

Impact of Foreign Direct Investment on Different Industrial Sectors: Indian Introspection

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Abstract

In developing countries, there has been a remarkable shift in attitude towards various aspects of FDI. In the past apprehensions were made that FDI might sustain, or even accentuate the home and host country's income differentials to the recipients disadvantage, however now these apprehensions has mostly given way to recognition that FDI facilitates economic development. Foreign Direct Investment in India has a positive impact on the economy as a whole. But, its impact on various individual sectors varies in nature and content. The sector-wise analysis of FDI inflow in India reveals that maximum FDI has taken place in the service sector followed by the manufacturing sector. Inflow of FDI in India has been uniform across all service sectors. An attempt has been made in this paper to assess the impact of FDI on certain key sectors of the economy. The analysis is based upon simple Karl Pearson's correlation index. Since the data of different sectors are heterogeneous in nature and with different units of measurement, so the only comparable indicator taken is correlation index. The study is based on the secondary data which are mainly available from various reports of government and semi-government organizations in this field. The data collected from such various sources have been analyzed by using some conventional statistical tools and concluding observations made.

Key Words: Developing Countries, Foreign Direct Investment, Karl Pearson's correlation index, Sector-wise analysis.

Introduction

In developing countries, there has been a remarkable shift in attitude towards various aspects of FDI. In the past apprehensions were that FDI might sustain, or even accentuate the home and host country's income differentials to the recipients disadvantage, however now these apprehensions have mostly given way to recognition that FDI facilitates economic development. Whether FDI promotes competition or facilitates development of oligopolistic structures depends upon whether FDI crowds-out or crowds-in domestic investment. FDI can potentially displace domestic producers by pre-empting their investment opportunities

Trade is an engine of growth and many countries have achieved higher growth rates by simply concentrating on the development of export oriented industries, e.g. Great Britain was a super power during nineteenth century, it was because of her strong hold on world trade also economies of China, Taiwan, etc. are also flourishing due to world trade. For sustaining an export-led growth strategy, it becomes important to attain dynamic shifts in comparative advantage and FDI can play a major role in imparting the desired dynamism on account of its global marketing network. The very fact that annual sales of foreign affiliates have outpaced total volume of global annual merchandise exports in the 1990s shows the growing importance of market access through FDI in relation to exports.

Over the last two decades there has been a change in the approach towards assessing the impact of FDI flows on the recipient economy. In the earlier approaches, the impact of FDI on growth was found to be limited in the short-run since long-term growth was largely considered to be contingent upon technology progress. On the other hand, according to the more recent indigenous growth theory, FDI is considered as a composite of capital, know-how and technology. Under this approach, FDI can have a permanent positive impact on economic growth by generating increasing returns to scale through externalities and positive productivity spillovers.

The positive impact of FDI is likely to be higher as value addition under FDI increases. Apart from increasing capital formation, FDI is expected to encourage use of new inputs and technology. Also, FDI or even purely technical collaborations are considered as a vehicle for change in management practices and organizational arrangements in the recipient developing countries. Cross-country studies are not conclusive in this regard. Empirical investigations have found that the positive impact of FDI is generally higher for recipient countries with a higher level of development. Such findings support the arguments that in the absence of a minimum threshold level of development, the positive impact of FDI on the economy is lost. Moreover, the benefits of FDI can be realized fully only if the economy's savings rate is less than domestic investment, i.e., in the context of a currency of the economy being weak, higher FDI inflows could end up in higher foreign exchange reserves. The spillover effect of FDI is also found to be the highest in industry's foreign firms. Indigenous technical capabilities are found to be positively associated with technology import, research and development in the recipient country, output and manufacturing exports.

India's increasing openness to FDI, especially after the New Industrial Policy (NIP) announced in 1991, has contributed significantly to its growth performance. The Indian government's attitude towards foreign investment has been changing in the post-liberalization period. In the 1990s, the policy was liberalized further and made more open and transparent. Beginning July 1991, The Indian government introduced a number of changes in regulatory policies under the general acceptance of the policy package known widely as the structural adjustment program (SAP). In the recent period, a number of measures have been taken to further promote FDI. These include raising the foreign ownership to 100 percent in most of the sectors, ending state monopoly in insurance and telecommunications, opening up of banking and manufacturing to competition and disinvestment of state ownership in public sector undertakings (PSUs).

Though foreign companies investing in India have performed better than the domestic companies, FDI to India has been attracted mainly by the lure of the large market. In mid-January 2004, the Central Government reviewed FDI limits in several sectors, including banking, petroleum and natural gas to create an enabling environment for FDI inflows. In case of private sector banks, for example, the FDI limit has been hiked to 74 percent. Concurrently, overseas investments in joint ventures (JVs) and Wholly Owned Subsidiaries (WOSs) have been recognized as important avenues for promoting global business by Indian entrepreneurs.

The policy-makers have also attempted to reorient India's international relations, particularly its economic relations towards countries in Asia and the Pacific. For example, India is a sectoral dialogue partner of the Association of South East Asian Nations (ASEAN) with the sectors being trade, investment, tourism, science and technology. Malaysia and Indonesia along with India belong to a Group of 15 (G-15) major developing nations, with a combined Gross Domestic Product (GDP) of US \$ 1.4 trillion and a total trade turnover of US \$ 1000 billion.

Review of existing literature

The comprehensive literature centered on economies pertaining to empirical findings and theoretical rationale tends to demonstrate that FDI is necessary for sustained economic growth and development of any economy in this era of globalization.

Park Jongsoo (2004) conducted a study on "Korean Perspective on FDI in India: Hyundai Motors' Industrial Cluster" indicates that industrial clusters are playing an important role in economic activity. The key to promoting FDI inflows into India may lie in industries and products that are technology - intensive and have economies of scale and significant domestic content.

In their study on FDI and its economic effects in India, Chandana Chakraborty and Peter Nunnenkamp (2006) assess the growth implications of FDI in India by subjecting industry specific FDI and output to causality tests. Their study is based on the premise that the composition and type of FDI has changed in India since 1991 which has led to high expectations that FDI may serve as a catalyst to higher economic growth. They find that the growth effects of FDI vary widely across sectors. FDI stocks and output are mutually reinforcing in the manufacturing sector. They also find only transitory effects of FDI on output in the services sector which attracted the bulk of FDI in the post-reform period. These differences in the FDI growth relationship suggest that FDI is unlikely to work wonders in India

only if remaining regulations were relaxed and more sectors opened up to FDI.

Kulwinder Singh (2005) in his study "Foreign Direct Investment in India: A Critical analysis of FDI from 1991-2005" explores the uneven beginnings of FDI in India and examines the developments (economic and political) relating to the trends in two sectors: industry and infrastructure. The study concludes that the impact of the reforms in India on the policy environment for FDI presents a mixed picture. The industrial reforms have gone far, though they need to be supplemented by more infrastructure reforms, which are a critical missing link. There is a plethora of literature in this area which concentrates on the various aspects of FDI in India. However in none of these studies there are any quantitative analyses of the same. Thus the motivation of our study descends actually from existing observations which evolve out of the available data and literature in this area.

Objective and Methodology of the Study

An attempt has been made in this paper to assess the impact of FDI on certain key sectors of the economy. The analysis is based upon simple Karl Pearson's correlation index. Since the data of different sectors are heterogeneous in nature and with different units of measurement, so the only comparable indicator taken is correlation index. The study is based on the secondary data which is mainly available from various reports of government and semi-government organizations in this field. The data so collected has been analyzed by using some conventional statistical tools and concluding observations made.

India as an Investment Destination

FDI is seen as a means to supplement domestic investment for achieving a higher level of economic growth and development. FDI benefits domestic industry and also the consumers by providing opportunities for technological upgradation, access to global managerial skills, optimal utilization of human and natural resources, making Indian industry internationally competitive, opening up export markets, providing backward and forward linkages and providing access to international quality goods and services.

For several centuries, India was one of the most popular destinations of traders and businessmen from all over the world. India peacefully struggled to attain its freedom and became the largest democracy in the world in 1947. More than six decades later, India has integrated herself with the rest of the world. Now Indian economy is a globalized economy with her doors open for the entry of goods and services along with the capital and technological knowhow. Government of India took all possible measures to attract foreign direct investment as well as portfolio investment. The FDI Policy has been constantly reviewed and necessary steps have been taken to make India the most favorable destination for FDI. The reasons for foreign investors to invest in India are:

- It is the third largest reservoir of skilled manpower in the world
- Large and diversified infrastructure spread across the country
- Abundance of natural resources and self-sufficiency in agriculture
- Package of fiscal incentives for foreign investors
- Large and rapidly growing consumer market
- Democratic government with independent judiciary
- English is the preferred business language
- Developed commercial banking network of over 63,000 branches supported by a number of national and state level financial institutions
- Vibrant capital market consisting of 23 stock exchanges with over, 9,400 listed companies
- Congenial foreign investment environment that provides freedom of entry, investment, location, choice of technology, import and export
- Easy access to markets of Bangladesh, Bhutan, Maldives, Nepal, Pakistan and Sri Lanka

All investment, foreign and domestic is made under the expectation of future profits. The economy benefits if

economic policies foster competition, create a well-functioning modern regulatory system and discourage artificial monopolies created by the government through entry barriers. A recognition and understanding of these facts can result in a more positive attitude towards FDI.

Impact of Foreign Direct Investment Inflow in Different Sectors

Foreign Direct Investment in India has a positive impact on the economy as a whole. But, its impact on various individual sectors varies in nature and content. An attempt has been made to assess the impact of FDI on certain key sectors of the economy. The analysis is based upon simple Karl Pearson's correlation index. Since the data of different sector are heterogeneous and with different units of measurement, so the only comparable indicator is correlation index (See Table 1).

Service Sector

Service sector is a rapidly growing sector of Indian economy. It comprises of trade and commerce, banking and insurance, hotels and restaurants, real estate and business services, etc. It is also the sector which has attracted the highest amount of FDI inflow since 1991. Telecommunication sector is also a part of service sector, but for the purpose of analyzing the impact of FDI on various sectors it has been studied separately.

Indian service sector registered an average growth rate of 7.73 percent during 1999-2007, as compared to 6.8 percent growth registered by manufacturing, construction, electricity, gas and water supply sector. Share of services sector in the GDP of the country increased to more than 55 percent. During the last decade service sector attracted huge amount of FDI during 1999-2007 period. Total FDI inflow into service sector increased to a record level of Rs. 178584.7 million in 2005-06 from a meager amount of Rs 1861.5 million. It slightly decreased in the subsequent year Rs. 143776.22 million; thus, FDI inflow into service sector grew by about 96 times. Policy changes regarding the cap on FDI in various segments of service sector encouraged foreign investors to invest heavily in India. Many green field projects came up under FDI. (See Table 2)

As a result of this large inflow the service sector registered higher growth rates. Karl Pearson's coefficient of correlation between growth rate of service sector and FDI inflow into this sector shows that growth rate and FDI inflow are positively correlated very effectively (0.724). Entry of foreign players in aviation sector created world class services at New Delhi, Mumbai and Hyderabad airports. Likewise foreign insurance companies expanded the insurance sector and broke the huge monopoly of public sector giant LIC. FDI has a positive impact on the growth of service sector of Indian economy not only in terms of growth rates but also in the form of generation of high quality services.

Telecom Sector

Telecommunication sector is one of the fastest growing sectors of the Indian economy. Government of India liberalized the rules and regulations that allowed private investors to invest in this sector. FDI cap increased to 74 percent in telecom sector through FIPB route created suitable condition for FDI inflow International giant such as Vodafone and Air cell, etc. have entered into the arena. (See Table 3). The total number of telephone connections increased from 283.9 lakhs on 31st March 2000 to 2068.8 lakhs as on 31st March 2007. Teledensity increased from 2.79 to 18.31 during the same period. Quantum of FDI into telecom sector jumped from Rs. 6855.41 million in 1999-2000 to Rs. 43541.5 million in 2006-07.

Coefficient of correlation between FDI inflow into telecom sector and teledensity (An effective parameter of growth of telecom sector) is 0.5905 which shows positive impact of FDI inflow on the growth of telecom sector.

Drugs and Pharmaceuticals Sector

Drugs and pharmaceuticals sector is another sector of Indian economy with high potentials for growth. Data regarding production on a combined basis is not available; however, export data about this sector are available. For the purpose of analysis export figures have been used for this sector. Coefficient of correlation between FDI inflow into Drugs and Pharmaceuticals sector and export from this sector is 0.61 which establishes that FDI inflow has a positive impact on the performance of this sector. However, the findings are a little misleading as a large chunk of

FDI inflow into this sector was through acquisitions, rather than in green field projects. (See Table 4)³

Transportation Sector

Transportation industry comprises of manufacturing of two wheelers, three-wheelers, four wheelers and means of mass transport system. Transportation industry received Rs. 51520.62 million FDI during Aug. 1991 to Dec. 1999 which was 12.37 percent of total FDI inflow into India. FDI into this sector increased to Rs. 21242.48 million in 2002 and declined in subsequent years reaching at the lowest level of Rs. 8063.68 million in 2004.

FDI inflows in transportation industry have shown a rising trend therefore and reached record level in 2007 of Rs. 33486.9 million. Thus, cumulatively total FDI inflow into transportation industry during Aug. 1991 to Dec. 2007 was Rs. 183411.52 million which is 7.54 percent of total FDI inflow. FDI inflow into transportation industry has a positive impact on the growth of transportation equipment sector. (See Table 5). Index of Industrial Production (IIP) for transport equipment sector has increased from 194.1 (base 1993-94 = 100) in 1999-2000 to 367.7 in 2006-07, representing growth of 173.6 percentage point. Coefficient of correlation between IIP in transportation equipment sector and FDI inflow into transportation sector is 0.522 which shows a positive impact of FDI inflow on the growth of the sector.

Metallurgical Sector

FDI inflow into Metallurgical industry in India has increased many folds during Aug. 1991 to Dec. 2007. It stood at Rs. 6333.34 million for the entire period of Aug. 1991 to Dec. 1999 and was only 1.52 percent of total FDI inflow into India in a few region / sectors / states. However, it jumped to Rs. 8553.79 million in 2004 (5.81 percent of total FDI) and further to Rs. 20298.6 million in 2007 (3.10 percent of total FDI). Cumulatively total FDI inflow into Metallurgical industry was Rs. 58242.35 million for the period Aug. 1991 to Dec. 2007 which is 2.4 percent of total FDI inflow into India during the same period. (See Table 6)

FDI inflow into Metallurgical industry gave boost to the industry. It is reflected in the growth of index of industrial Production of this sector. The IIP for Metallurgical industry was 146.9 (base 1993-94 = 100) in 1999-2000 which increased to 278.9 in 2006-07 registering a growth of 132 percentage points. The coefficient of correlation between IIP metallurgical industry and FDI inflow into this sector shows that FDI inflow has a positive impact on the growth of the industry.

Conclusion

Foreign Direct Investment in India has a positive impact on the economy as a whole. The sector-wise analysis of FDI inflow in India reveals that maximum FDI has taken place in the service sector including telecommunication, information technology, travel and many others. The service sector is followed by the manufacturing sector in terms of FDI, high volumes of FDI took place in electronics and hardware, automobiles, pharmaceuticals, cement, metallurgical and other manufacturing industries. Growth in FDI flows is found to be the heaviest in consultancy services, financial and non-financial services, hotel and tourism, telecommunications and trading. Cumulative FDI inflows reached just over US \$ 2431808.61 million between Augusts 1991 and Dec. 2007. Since 2002, some sectors such as electrical equipment, services, drugs and pharmaceuticals, cement and gypsum products, metallurgical industries have been doing very well in attracting FDI. The analysis of the data of FDI inflow and growth of the Indian economy in general and important sectors in particular shows that FDI has a positive impact on the economy. However, this positive effect could be all the more widespread if the FDI is evenly distributed throughout the country and leads to inclusive growth rather than being concentrated.

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TABLE 1. Correlation between FDI and different sectors and growth parameters of that sector

Sl. No	Different Sectors	Correlation	t ₍₆₎
1.	FDI inflow into service sector and growth rate of service sector	0.72447508	2.57448
2.	FDI inflow in Telecommunication Sector and Teledensity	0.59051333	1.79233
3.	FDI inflow in Drugs & Pharmaceutical sector and Export of drugs and pharmaceuticals	0.61005061	1.88590
4.	FDI inflow into Transport Equipment Sector and Index of Industrial Production of Transport Equipment Sector	0.52242484	1.50076
5.	FDI into Metallurgical Sector and Index of Industrial Production of Basic Metals and Allow Industries	0.94725988	7.24039

TABLE 2. Growth of service sector of Indian economy and FDI inflow into service sector

Year	Service Sector	FDI Inflows into Service Sector (in millions)
1990-00	5.20	1861.5
2000-01	6.51	8202.24
2001-02	6.64	15431.39
2002-03	7.13	13903.59
2003-04	8.59	11455.83
2004-05	9.93	31445.14
2005-06	10.02	178584.74
2006-07	9.95	143776.22

Source: GOI (2009); Economic Surveys, 2008-09, Ministry of Finance, New Delhi.

TABLE 3. Growth of telecommunication sector in India and FDI Inflow into telecom Sector

Year	Wire Line (phone in Lakhs)	Wire less (phone in Lakhs)	Total (phone in Lakhs)	Tele Density	FDI Inflow into Telecom. (in Rs. Millions)
31 Mar. 2000	265.10	18.80	283.9	2.79	6855.41
31 Mar. 2001	324.40	35.80	360.20	3.48	42671.49
31 Mar. 2002	379.80	64.30	444.10	4.22	9090.70
31 Mar. 2003	406.20	126.90	533.10	4.99	7272.59
31 Mar. 2004	425.80	336.00	761.80	7.01	6787.84
31 Mar. 2005	459.10	522.10	981.20	8.82	9639.13
31 Mar. 2006	728.94	691.98	1420.92	12.74	43541.09
31 Mar. 2007	407.74	1660.54	2068.28	18.31	43541.50

Source: Annual report of Ministry of Telecommunication, GOI (2008).

TABLE 4. FDI inflow into drugs and pharmaceuticals and export from the same

Year	Export (in US \$ million)	FDI Inflow into drugs and Pharmaceutical (in Rs. Millions)
1999-00	1343.4	2079.88
2000-01	1614.0	4081.79
2001-02	1733.3	2510.52
2002-03	2226.3	2793.28
2003-04	2324.8	15711.08
2004-05	2767.5	5107.25
2005-06	3250.8	9757.29
2006-07	4076.3	11405.68

Source: India Trades, CMIE Report.

TABLE 5. Growth of transport equipment sector

Year	Index of Industrial Production (Base 1993-94 = 100)	FDI Inflow in Transportation Industry (in Rs. Millions)
1999-00	194.1	12180.28
2000-01	190.3	13820.05
2001-02	203.3	21242.48
2002-03	232.9	15133.84
2003-04	272.6	8063.68
2004-05	283.7	9659.22
2005-06	319.7	18304.40
2006-07	367.7	33486.90

Source: Economic Survey, 2008-09, Ministry of Finance, New Delhi.

TABLE 6. Growth of metallurgical sector

Year	Index of Industrial production Basic metals and alloy industries (Base 1993-94 = 100)	FDI Inflow into Metallurgical Industry (In Rs. Millions)
1999-00	146.9	655.95
2000-01	149.6	1505.8
2001-02	156.0	2095.59
2002-03	170.4	1454.52
2003-04	186.0	8583.79
2004-05	196.1	9321.99
2005-06	227.0	7992.77
2006-07	278.9	20298.6

Source: GOI, (2008 and 2009): Economic Survey, 2007-08 and 2008-09, Ministry of Finance, New Delhi.