

MAKE IN INDIA VS FDI: IMPACT ON FIRM'S PRODUCTIVITY

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INTRODUCTION

'Make in India' is one of the most ambitious programs of Prime Minister Narendra Modi, launched on September 25, 2014, with a target of increasing the contribution of manufacturing output to 25 per cent of GDP from 16 per cent currently over the next ten years, thereby creating a 100 million jobs and improving skill efficiency; via increasing foreign direct Investment (FDI) and removing or relaxing foreign equity caps in several areas.

Prime Minister Modi has defined the term Foreign Direct Investment (FDI) in a new sense that is First Develop India. He has tried to give a new vision to the investors that India should not be only viewed as an emerging market rather it should be looked as an opportunity. Make in India program is based on the development of the manufacturing sector of India.

The Indian manufacturing sector is a classic example of an industry that has had great potential, but one that has been systematically done in by political ineffectiveness, entrepreneurial myopia and sheer ignorance of what it takes to succeed. Indian manufacturing has by and large grown at the same pace as the overall economy of India in the last 20 years. The share of India in global manufacturing has grown from 0.9 to 2.0 percent during this period while the GDP share has grown from 1.2 to 2.5 percent. Despite this encouraging growth, however, the relative share of manufacturing in the Indian economy has remained unchanged, dashing hopes of an economy based on manufacturing-led growth. The sector accounted for 15 percent of GDP in 1993, a rate that remains about the same today. Meanwhile based on the report of World Bank, several Rapidly Developing Economies (RDEs) have increased their share of manufacturing to above 20 percent of their GDP, in particular Thailand (34 percent in 2012), China (32 percent), Malaysia (24 percent), Indonesia (24 percent) and the Philippines (31 percent). In India, the number of jobs in the sector has also remained low over the

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last twenty years, increasing only by 1.8 percent per year from 37 and 53 million. This contrasts with the services sector, which has increased by 6.5 percent per year during the same period, growing its share of India's labour force from 22 to 31 percent and now accounting for 150 million jobs (compared to approximately 80 million in 1993). Over the last five years, there has been a reversal of sorts to this manufacturing trend, with Indian manufacturing's share of GDP falling from 2.2 to 2.0 percent between 2009 and 2013, even as the country's share of global GDP grew from 2.2 to 2.5 percent over the same period.

Even after two decades of economic reforms, India has been struggling to provide the right environment and facilities for its businesses. The effort and time consumed in India for starting a business, dealing with construction permits, gaining access to electricity, registering property, paying taxes, enforcing contracts or resolving insolvency is higher than most other countries. A study undertaken by the World Bank on 'Ease of doing Business' reflects a similar story, where India sits at the bottom of the pile at Rank 142. In addition to this, problems related to domestic business infrastructure, the process of getting approvals for exports, in India is quite outdated and highly time consuming. The cost involved in the process is higher than even in some developed countries.

Industrial Production growth has high correlation with FDI inflows. The effect of FDI on economic development ranges from productivity increase to enabling greater technology transfer. The investment made by the foreign persons under 'Make in India' scheme would be one form of FDI. Under this 'Make in India' programme, Government of India will facilitate foreign investors to manufacture in India by making easy business laws and streamlining taxation policies. It is presumed that successful 'Make in India' will transform India into a global manufacturing hub, give push to exports and improve the productivity of both capital and labour inputs. The Indian government has already started taking steps in this direction to revive manufacturing sector growth. The recent move of the government to relax the cap on FDI in the defence and construction sector is a welcome step in this regard.

Now almost a year has been passed since the start of this program. The latest survey of FDI Confidence Index conducted by T Kearney offers little to cheer about. According to the survey, India is now ranked at 11th position on the list, down from 7th position, it held in the last year. This is for the first time in last 12 years that India has dropped out of the top 10 list. Higher FDI inflows are central for India to transcend from 5-7 percent growth to 10-12 percent growth. India currently fares poorly on FDI when compared its global peers. On a per-capita basis, cumulative FDI equity inflows from April 2000 to April 2014 for India is just USD 183 compared to USD 2,017 and USD 1,531 for Mexico and China respectively as per the World Investment Report, 2015.

So the present step of Modi Government to attract foreign multinational companies (MNCs) to locate in their country using substantial fiscal and financial incentives (Girma and Gorg, 2003) such as tax holidays and lower taxes for foreign investors, grants and preferential loans to MNCs, as well as measures like market preferences, infrastructure, and monopoly rights (Brewer and Young, 1997; Blomstrom and Kokko, 2003) will create any wonders for Indian economy will be a question of interest.

The theoretical argument for why one may expect productivity spillovers from foreign multinationals via Make in India programme is straightforward. Multinationals are expected to have access to some form of firm-specific asset (FSA), such as a superior production technique, know-how, or management strategy, which has at least some of the characteristics of a public good and enables the firm to locate profitably abroad (Caves 1996). The possibility for positive spillovers arises because multinationals may find it difficult to protect a leakage of this FSA to other firms in the host country. The public good characteristics imply that once the FSA is out on the external market it can be used by other firms as well, owing to its being at least to some extent non-rival and non-excludable. The inability of multinationals to protect the assets is not only due to labour mobility between firms (Fostfuri and Rande 2001 and Gorg and Strobl 2005), but is also due to contacts between domestic suppliers or domestic customers and multinationals (Javorcik 2004). These spillover channels have been described extensively in the recent literature (see, e.g., Blomstrom and Kokko 1998). As pointed out in the introduction, most of the literature to date has focused on measuring horizontal spillovers, that is, the beneficial effects from multinationals on domestic firms operating in the same industry (e.g., Aitken and Harrison 1999; Girma, Greenaway, and Wakelin 2001; Keller and Yeaple 2003). However, the knowledge transfers between domestic suppliers or customers and multinationals cannot, or can to a very limited degree, be captured by horizontal contacts alone, as there are vertical backward and forward relationships between firms in different industries.

All countries are eager to attract as much foreign direct investments (FDI) as possible. At the same time FDI may have not only positive, but also negative economic effects for receiving countries. Positive effects are associated with technology transfer, efficient allocation of resources, and training of domestic workers. However, the entry of foreign firms could, e.g., lead to a decrease of labor productivity at domestic firms, which is a negative effect. There is one more kind of effect which is generally expected from MNCs i.e. the spillovers arising from labour mobility. The idea is that multinational firms are likely to use more highly skilled labour than their local counterparts. During their MNC experience these workers get acquainted with more modern technologies and improve their human capital. Local firms are then keen to hire them, while the workers reap the benefits of the corresponding reward. Blomstrom and Kokko (1997) view

demonstration effect as an important channel of spillovers. It arises when domestic firms try to mimic foreign firms in different areas of business activity. They suggest that demonstration is often related to the competition effect and takes place unconsciously.

Domestic producers buying inputs from or supplying inputs to multinationals are potentially in an ideal position to appropriate some of multinationals' FSA because of knowledge transfer that business-to-business relationships could entail. On the one hand, contacts between foreign producers and domestic suppliers may improve the technical competencies of the latter through reverse engineering, improved product design, and market information. This may lead to productivity gains. On the other hand, foreign companies supplying inputs to domestic enterprises could generate positive spillovers through the superior proprietary asset, knowledge, and technology embodied in their inputs and through the training provided to employ them appropriately. However, negative externalities may offset the potentially positive effects of both horizontal and vertical spillovers. Horizontal spillovers might be mitigated by the increased competition generated by foreign companies. Indeed, a situation may be envisaged where some firms may be forced to improve efficiency in order to be able to compete successfully with multinationals. It is always of interest whether Foreign Direct Investment has generated spillovers in Indian Manufacturing Industry.

The present paper is an attempt to answer the above question that whether Foreign direct Investment has generated any advantages in the form of spillovers to labour. In the research paper, it has been tried to analyze how far FDI (used as a proxy for 'Make in India' program) in India has enhanced the productivity of labour (skill efficiency) and hence gross output in manufacturing sector of India. The paper is divided into five sections. The first section introduces the research topic, second section discusses the review of literature. Third section discusses the data and research methodology and fourth section discusses about the results. Section five of the paper gives the conclusions and implications of the study.

REVIEW OF LITERATURE

For the Indian economy, Kathuria (2000, 2001), Goldar *et. al.* (2003) and **Siddharthan and Lal (2003)** have studied the impact of FDI on total factor productivity growth, technical efficiency and labor productivity, respectively. **Kathuria (2001)** indicates that there are positive spillovers from the presence of foreign owned firms on total factor productivity growth of Indian firms, but the nature and type of spillovers vary depending upon the industries to which the firms belong and also on the R&D capabilities of the firms. Banga (2001) observed the spillover effects of Japanese and U.S. FDI on the total factor productivity growth of the Indian firms. Her findings establish the presence of Japanese equity within an industry has a positive spillover effect while the market share of Japanese firms is negatively associated

with the productivity growth of the Indian firms. The effect of foreign ownership on the technical efficiency of firms is found to be positive and significant in a study by Goldar *et al.* (2003). **Siddharthan and Lal (2003)** find significant spillover effects from foreign firms on the labor productivity of Indian firms. Using firm-level data from the Indian manufacturing, **Sasidharan and Ramanathan (2007)** examine empirically the spillover effects from the entry of foreign firms. They have taken into account both the horizontal and vertical spillover effects of FDI. **Salim Ruhul & Suyanto (2009)** analyzed the spillover effects on technical efficiency of Indonesian Pharmaceutical sector using a unique unbalanced panel of highly disaggregated firms over the period 1990-1995. The results from the Malquist Productivity index showed that FDI generated negative spillovers to domestic competitors but positive spillovers to domestic suppliers. **Buckley, Jeremy and Chengqi (2006)** focused on a single subsector to investigate whether spillovers declined over time. The data suggested that inward FDI had partially promoted the productivity gains from FDI were significant for certain group of firms in China's electronic industry. This suggested that the spillover benefits did not flow automatically from FDI but were contingent upon other factors. **Sasidharan (2006)** attempted to examine the spillover effects of foreign direct investment in Indian manufacturing industries. Both the horizontal and vertical spillover effects associated with the FDI was investigated. The results of the study indicated a positive spillover for those domestic firms supplying to foreign subsidiaries. However, the lack of significance of the horizontal spillover was in congruence with the results of the developing and transition economies. **Liu and Wang (2002)** empirically studied the effect of FDI on Total Factor Productivity (TFP) for a cross sectional sample of Chinese industrial sectors. TFP was estimated from a production function involving physical capital and labor forces. The possible determinants of TFP were sought with special focus on FDI. The results from production function suggested that physical capital and labor force were the main determinants of industrial production, underlining the fact that both physical capital and labor inputs were important to the output level in industrial sectors. **Proenca, Fontoura & Crespo (2002)** found empirical evidence of FDI on productivity. The study had shown that a positive effect of MNC's and associated FDI on the productivity of Portuguese domestic firms occurred only, When domestic firms had not wider gap than foreign firms. **Noorbakhsh et al. (2001)** find that already existing human capital is an important attractor of FDI. **Djankov and Hoekma (2000)** used firm-level data for the Czech Republic during 1992-96 to predict that foreign investment had positive impact on TFP growth of recipient firms. The result of the study was vigorous to corrections for the sample selection bias that arisen because foreign companies tend to invest in firms with above average productivity. **Blomstrom (1989)** mentions that the training spillover channel can be a result of worker training by foreigners investing in human capital. This effects spreads not only on foreign companies but also on domestic firms. " In Mexico ... many managerial people in

large locally owned firms started their career in a MNC, and management practices may in this way be substantially improved in domestic firms." Moreover, **Kinoshita (1998)** finds worker training an important source of productivity growth. However, it has some peculiarities. Domestic firms are afraid of losing their market shares and they invest funds to train their workers and managerial personnel. At the same time she finds that foreign firms are unlikely to invest in the education of local workers.

DATABASE AND RESEARCH METHODOLOGY

The present study is based on secondary data so it has used multiple sources. The major part of the data is collected from Capital line, an online database provided by Capital Market Ltd in India. The database provides firm level financial information of more than 13,000 companies. The study has also used Prowess database provided by CMIE (Centre for Monitoring Indian Economy) and Ace Equity plus Database. Sectoral data has been collected from the Website of Department of Industrial policy and Promotion (DIPP) and a monthly newsletter issued by DIPP known as SIA newsletter.

This research study is *causal as well as descriptive research* based on considerably large sample of 195 firms which is based on the collection of secondary data sources. This research study includes quantitative research approach as it is based on the time series data as well as cross section data. So the data is of the form of balanced panel data. The firms that belong to 8 different Sectors/Subsectors/Industries and have received FDI of 10 percent or more (as per the definition of IMF/OECD) for continuous thirteen years of the study period i.e. 2000-01 to 2012-13 has been considered in the research paper.

The analysis is based on the Fixed Effect Model. The fixed effect model which is applied in the present research study is time demeaned transformation or within group effect approach. This is the most popular approach for incorporating the differences of the cross section units in the panel data set. Time demeaned transformation is applied in case of fixed effect model and is as follows.

$$Y_{it} = \alpha_i + \beta_1 X_{it} + u_{it}$$

Where Y_{it} = Labour

X_{it} = FDI

u_{it} = Error term

β_1 = Slope

α_i = Slope

This model is first used to find out the impact of FDI on labour productivity of the firm.

Second model used in the study is based on Time period fixed effect model (using multiple variables affecting output levels).

$$\ln \text{ output} = \alpha_i + \beta_1 \ln \text{Labour} + \beta_2 \ln \text{Capital} + \beta_3 \ln \text{Material} + \beta_4 \ln \text{FDI} + u_{it}$$

RESULTS AND DISCUSSIONS

Multinationals play a very important role in innovations and productivity growth, and 98 percent of the top 700 research and development spender are Multinational Corporations (Castallani and Zanafei,2006) .Thus firms learn from MNCs on many fronts especially when the latter set up affiliates in their country, since we also hypothesize that MNCS or firms who are receiving FDI have certain internal advantages which other firms lack. Firms not only compete with MNCs in its product market but also act as suppliers or buyers to the external firm. There is now considerable evidence from the past research on the role of FDI in the host countries that FDI firms may involve significant elements of externalities and spillovers to their domestic counterparts (see Blomström and Kokko 1998; Görg and Greenaway 2001 for surveys).

To analyze the role of FDI in enhancement of labour efficiency, first the cross section fixed effect model has been applied. Since the nature of the data is panel data, hence F test as well as Hausman test is applied in order to finalise which model is to be applied on the data. The results of the F test (cross section as well as time effects) and Hausman test (cross section and time effects) are shown in the table 1.

Table 1
F Test (Cross Section and Time Period) of FDI and Labour Productivity

<i>Effect Test</i>	<i>Statistic</i>	<i>Value</i>	<i>P value</i>
Cross section fixed effect	Cross section F test	22.149	0.000
	Cross Section Chi square	2643.147	0.000
Period fixed effects	Time period F test	2.343	0.005
	Time period Chi square	28.116	0.005

The result indicates that the probability value of cross section F statistic as well as cross section chi square statistic is less than 5 percent level of significance. Hence it can be concluded that cross section fixed effect model is significantly better than pooled regression model. Similarly the results of F test in case of time period fixed effect indicate that probability value of time period F test as well as time period chi square statistic is less than 5 percent level of significance. Hence with 95 percent confidence level, it can be concluded that the time period fixed effect model is also significantly better than simple pooled regression model.

The results of cross section fixed effect model indicate that the probability of t statistic (6.745) is less than 5 percent level of significance, Hence with 95 percent confidence level it can be concluded that there exists significant impact of FDI on the labour productivity of the firms.

Table 2
Cross section fixed effect model

<i>Dependent Variable</i>	<i>Independent variable</i>	<i>Regression coefficients</i>	<i>T statistics (p value)</i>	<i>F statistics (p value)</i>	<i>R square</i>	
Labour	FDI	Intercept	-200.223	-3.99 (0.000)	22.067 (0.000)	64.79%
		Slope or regression Coefficient	8.072	6.745 (0.000)		

The results also indicate that the slope coefficient of regression model is positive which indicates that FDI has a positive impact on the labour turnover of selected firms. In addition to this, the probability value of the F statistic is found to be less than 5 percent level of significance. Hence it can be concluded that the fixed effect regression model as shown in the table is a statistically fit model. The R square being 64 percent indicates that 64 percent of the variations in labour productivity can be explained by the regression model. Whereas Labor productivity refers to the amount of goods and services produced (specifically, the amount of real GDP produced) by one hour of labor. The ability to transfer production-related knowledge and managerial expertise/skills to the host country is one of the most elemental advantages of foreign direct investment over foreign aid and portfolio investment. From the above results, it can be concluded that foreign direct investment has impacted the labor productivity of the host economy.

The above regression model may have the problem of endogeneity. Also it has taken the relationship of only two variables that is Labour productivity and FDI. In reality the output of a firm is influenced by a number of variables along with labour and FDI like capital and material inputs. To determine what is the overall influence of the other variables and remove the problem of endogeneity, a combined fixed effect model has been applied where the log labour, log capital, log material inputs and log FDI has been regressed on Log output.

The result of the time period fixed effect model indicates that the p value of t statistic of the variable log labour, log capital, log material inputs is found to be less than 5 percent of significance. Hence with 95 percent confidence level we can conclude that the output level are significantly impacted by capital, labour and other material inputs used by the firms. The p value of the variable Log FDI is found to be significant at 10 percent level of significance. The results clearly indicate

Table 3
Time Period Fixed Effect Model
Dependent Variable : Log(Output)

<i>Independent Variables</i>	<i>Coefficients</i>	<i>t statistic (p value)</i>	<i>F statistic (p value)</i>	<i>R square</i>
Intercept	1.123	11.488 (.000)	695.037 (.000)	98.38%
Log labour productivity	0.232	21.452 (.000)		
Log capital productivity	.051	4.763 (.000)		
Log material inputs usage	.657	62.927 (.000)		
Log FDI	.078	2.314 (.061)		

towards one fact that output is affected by the amount of labour capital and other inputs used in the production process along with FDI. Thus FDI has significantly influenced the output levels. The results of the study thus far provide evidence of spillovers arising from FDI to output levels, once other factors are properly controlled for. This means that FDI or make in India programme can only be successful, if it is complemented by domestic labour productivity, capital productivity and quality material inputs used.

CONCLUSIONS AND IMPLICATIONS

Foreign direct investments to transition countries such as India are a highly appealing empirical research topic for several main reasons. For a poor transitional economy, foreign direct investments promise growth potential far beyond that available through domestic savings. Also, the foreign direct investments could lead to several effects, both positive and negative. The results reported in the paper imply that the presence of FDI alone has a little influence on the output levels of the firm. It can be argued that one possible reason for neutral effect of FDI on firm's output level can be that Indian firms are not as competitive as MNCs are. Secondly it depends upon the absorptive capacity of the firm (Girma, 1984). It could be possible that firms with the necessary absorptive capacity may benefit from the possible positive externalities associated with FDI. The minimal effect of FDI on output implies that rather than depending on FDI inflows to increase the productivity, indigenous skill development programs of labour should be adopted by government to increase the absorption of the latest know-how brought by the FDI.

A distortion free economic environment is essential for the growth of both foreign and domestic investments. Some of the proposed incentives for FDI,

however, may generate rather than eliminate distortions wherever the spillovers effects are not realised. Government should encourage domestic investment and local suppliers along with FDI, to increase the output levels of different firms. FDI can help in covering the gaps in domestic investment but high dependence on FDI for firm growth is not a healthy.

Since 'Make in India' is nothing but a branding tagline and slogan for attracting FDI, the apprehension is that foreign competition would deteriorate local firms' productivity through reduced margins and ultimately provoke the exit of the less efficient firms. This would further create the problem of unemployment in the economy. In order to further not aggravate the problem of unemployment in the economy, the government should take some initiatives to improve the productivity of firms by providing some indigenous technology and training programs to the labour.

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