



## FDI and Human Capital Development

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P. Srinivas Subbarao<sup>1</sup>

### Abstract

*FDI has considered a major catalyst in promoting sustainable development in developing countries. FDI has the potential to generate employment, raise productivity, transfer skills and technology, increased income, enhance exports and contribute to the long-term economic development of the world's developing countries.*

*The investing countries usually supply superior technologies to the host countries. At the initial stages, however, the less developed countries (LDC) lack not only the necessary skills and infrastructure to attract FDI in high technology sector but also the knowledge for proper implementation of technology. Since this requires less technical capabilities, skill building in the host LDC is less. However, such skill building, even though small, creates a platform for the LDC to develop their existing technology and capital productivity. This helps in improving the human capital of the country by facilitating education and technical training to a greater mass of people.*

*Eventually, with the development of the economy the country moves from the subsistence level to the point where the dependence on FDI gradually shifts from mere manufacturing level to the managerial level of a company. At this point of time, the LDC should aim at attracting effective FDI. By effective FDI, we mean the FDI that is development friendly – FDI that fosters not only growth of the nation, but also growth and development of each resident of the country. In other words, effective FDI indulges in enhancement of human capital of the country. The growth of an economy can sustain only through the growth of an increasing, economically productive labor force. This paper explains importance of human capital skilling, the relation between the FDI and Human Capital development besides the experiences of these two in different regions of the world i.e., Asian and Latin American experiences.*

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## FDI and Human Capital Development

### 1. Introduction

Foreign Direct Investment (FDI) has much sought after by countries all over the world—developed and developing alike. Some view it as an engine of economic growth and development while others look at it as a panacea for all ills. FDI has been considered a major catalyst in promoting sustainable development in developing countries. FDI has the potential to generate employment, raise productivity, transfer skills and technology, increase income, enhance exports and contribute to the long-term economic development of the world's developing countries. More than ever, countries at all levels of development seek to leverage FDI for development.

Liberalization policies have led to rapid growth in FDI flows in recent years. Basing on the benefits associated with FDI several developing, as well as developed countries, compete fiercely for FDI. They try to attract foreign investors by providing financial and fiscal incentives, undertaking corporate restructuring and economic reforms and inviting foreign investors in the privatization of state-run units. In 2001, for example, 71 countries made 208 changes in their FDI regulatory regimes, out of which 194 have done so to attract higher FDI.

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## 2. Human Capital Skilling

Human capital has defined as the reserve of economically productive human capabilities. According to Sen's analysis (1993), the stock of human capital represents the summation of being and doing – the ability to “be” and “do”. These ascertain the welfare of the individual and thus comprise the individual's capabilities and functions (Sen, 1989). Generally, the capabilities have defined as the set of alternatives within a person's reach such as either the ability to be happy or functionally employed.

Functioning is defined as the different aspects of the state of a person such as a person's choice not to work even when work is available (Sen, 1993). Capabilities include the ability of a person to engage in a well-balanced, informed life and can be considered to have been self-enhancing as one who leads an informed life is able to increase the possibility of future capabilities attainment (Sen., 1989; see also Etziopni, 1988; Crocker, 1992). Such capabilities have induced in an individual through education. Crawford analyses three specific types of education.

- *Formal*: The formal distribution of homothetic information for processing by individual
- *On the job training*: The formal distribution of idiographic production related knowledge.
- *Individual Learning*: The information collection of environmental information for processing into knowledge and capabilities (of homothetic and idiographic nature)

Human capital has considered representing positive externalities, as a person increases her capabilities; it is possible and probable that others will benefit as well (Ghura, 1996).

A technology transfer helps the individual to learn the new production methods and combining different products and processes in an organization. This type of individualistic learning helps to increase her accumulation of human capital with which he is able to extract higher future income streams (Olson,1995) Lucas (1988) develops a model, which demonstrates that investment in human capital not only enhances the productivity of the individual but also society. In practical, employees in an organization learn from senior employees; children learn from their parents, managers in one company may learn from those at other companies, implying and economy wide externality (Acemoglu, 1996).

### **3. FDI and Human Capital Development**

FDI has a major role to play in upgrading human capital in all developing and backwards nations. It is an engine of propagation of technology in the international market. When a Multinational Corporation (MNC) sets up its unit in a host country, it possess there sets of advantages – ownership of the firms specific assets, locational advantage in the host country and internationalization advantage- together know as “OLI” advantages

From the theoretical point of view, it has believed that there is a strong relationship between inflow of FDI and human capital development of the country. It is a well-known fact that the MNCs mostly belong to the capital-intensive countries. They establish ancillaries, joint ventures and turnkey projects in the country. These subsidiaries have provided with a huge amount of capital-intensive technologies for high and productive output. These technologies have transferred to the host countries by introduction of new activities, replacing slow evolutionary local processes. Technology was also be transferred by upgrading existing activities in some cases, keeping local processes but upgrading technology used and finally technology can be transferred by supplying capital research and development, technological skills, managerial practices and access to markets.

The flow of technological skills, managerial practices leads to the development of skills of human capital. This has again analyzed from two perspectives – one from the demand side and other from the supply side. On the demand side, there is demand for more skilled workers in the host countries through several channels. These include technology

transfer to host countries affiliates, technological flows – both market mediated and via spillover to the host firms. In addition, there is investment in physical capital related to new technology. On the supply side, MNCs provide on-the-job training, support for local educational institutions and other technical assistance, thus increasing the productivity of the workers.

The taxes generated from the operations of the MNCs in the host countries also go to the Government, of the latter, which has further invested in human capital development. Moreover, it has asserted that MNCs are more aware of the emerging trends in the training and the need for new forms of skill creations than their local counterparts are. They are acquainted with using state-of-the-art training materials and techniques, and trend to orient their training more too global markets.

The human capital thus formed is of international standards. This developed human capital may moved out of the MNC and join some domestic firm. This causes the knowledge to move out and the domestic firm is benefited from the innovate technology. This knowledge spillover from the MNC to the domestic firm results in technological up gradation of the latter, which results in an increase in its productivity. High productivity boosts up the per capita income of the residents and an increase in demand for skilled workers. Thus, the flow of FDI and building human capital forms a virtuous cycle. It also increases the incentives for the individuals to pursue further education and, therefore, accelerate human capital formation in the economy a whole.

The following paragraphs examine the FDI affects on human capital development in host country in three aspects, namely – role of MNCs in formal education followed by a summery of the evidence regarding training of employees in MNCs and some comments on the service sector, where human capital is arguably even more important than in manufacturing.

### ***3.1 The role of MNCs in formal education***

The role of MNCs in primary and secondary education is marginal; there is increasingly clear evidence that FDI may have a noticeable impact on tertiary education in their host countries. The most important effect is perhaps on the demand side. MNCs provide

attractive employment opportunities to highly skilled graduates and post graduates in natural sciences, engineering and business management, which may be an incentive for gifted students to complete tertiary training, and MNCs demand skilled labor, which may encourage governments to invest in higher education. There are also more direct links between FDI and higher education. Apart from providing scholarships and sponsoring the formal education of individual employees, in the host country or elsewhere, MNCs are also active in supporting the development of universities and related institutions in several ways.

UNCTAD (1994) reports that the MNCs' "demand for highly trained graduates manifests itself in the form of financial support, particularly to business schools and science facilities, the provision of assistance and advice through membership of advisory boards, curriculum review committees, councils and senates". In Thailand, international chamber of commerce and the Thai government run various training programmes jointly. In Malaysia, the government, local business, and foreign MNCs have established several skill development centers jointly; the first of these, the Penang Skills Development Centre, has been widely lauded for its success. Moreover, MNCs have instrumental in the internationalization of tertiary education, in particular management education. To facilitate the contacts and coordination of activities between the parent company and its foreign affiliates, many MNCs encourage local managers to obtain training in international business, in most cases; the MNCs also finance the training.

### ***3.2 Facilitating Training to Employees of MNCs***

Generally majority of MNCs have provide some training for their employees, although the amount and type vary depending on industry, mode of training, size and time horizon of investment, type of operation, and local conditions. The level of host country employees' general and cognitive skills is a particularly important determinant of the amount of training undertaken, since a relatively high level of education reduces the cost of further training and raises the expected benefits. Competition is another important factor. However, the evidence on spillovers from the MNC affiliates' training of local employees is far from complete, and comes mainly from developing country studies. Considering that knowledge is scarcer at the same time as the public education systems in

developing countries are relatively weaker, it is also possible that spillovers from training are relatively more important there.

However, there is scattered evidence of effects in the industrialized countries as well and then perhaps mainly regarding management skills. It is possible, for instance, that the inter-firm mobility of managers has contributed to spread specific management practices from Japan to the United States and Europe, and in earlier times, from the US to Europe (Caves, 1996). Moreover, casual observation suggests that the mobility of employees from MNCs in the computer and software industries contributes to spillovers, within both the industry and elsewhere.

Many of the studies undertaken in developing countries have emphasized the spillovers of management skills. For instance, Gershenberg (1987) examines MNCs and the training and spread of managerial skills in Kenya. From detailed career data for 72 top and middle level managers in 41 manufacturing firms, he concludes that MNCs offer more training of various sorts to their managers than private local firms do, although not more than joint ventures of Public firms. Gershenberg's observation about the relatively large training expenditures in MNC affiliates have echoed in several other studies as well (Siburuang and Brimble 1989; Yong 1988; Iyanda and Bello 1979). Moreover, UNCTAD (1994) reports that the MNC affiliates' training expenditures per employee often match or exceed those of the parent company's own training expenditures in the home country. Several studies provide similar evidence of management training and, point more clearly to the presence of spillovers.

### ***3.3 FDI impact on Human Capital Development in service industries***

Training in service sector is more directly focused on strengthening skills and expertise embodied in employees, this means that training and human capital development is often more important in service industries. Furthermore, many services are not tradable across international borders, which mean that services MNCs to great extent have forced to reproduce home country technologies in their foreign affiliates. Therefore, service companies have often forced to invest more in training, and the gap between affiliate and



parent company wages tends, therefore, to be smaller than in manufacturing (UNCTAD 1994:232)

While the training needs in advanced services, such as finance and IT, have expected to be quite large, there are also significant investments in simpler service industries, such as hotel and restaurants. For instance the local and international management training run by MacDonald's and Pepsi-Cola's ambitious business and management programs have received much attention. The high training intensity in the hotel sector can be largely be explained by the operations of international hotel chains that aim to provide the same standard of services in all countries and that have also established well functioning international training programmes. In recent years, it is likely that the training needs in several important service industries have increased notably. For instance, many countries that formerly limited foreign ownership in banking and finance have liberalized their regulation after the Asian financial crisis, to bring in fresh capital as well as new technologies and skills. To transfer these skills will require substantial investments in human capital development.

#### ***4. FDI and Human Capital Development - Country Experiences***

The effect of FDI on human capital is different for different countries. The growing body of research shows that substantial investment in human capital is major factor in the attraction of FDI; however, the evidence has mixed on FDI and leads to human capital enhancement. Actually, there should be a high correlation between inflow of FDI and the enhancement of the human capital, the data and figures from different countries have shown that the countries have mixed experiences.

##### ***4.1 Asian Experience***

In several Asian countries like China, Singapore and Korea, postwar economic planners recognized the critical importance of an educated workforce for sustained growth. They laid great emphasis on education of the workforce for growth of the economy. The high level of education among the work forces in China and Taipei led to the flow of FDI that, in turn, led to the development of the workforce. Singapore used its education and

language policies as a tool to Attract foreign investment to the city-state, which, in turn, provided the basis for its economic development.

#### ***4.1.1 Thailand Experience:***

It has observed that foreign firms have lower productivity compared to their local counterparts. FDI inflow did not give rise to the transfer of technology and management techniques. No training has provided for the development of the human capital. The reason behind such a paradoxical situation in Thailand was that most of the investments in Thailand took place in the low and medium technology industry, which did not require much skill. Hence, diffusion of skill from the parent company to its subsidiary was less and minimum investment by the MNC in the human capital development. In addition, there was a wide technological gap, which inhibited the ability of the local employees to learn. The gap was either great that it was hard to bridge or MNCs deterred themselves from bridging the gap. Therefore, any investment in that sector did not materialize into growth of human capital because the gap either inhibited the workers to learn or made it impossible for the employers to bridge that gap.

#### ***4.1.2 Korea Experience:***

Korea also witnessed similar results of FDI inflow. FDI in Korea brought in expertise, capital and technology and helped building a technology base in the country. Nevertheless, in the initial phase Korea adopted a restrictive policy towards foreign investments. It imposed certain mandatory technology transfer requirements on the foreign investors. Such requirements made the foreign investors transfer low-level technologies, which were less required by the Korean economy then. After a period of trial and error, Korea's experience has proven that a free hand approach is better than imposing technology transfer requirements.

#### ***4.2 Latin American Experiences***

In Latin America, there was a gradual increase in FDI flows as compared to Asia and Africa. In 1997, out of total FDI flow into Latin America, Asia and Africa, Latin America experienced 44 percent FDI inflow, which was an increase over the previous

years, Asia experienced 53 percent, which was the same as that of the previous year and Africa received the rest, which was a decline over the previous period. Among the Latin American countries, Brazil, Mexico, Argentina, Chile, Colombia and Venezuela were the major recipients of FDI, receiving 97 percent of the total FDI flowing into Latin America.

In Latin America, the contribution of FDI in creation of employment is modest. Foreign investments flew mainly into the manufacturing sector, which was a capital-intensive sector. Thus, there was little scope for employment generation and hence human capital enhancement. This is clear from the fact that though the share of the manufacturing sector, as a share of national product, increased from, 1950 to 1970, the percentage of workforce involved in manufacturing witnessed a decline. In some Latin American countries unemployment ranges upto 43 percent, very little of which have explained by demographic reasons.

FDI also resulted in great degrees of income inequalities in some Latin American countries. In Mexico City, the richest 20 percent of the population received 62.5 percent of income, while the poorest 20 percent received only 1.3 percent. A similar picture has noted in the social structure of Brazil. As far as skill building is concerned, the foreign firms developed skills upto a level that was required to carry out production. In Brazil, the production method used by a Japanese company needed people with some special skills. Thus, wherever it required specialized skill, the MNC invested in education, short courses in literacy and technical education.

In countries such as Ireland, Mexico and Spain, though the FDI received by them in the past 15 years is more or less the same, the development of human capital is very much different. Ireland experienced a boom in its economy since 1990s, which can be primarily attributed to the FDI inflow. However, even before that Ireland had been investing in a major way in building quality human capital to attract FDI. The MNCs took this as an advantage and not only did they upgrade the skills and productivity of they employees, but they have contributed considerably to the diffusion of skill and technology in the local firms.

The effects of FDI in case of Mexico and Spain were very much different from in Ireland. In the former, the knowledge spillover effects of FDI were limited due to lack of

investment in human capital. The level of education in Mexico was very poor. It lacked even the basic level of primary education. In Spain, on the other hand, there was a lack of science and engineering training, which warded off foreign investment in areas, which required technological innovations.

## **5. Conclusion**

FDI and human capital interact in a complex manner. There exists a virtuous cycle between FDI and human capital. While FDI inflows create a potential for spillovers of knowledge to the local labor force, the host country's level of human capital determines at the same time, how much FDI it can attract and the extent to which the local firms can absorb the spillover techniques. The question that arises is what policies should have adapted to attract FDI that are beneficial to human capital formation in the host country? The policies adopted by the host country should create an environment supportive of innovation and skill upgrading. Firms that are part of global competition network have more incentives to invest in training and education and put a great stress on skill building. However, the question remains as to what exactly should the policy be for foreign exposure. This differs from country to country – both Korea and Singapore follow and FDI-led growth path; while Korea follows an interventionist policy in exports, Singapore has a Laissez-faire economy.

In addition to finding the appropriate external policy, the government should also focus on developing domestic policy to improve the incentive structure to support domestic innovation and skill building. The government should encourage training within MNCs or interactions between MNCs and training institutes. Human capital development can take place only if both the host country and the MNC work had in hand.

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