associated to FDI. Indeed, the superior knowledge accumulation reduces the innovation cost and the technological progress produces more rapidly.

The empirical analyses which identify a FDI-growth positive correlation are studies realized on macroeconomic level and concern transition countries, developing countries or Asiatic countries. Some of these explain FDI role through its contribution to capital accumulation (in the Solow theory spirit), others through knowledge transfers (in the Romer theory spirit), and finally, there are studies that underline the FDI dual character.

The FDI contribution to capital accumulation is confirmed for transition countries in Krkoska (2001) paper. The author analyzes 25 transition countries from 1989 to 2000. The empirical results in gross fixed capital formation regression confirm the FDI role for capital accumulation hypothesis. An increase of 1% for FDI lead to capital formation rise with 0.7%. The effect is much more important comparatively with other capital sources impact (share or bond issue - 0.2%, loans from internal market - 0.1%, while the external loan and state subsidies do not significantly influence the capital accumulation).

The same positive result is obtained by Cernat&Vranceanu (Daianu&Vranceanu, 2002). As there research results show the foreign capital had a positive and significant contribution to the economic growth in ten CEECs and Baltic states, from 1992 to 1999.

The studies focused on developing countries or Asiatic countries show that technological transfer is the main channel for FDI to enhance the economic growth (Borensztein, De Gregorio&Lee, 1998 and Dazal-Gulati&Husain, 2000).

In accordance with Borensztein, De Gregorio&Lee (1998) study (on a sample of 69 developing countries, from 1970 to 1989), FDI are more efficient than domestic investments in the field of economic growth promotion. FDI lead to economic growth mainly through technological transfer. The result on FDI contribution to capital accumulation is found less robust. Though, the authors did not have the elimination proof of those domestic firms which do not manage the competition. On the contrary, FDI sustain local firms' expansion through at least two channels: complementarities in production process and productivity rise as the result of advanced technologies transfers.

A Mankin-Romer-Will model version that improve the Solow model is exploited by Dazal-Gulati&Husain in 2000 who explain the China's economic growth through fixed capital accumulation and the FDI proportion in GDP. Their results indicate a significant and positive correlation between FDI and revenue per capita growth rate in China in the 1990. Graham&Wada (2001) interpret the Dazal-Gulati&Husain's results through the technological transfer associated to FDI that accelerated the total factors productivity increase.

Concerning the transition countries, recent studies show that FDI occasion new technologies transfers, more than external trade flows. Taking into account the transition countries openness in front of international trade and foreign investments, Damijan J.P. (2003) examine the technological transfer channels associated to those flows. The study accentuate the connection between technological transfers associated to international trade and FDI, and domestic firms productivity increase in CEECs (Bulgaria, Czech Republic, Estonia, Hungary, Poland, Romania, Slovakia, and Slovenia). Analyzing firm level statistics proceeding from Amadeus database, the authors identify FDI as the main and direct channel of technological transfer from 1994 to 1998. Nevertheless, the technological transfer is mainly obvious to foreign firms' level, and almost inexistent to domestic firms. Moreover, the horizontal externalities seem to be negatives. In such context, the international trade serves as alternative source of technological transfer to the benefit of firms without foreign participation.

The third study set is the one who identifies the dual character of FDI, that of capital accumulation source and that of technological transfer source. A study in this category belongs to Graham&Wada (2001) and it is realized on Asiatic countries. The authors establish a correlation between FDI flows and total factor productivity growth in China from 1991 till 1997. The results indicate that FDI enhanced economic growth through two channels: accumulating supplementary brute fixed capital and mostly, increasing total factors productivity.

Theoretical and empirical arguments for rejecting the FDI's catalytic role

According to the economic growth model of Solow (1956), the impact of FDI on the growth rate is restricted by the existence of diminishing returns on the physical capital. As a result, the FDI effect is only verified at the level of production per capita and not in terms of growth rate (Calvo&Sanchez-Robles, 2003). Actually, the capital diminishing returns implies capital-labor rapport convergence to that value which ones attained, the future increasing of revenue per capita will not be anymore insure through capital accumulation. The diminishing returns law, together with increasing returns law was firstly expressed by A.R.J. Turgot during 18th century in agriculture: according as investment rise progressively, the returns are bigger and bigger until they attained a maximum from where the production continue to rise but lesser and lesser till an increase of

capital do not lead to any production increase. Turgot anticipated one century ago the capitalist production and reproduction rule, formulate by Marx in order to explain the profit rate equalization tendency (Popescu, 2000). Nevertheless, the revenue rise could be insuring through the total factors productivity improvement. As the initial differences between countries are maintained over time, a country which starts in terms of total factors productivity behind others, it rests behind perpetually. The technology is considered exogenous and that implies that the model do not allow for a country to improve the new technologies production rate and catch up. This shortcoming of the Solow model is criticized and corrected by endogenous growth rate partisans (Graham&Wada, 2001).

In the 1960s and the 1970s we assisted especially to a negative perception on FDI role, in the spirit of Solow arguments. Solow was not the only one who paid attention on the FDI incapacity to sustain long-run economic growth. Among the pessimists was Singer (1950) who argued through the FDI effect on developing countries specialization around static comparative advantages, respectively on export specialization in alimentary industry and raw materials. Those facts do not encourage the technical progress and neither the competencies and qualifications increases. More, in this approach, there are invoked the multinationals possibilities to make use of transfer prices in order to transfer profits, and to access local savings already rare in the host country.

It takes contour even a thought current that bring together the pessimists. Dependency theory argues the negative effect of foreign investments coming from developed countries on the developing countries long-run economic growth. This is possible through local labor exploiting in the advantage of developed countries, through the inadequate price paid for natural resources and through the revenue inequality increase effect. Among the partisans of those thoughts are Karl Marx, Paul Baran, and Andre Gunder Frank. The theory is the most popular in the 1970, offering to the nations the arguments and methods in order to restrict the foreign capital. Among these countries we mention the East Asia and Latin America countries, which adopted an import substituting FDI strategy. Though, that policy proved to be a failure for these countries, being shortly replaced with a liberal politics of foreign investments attraction.

Neverthelless, the pesimist ideas did not been entirely abandoned and that because the reality shows a set of FDI contrar effects in the host country, and some of the empirical studies confirm it.

The more recently model belonging to Aitken and Harrison (1997) accentuates the foreign presence negative effect on the local companies' productivity. In fact, there are two contrary effects whose net result is negative. On one hand, domestic firms could beneficiate from the foreign firms' presence through many channels: (i) human capital accumulates knowledge inside foreign firms and valorizes them inside local firms, contributing to productivity rise; (ii) domestic firms beneficiate of externalities being in touch with foreign firms' new products and marketing techniques, or receiving technical support from it; (iii) domestic firms being inputs suppliers for foreign firms, beneficiate from employees experience in the foreign firm. On the other hand, foreign presence could reduce national firms' productivity, especially in the short-run. The foreign company, with lower marginal costs is encouraged to raise its production comparative to its national competitor. As long as both companies produce for the local market, the demand for the domestic companies' products is affected. Determined to reduce its production, the national company confronts with a decline of its productivity. If this effect is sufficiently high, the net effect on the productivity becomes negative, even in presence of technological or intangible actives transfers. Consequently, the net effect

consist in production cost increasing and productivity decreasing in the local firm. In conclusion, according to these theoreticians, FDI do not lead to domestic firm economic growth.

In general, microeconomic empirical studies are those who do not identify strong links between FDI and economic growth. Even more there are some studies that bring empirical evidence for a negative influence of FDI stocks upon economic growth.

A reference study belongs to Aitken and Harrison (1999) that looks to identify the effects brought by FDI in the Venezuela's economy during 1976-1989. The authors estimate a micro-level production function, explaining the production through a set of inputs (capital, qualified and nonqualified labor force, materials), foreign participation weight and a foreign presence indicator in the sector where the firm is active. Although the estimations results indicate significant benefits at the productivity level, associated to the foreign participation, it is obviously that this effect is valuable only for companies that beneficiate of FDI; for domestic companies externalities of this kind aren't verified. Even more, the national companies acting in the sectors with a large foreign presence are much less productive than those of sectors with low interest for the foreign investors. The foreign presence negative impact on the national competitors does not disappear, on the contrary, it magnify over time. In the same way, the empirical analyses do not support the technologies transfers' hypothesis from the joint-ventures to the domestic firms. And the positive effect on the companies with foreign participation productivity can be explained by the simple fact that the foreign companies invest in the most productive ones.

Following closely the line developed by Aitken and Harrison, Konings (1999) realizes a study upon the emergent countries of CEE, more precisely upon Bulgaria, Romania and Poland during 1993-1997. Disposing of a sample formed by 1400 firms in Bulgaria, 1800 in Poland and 2600 firms in Romania, the authors estimate a micro-level production function. They model the production through inputs (capital, labor force), foreign investors equity parts and technological externalities in sectors with foreign presence. According to their results and close to those of Aitken&Harrison, it seems that also in the transition countries the foreign companies are much more performed than the national ones. The externalities at the domestic companies' level aren't obvious.

Among macroeconomic studies, that of Rodrik&Rodriguez (1999) finds a not significant correlation between the international openness of one country and its development level.

Even more persuasive is the analysis of Carkovic&Levine (2002) concerning a panel of 72 countries (developed and developing), analyzed from 1960 till 1995. The authors find that the FDI flows do not exercise an independent influence on economic fast growth. The study propose an estimation of FDI flows effects upon the economic growth, controlling the other determinants effects, deviations induced by the FDI endogenous character, fixed effects associated to host countries and initial revenue effect. As the result of exogenous FDI positive influence on growth is not a robust one, the authors examine if the FDI-growth relationship is causal. Among the host country conditions that could affect the relation, three are verified: qualified labor force, economical and financial development, and trade openness. The conclusion is that FDI impact on growth does not robustly vary with human capital stock, the welfare or poverty, financial market development or economic openness degree. In that way, the authors rejoin to those empirical studies where the FDI effect is a causal one, depending on certain performances in the host country. These results allow reconciling

the macroeconomic analyses with those microeconomic, rejecting the FDI catalytic role.

More recent studies, as that belonging to Lyroudi, Papanastasiou&Vamvakidis (2004), obtain similar results with Carkovic&Levine (2002). Resorting to Bayesian analyze, the authors examine the FDI-economic growth relationship for a sample of 17 transition countries during 1995-1998. The results confirm a not significant relationship and it does not change nor in the case of a sample divided in rich countries and poor countries. Consequently, the relation is not significant, regardless of countries development level.

Last hour analyzes question the investments liberalization politics during 1980-1990, highlighting actual extreme measures such the foreign firms' nationalization in some Latin America countries (Porzecanski&Gallagher, 2007). The reevaluation of FDI role in enhancing the economic growth is considered by authors perfectly justified and rational. The studies on FDI attracted to reform Latin America, identifie very few countries that actually capture important flows, and even there, the effects on growth were not obvious. The solutions would be to develop the physical and human infrastructure, as much as the local firms innovation activities.

Theoretical and empirical arguments for a conditional FDI catalytic role

Schumpeter (1911) underlined, almost one century ago, the developed financial sector role for technological innovation, capital accumulation and growth in the host country. The good functioning of the financial market reduces transaction costs allowing capital allocation in more profitable projects and that lead to economic growth (Muhammad Arshad Khan, 2007).

Moreover, as we already showed, the endogenous growth theoretical model accentuates the technological progress as growth enhancing. That allows identifying a causal FDI-growth relationship depending on qualified labor force availability; the human capital has a technological transfer internalization role. Human capital influences physical capital profitability and, implicitly, international capital mobility (Wang, 1990). On the other hand, technology transfer through imitation from FDI enhances R&D activity and growth (Walz, 1997). A similar reasoning has Antonelli (1991) who argues that transferred technology could be beneficial only when the labor force is qualified, technical assistance is appropriate, complementary equipment is adequate, and others innovations are available. Even since economists as Nelson or Arrow it is well known the difficulty in information rapprochement, while more recent contributions (Cohen and Levinthal (1989)) show that in order to internalize the results of one R&D activity it is necessary a certain effort of the receiver company. R&D externalities are perceived as being endogenous depending on firm investments in it own "absorption capacity".

According other theoretical hypothesis (Brecher&Diaz-Alejandro - 1977, Brecher - 1983, Boyd&Smith - 1999), FDI are harmful to resources allocation process and slow-down the growth while the distortions are present in the host country (Carkovic&Levine, 2002).

An important and recent contribution at theoretical level belongs to Leahy and Neary (2004), inspired by the numerous empirical studies that considerably supported the idea that research-development (R&D) improves the absorption capacity of a company (ability to internalize the externalities derived from other companies) and directly contributes in raising its performances. Leahy and Neary develop a theoretical model for

the absorption capacity which is defined as the ratio between its disposable knowledge, deriving from opponent companies, and the actual knowledge level in economy. The absorption capacity is formalized as it follows: $y = y(x, X, \delta)$, where x are the knowledge resulting from the own R&D activity, and δ are the difficulties in the knowledge internalization process ($\delta = 0$ if $y = X$ maximum absorption capacity, and $\delta = 1$ if $y = 0$ minimum absorption capacity). The marginal production cost of the firm negatively depends by own knowledge (resulted from own R&D activity) (x) and available knowledge from the concurrent firms (y): $c = c(x, y)$. Combining the absorption capacity equation with the marginal cost equation, it is obtained the own knowledge impact on costs, as well as effective externalities measure. The authors show a decrease of effective externalities coefficient as a result of important difficulties in knowledge absorption from concurrent.

In the light of those contributions, FDI are presented as always generating the productivity increase in the firm beneficiating of investment, while the host country productivity augmentation is conditioned by an externalization degree sufficiently high. The externalization, or better, the internalization of knowledge by the firms in the host country, is easier in the R&D intensives sectors or in the firms disposing of a sufficient stock of knowledge to start.

An important set of empirical contributions on FDI-economic growth relationship identify some conditions representatives for "social capacity" which have to be fulfilled in order that host country benefit from FDI in terms of economic growth. Those conditions concern an adequate human capital level (Borensztein, De Gregorio&Lee (1998), Wang (2003), Konings (1999)), economical and political stability, market liberalization and competitiveness (Balasubramanyam, Salisu&Sapsford (1996), Bengoa Calvo&Sanchez-Robles (2003), Moran (1998)), a sufficiently infrastructure endowment, a minimum level of national revenues per capita (Blomstrom, Lipsey&Zejan (1992), Nunnenkamp&Spatz (2003)), developed financial institutions (Alfaro, Chanda, Kalemli-Ozcan&Hayek (2002)).

In their analyze on American investments in developing countries during 1990 years, Nunnenkamp&Spatz (2003) obtained different results once the host countries characteristics was taken into consideration (GDP per capita, educational level, institutional development, openness or economic freedom). If FDI in a less attractive economic environment have a negative effect on growth, the favorable characteristics from other countries allow obtaining macroeconomic benefits from FDI. The positive effects on growth occurred especially when technological gap is relatively small.

Bengoa Calvo&Sanchez-Robles (2003) regressions are realized on a specification that correlate real growth rate per capita with FDI weight in GDP and other variables, proxy for social capacity indispensable for FDI positive effects internalization. The analyze concern 18 Latin America countries, from 1970 till 1999. The results show a FDI significant and positive impact on per capita revenue growth, depending on a minimal capital stock and economic stability (adequate human capital, economic freedom and inflation).

UNCTAD and OECD studies on 133 investment projects in 30 countries, for more than 15 years, conclude: foreign investments economic role is positive or negative depending on host market competitiveness (Moran, 1998). Host countries obtain benefits from foreign firms' presence if they initiate competition stimulus actions.

The study realized in 2002 by Buckley, Clegg, Wang&Cross investigate economical and technical conditions role in China for FDI-economic growth relationship. Their results show that during 1989-1999, specific national or provincial conditions essentially influenced FDI impact on growth. The impact is the most obvious in the most developed provinces and there where market competition is tightest. Consequently, FDI politics should be adapted to each provincial condition so that benefits in terms of growth maximize.

The regressions initiated by Wang (2003) on 12 Asiatic countries sample (from 1987 till 1997) correlate per capita real GDP growth with FDI weight in current GDP (proxy for n^*/N^3), initial GDP in host country (proxy for N/N^*^4), initial level of human capital H and proxies for A (national investments weight in current GDP, labor force growth rate, time effect). Aggregate empirical analyze confirm the significant and positive FDI effect on economic growth, but depending of a sufficient absorption capacity of advanced technology. Indeed, human capital seems to be positive and significant in all regressions.

The empirical analyze belonging to Borensztein, De Gregorio&Lee (1998) concern the following specification: $g = c_0 + c_1 FDI + c_2 FDI \times H + c_3 H + c_4 Y_0 + c_5 A$, where FDI (%GDP) is a proxy for foreign firms weight in host country, and Y_0 capture the catch up effect relative to capital goods produced in the most advanced countries. The study regards 69 developing countries during 1970-1989. According to the authors' results, FDI effect on growth depends on human capital availability in host country: the impact is negative in countries with poor human capital⁵, and it increase, becoming even positive starting with a certain labor force qualification level⁶. It means that the flow of high technology, brought by FDI, augments the growth rate of the host country only in conditions where there is a sufficient capacity of absorption. As the interaction with human capital is not significant for the aggregate investment (national and foreign), the authors conclude that technological differences exist between FDI and national investments. FDI are oriented to sectors where technological innovation imposes a minimum level of labor force performances, while national investments produce in traditional activities where there is not such constraint.

Alfaro, Chanda, Kalemli-Ozcan&Hayek (2002) preliminary regressions on a large sample of countries confirm a fragile correlation between FDI and economic growth. An interactive variable is introduced to verify FDI impact on growth through financial markets. The results indicate a positive and significant influence on growth, regardless of the indicator taken into account for financial market development level⁷. Nevertheless, the net effect on growth (the interactive variable effect plus FDI effect) is negative for a lot of countries from the sample. So, the hypothesis according to which insufficiently developed financial institutions restrict the FDI positive effects generalization is confirmed. The result does not change when the endogenous character of FDI and financial market efficiency is controlled. In that way, the result proves to be robust.

³ Foreign firms weight in total firms producing capital goods in host countries

⁴ Capital goods produced in host countries comparative to capital goods produced in advanced economies

⁵ Though, is hard to imagine that FDI in countries with a very low human capital stock have as effect an economic decrease; this is why the FDI contribution to growth is considered null here.

⁶ The exigencies on threshold to be attained in order that the effect becomes positive are tighter when the FDI endogenous character is controlled.

⁷ commercial banks actives, bank loans for private sector, liquids passives, stock exchange liquidity, stock exchange dimensions.

The detection of the developed local financial sector as the factor that condition the FDI-economic growth relationship, is argue also by Muhammad Arshad Khan (2007). The local financial high performances can insure an efficient allocation of financial resources and absorption capacity improvement in a country. The author examines the relationship between FDI, local financial sector and economic growth in Pakistan during 1972-2005. The empirical analyze, based on bound testing approach of cointegration, show that FDI positively contributes to short term economic growth and in the long run only if the financial system attain a minimum performance threshold. Consequently, the improvement of financial market conditions will attract foreign investors in Pakistan and will allow the maximizations of benefits associated to FDI.

One important remark is that even microeconomic studies identify this conditional FDI catalytic role. The foreign participation in a firm is correlated with the firm production increasing. Relevant in this field is Konings (1999) analyze. The author conclude that only those Romanian, Bulgarian and Poland firms which were engaged in R&D activities from 1993 till 1997 beneficiated from technological transfers realized by foreign firms.

In the same area, but with relatively different results, we mention a more recent study, that of Sinani&Meyer (2004). The authors estimate a production function ameliorated with firm and industrial characteristics. The goal is to estimate the FDI technology transfer impact on Estonian national firms' sales, during 1994-1999. The study is a firm-level one and makes use of panel econometrics techniques. The results indicate that the externalities associated to FDI depend on capital flow and beneficial firm characteristics. The externalities vary with investments dimensions, and also with the size, stockholder structure and trade orientation of the firm benefiting from a FDI. So, the firms that encounter positive externalities are the small ones, belonging to outsiders and without export activity. Surprisingly, the domestic firms own resources do not ameliorate their ability to internalize transferred technology. This result is explained by a local firm's absorption capacity below a minimum level necessarily for the application of advanced technology deriving from foreign firms. Moreover, the absorption capacity could even decrease if the qualified labor force, already rare, is captured in the foreign firms. Though, the competition encourages domestic firms to adapt their technologies and improve their absorption capacity.

Those studies constitute the empirical support for the idea according to which the host countries have to improve their business environment and attain a minimum economic level before attracting FDI enhancing growth. The potential endogenously character ignorance is to taunt with here: FDI determine economic growth and also FDI performances are explained through economical development in host country. Once corrected the endogenously character, the results could even assert that the exogenous component of FDI flows do not influence independently and significantly the growth.

Concluding remarks and proposal for further research

Summarizing, the theory of economic growth based on FDI advanced from Solow's neoclassical model in 1950-1960, to dependency theory in 1970, than to endogenous growth theory in 1980-1990, to Aitken&Harrison's model during the second half of 20th century and finally to Leahy&Neary's contribution in 2004. Simultaneously, the perception on FDI role in development process changed, proceeding alternatively from an optimist approach to a pessimist one, and arriving recently to a more nuanced understanding of FDI impact.

Also the empirical contributions results are split, varying in function of analyzed countries or periods, and the methodologies used. To keep in mind is the fact that studies realized on CEECs samples find, at their best, a FDI contribution through capital accumulation. More frequently, the results show the absence of complementarity between foreign investment and domestic one, identifying even negative externalities for local firms that reduce its production. Technological transfer through FDI does not constitute a valid channel for economic growth in host country, as long as the firms that beneficiate from this transfer are at most those with foreign participation. Not even the resorting to the new research methodologies as Bayesian analyze is, do not lead to more optimist results. Such results determined, especially after 2000, a more nuanced approach explaining the technological transfers absence through the extremely reduced absorption capacity in the domestic firms and in the hole economy. This hypothesis was verified successively for samples made of developing countries, Asiatic countries, Latin America, China, Pakistan, but lesser for transition countries.

Our studies realized on CEECs countries constitute, as we believe, a significant contribution to this literature set, underling the FDI weak contribution to capital accumulation and pessimist results on technological transfers from FDI. Nevertheless, our conclusions sustain the nuanced approach on FDI role, conditioned by a sufficient absorption capacity in the host country. As we believe, the guarantee for a FDI positive impact in economy is obtained only if the absorption capacity is ameliorated. The efforts should orient in such direction, before looking to attract foreign capital volatile flows at any cost. Certainly, neither one politics independent of external capital flows is not a solution, but the openness should be rationale and completed by adequate politics for the internal development.

A new research direction takes contour if we have in view the next reasoning. The positive FDI-economic growth relationship, there where it is identified through panel analyses, does not necessarily indicate a causal relation between the two. There exists the possibility that FDI flows and economic growth are both under other factor incidence that determine their evolution in the same direction. That factor could be economic integration to which both FDI and economic growth respond to (Gao, 2005). Consequently, a causal relationship has to be investigated between FDI and economic growth.

In this segment of literature there are sufficient analyses that offer the necessarily methodology, mainly based on Granger causality. Ting Gao in 2005 contributes essentially in this field, offering the theoretical framework for causality tests on FDI-economic growth. Nair-Reichert&Weinhold (2001) draw attention on the panel analyze shortcoming that assume that FDI impact on growth is homogenous among countries. The authors propose an alternative estimation method that allows heterogeneity in the causal relationship FDI-growth. Other studies that verify the causality are those belonging to Hansen&Rand (2006), Chowdhury&Mavrotas (2006), Choe (2003), Moudatsou (2001), Honglin Zhang (2001). The last one, studies the causality relation accentuating in the same time the specifically host countries characteristics role in this relationship, similar to traditional studies.

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