

FOREIGN EXCHANGE USE PATTERN OF MANUFACTURING FOREIGN AFFILIATES IN THE POST-REFORM INDIA: Issues and Concerns

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Foreign Affiliates in the Post-Reform India:
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Foreign Exchange Use Pattern of Manufacturing Foreign Affiliates in the Post-Reform India: Issues and Concerns

Swati Verma*

[Abstract: *The paper examines the trends and pattern of foreign exchange use of a consistent sample of foreign affiliated manufacturing firms in India over the post reform years marked by a change in policy regime for trade and foreign exchange use. A rising tendency of foreign firms for net foreign currency losses both in the terms of aggregate values as well as firm-level intensity is found over the period, the magnitude of losses being more significant for various expense routes and overall net losses in the last decade. A shift in preference for outflows through finished goods imports and intangible transaction payments is noted. The firm level expense intensity has risen for different routes as well, while the export intensity did not vary significantly over the period. The propensity towards foreign exchange use was dissimilar in various ways for comparable local firms. Such patterns raise serious concerns regarding the impact of FDI on current account of India's Balance of Payments of India in direct and possibly shielded ways and the role of policy regime in influencing such outcomes.]*

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Section 1: Background of Study

As an outcome of specific measures to liberalise the Indian capital account since 1991, foreign investment of both FDI and the portfolio variety have seen a major surge and have emerged as the predominant component of the capital account from the 1990s. Major investments of both brown-field and green-field variety have been undertaken by the MNCs in various sectors. While FDI has been primarily sought for productivity enhancement in the economy *via* the technology upgradation route by the Indian policy planners, the inflow of foreign capital through this route has come to be known as a helpful device to manage the 'current account gaps' of disquieting magnitude in recent years. Considering this immediate capital account effect of FDI and its expected role in enhancing

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the host economy exports (*via* spillovers and local linkages) over the following period, the impact of FDI on the balance-of-payments (BoP) has been presumed to be positive in the long run. Even though the impact on the current account has been negative on account of import of technology and technologically advanced inputs, the assessment of such a negative impact in magnitude terms has been largely ignored due to the assumed benefits to the economy through these imports and future foreign exchange addition possibilities. However, such current account transactions associated with FDI deserve a critical evaluation in the short to medium term, given the rising current account deficit and trade deficit in the economy especially in the past decade signifying serious foreign exchange limitations¹.

Certain studies like Hufbauer & Adler (1968), Boff (1971), Dunning (1974), Lall & Streeten (1977), Whichard (1980), Jansen (1995), Dhar & Roy² (1996) and Lattore & Gomez (2009) have highlighted the loss of foreign exchange through profit repatriation and other routes by FDI companies to be larger than the initial capital inflow in different countries³. In a significant study, Whichard (1980) noted that the outflows of income from US direct manufacturing investments in LDCs (post tax income – reinvested earnings + fees and royalties) were approximately 1.6 times the value of new inflows of equity and of capital on inter-company account. The comparable ratio for all US FDI in LDCs was 4.2 which was very high relative to those for developed countries, which indicated that foreign investors in LDCs were very quick to repatriate income from their investments. Also, in the case of Thailand, Jansen (1995) found that the current account deficit due to operations of foreign firms rose substantially more than the increase in FDI inflows which made additional external borrowing necessary.

A significant negative net impact of FDI on current account of BoP of host economies (mainly developing or underdeveloped) has been noted by studies owing to high imports, royalty payments and other foreign exchange expenses usually accompanied by limited exports by foreign-owned firms. In a comprehensive study of this issue, Lall (1978) showed that the net direct BOP effects of FDI in selected LDCs, with the exemption of specifically export-oriented ones, were predominantly negative. About 91 per cent of 159 foreign firms

¹ The current account deficit was \$32.4 billion and the trade deficit was \$138.59 billion in 2013-14 (RBI, May 2014).

² The study by Dhar & Roy (1996) examined the data on FDI flows and outflows taken from the Balance of Payments Statistics (IMF). Inflows on FDI were inclusive of re-invested earnings while the outflows included the debit item of direct investment income on the current account (comprising dividends, interest payments & earnings of branches of foreign companies). Nine of the 16 countries had experienced positive net flows and in seven, net flows had been negative over the 1975-1993 period.

³ FDI has been argued to be a clear-cut case of liability foreign exchange due to outflow of foreign exchange associated with it (including profit repatriation, import of men, goods and services and flow of proceeds at the time of winding up) being many times more than the initial inflow (See: *FDI in retail? say a big NO*, Anupam Bhargava, December 2, 2012, The Hindu).

affected the BOP negatively in these countries. Among country specific studies, Newfarmer and Marsh (1981) report that MNEs in Brazil's electrical industry imported more per unit of sales but did not necessarily export more than the domestic firms. Jansen (1995) observed that the phenomenal increase in exports associated with FDI was more than compensated by an even more phenomenal increase in imports, bringing the current-account deficit to high levels in Thailand. Focussing specifically on foreign affiliates operating with market-seeking strategies, Chudnovsky and Lopez (2004) found that they operated with strong trade deficits in the four countries of MERCOSUR in 1990s, the deficit being more pronounced in sectors linked to high-tech activities in Argentina and Brazil.

Indeed, a higher import intensity of foreign firms compared to local firms has been found by a number of empirical studies such as Jo's (1976) study in South Korea, studies of Brazilian manufacturing by Natke and Newfarmer (1985) and Natke (1981), Jenkins (1977) study for Mexico, for domestic market oriented firms in India by Subrahmanian and Pillai (1979), for export-oriented firms in Korea by Cohen (1973, 1975), 11 out of 12 industry groups in Peru by Vaitos' (1976) and Chudnovsky & Lo'pez (2004) in the case of MERCOSUR nations Argentina, Brazil and Uruguay. In another study conducted by Pongpisanupichit *et.al.* (1989) in Thailand, foreign investment projects which received promotional privileges were found to import 90 per cent of all machinery and equipment and 50 per cent of raw materials.

Smits (1988) observed that the tendency towards high imports could be due to intra-firm trade and resource dependence of affiliates on parent firms, leading to higher imports of raw materials, finished goods and capital goods. Cohen (1973), Helleiner (1981), Casson and Pearce (1987) and Jansen (1995) found some evidence for this in high intra-firm imports by MNE affiliates. Such imports and other intra-firm transaction routes are quite susceptible to transfer pricing manipulations for tax-avoidance, as a lot of recent global evidence indicates.

For dividend payments, Jansen (1995) noted rapid rise in repatriation of profits in Thailand over the 1975-91 period as a result of FDI, where the average rate of repatriated profits, as a percentage of the accumulated stock of foreign capital was 9.2 per cent, almost equal to the average international interest rate (LIBOR) over the same period. In a recent study, Lattore, Bajo-Rubio and Gomez-Plana (2009) have argued that the issue of profit repatriation needs special attention, since the negative effects of profit repatriation by multinationals in the case of the Czech Republic was sizeable and may even have offset the positive impact of the entry of MNEs.

Such evidenced tendencies of foreign-invested firms towards significant foreign exchange expenses raise serious concerns regarding the net direct impact of FDI on the current account of BoP of a developing economy like India in the short to medium term. This question is specifically important in the post-reform scenario because of the introduction of important trade liberalisation measures like elimination of most licensing requirements, large cuts in tariff rates and dismantling of almost all quantitative restrictions largely due to

World Trade Organisation (WTO) commitments over the period^{4,5}. Permission was also granted to allow full outflows associated with capital inflows (principal, dividends, profits, sale proceeds & interest) and foreign companies have been effectively placed on the same footing as domestic companies with regard to the import of goods or technology. In essence, the removal of the dividend balancing condition⁶, relaxation in the norms for foreign technological collaboration and royalty & technical fees payments⁷ have implied a

⁴ Removal of import controls (tariff & non-tariff barriers) happened in a phased manner under consecutive EXIM policies with elimination of most of the licensing requirements, dismantling of quantitative restrictions on various tariff lines and high cuts in tariff rates. The EXIM policy 1997-2002 substantially eliminated licensing, quantitative restrictions and other controls. The tariff rates for imports remained 10-15 per cent points below bound rates in more than 90 per cent of non-agricultural goods in 2005-06. Also, the peak tariff rate was brought down from 300 per cent in 1990 to 15 per cent level in 2005-06 (Bhat, Guha, Paul & Sahu, 2007). In the case of manufactured goods, the tariff rate was mostly in 7.5 per cent to 10 per cent range with a number of exemptions (Customs Tariff, 2009-10 in the website of Central Board of Excise and Customs, www.cbec.gov.in, See Chaudhuri, 2010).

⁵ In 2009, only about 5 per cent of tariff lines were under import controls while 11,600 tariff lines were free for import. From a condition of nearly total control on imports in 1991, almost all the quantitative restrictions were removed over the next ten years of reforms except for 53 prohibited, 485 restricted and 33 state trading lines (*EXIM POLICY : 2009-14 highlights*, Indransh Gupta & Kunal Modi, www.nirc-icai.org, www.slideshare.net). The removal of QRs in the initial phase mainly pertained to capital goods, raw materials and components, but covered consumer goods only after 1996 and finished goods from 1998-99 onwards. {QR removal: Govt. denies import surge threat by G. Srinivasan, February 26, 2001, The HINDU BUSINESS LINE}.

⁶ In 1991 (*Press Note, PN no.11, 20th August*), the 'Dividend Balancing condition' was imposed on foreign investments under which the payment of dividends were to be monitored through the Reserve Bank of India so as to ensure that outflows on account of dividend payments were balanced by the export earnings over a period of time (7 years from commencement of production). The foreign exchange required for payment on account of dividends were to be obtained at the market exchange rate from 1992 onwards (*PN no. 4, 20th March*). The condition of "Dividend Balancing" in all foreign investment approvals was withdrawn in 1992 (*PN no. 12, 26th June*) except for industries in 22 specified consumer goods sector. The condition was removed completely on these 22 consumer goods industries in 2000 (*PN no. 7, 14th July*). {SIA, dipp.nic.in}

⁷ In 1991, automatic permission was given for foreign technology agreements in high priority industries (Annex III) up to a lump sum payment of Rs. 1 crore, 5 per cent royalty for domestic sales and 8 per cent for exports, subject to total payments of 8 per cent of sales over a 10 year period from date of agreement or 7 years from commencement of production (*PN no. 10, 14th August*). Payment of royalty up to 2 per cent for exports and 1 per cent for domestic sales was allowed under automatic route on use of trademarks and brand name of the foreign collaborator without technology transfer in 2000 (*PN no. 9, 8th September*). In the same press note, payment of royalty up to 8 per cent on exports and 5 per cent on domestic sales by wholly owned subsidiaries to offshore parent companies was allowed under the automatic route without any restriction on the duration of royalty payments {SIA, dipp.nic.in}. Prior to April 2010, such remittances made by Indian resident firms to foreign collaborators were capped at a lump sum of \$2 million without prior regulatory approvals. All such caps were removed retrospectively from December 2009, after a decision by the Ministry of Commerce and Industry in April 2010 (*PN no. 8, 16th December, 2009*). [Also see: *The royalties rush, contd...*

far less stringent policy environment regarding foreign exchange payments *via* such channels. All these policy alterations could have facilitated the outflows of foreign exchange by the foreign affiliates through one or other routes⁸. Shielded outflows through transfer mispricing, as far as prevalent, could have only meant higher absolute net foreign exchange losses⁹.

In the context of the Indian economy, Chandrasekhar and Ghosh (2010) have argued that as far as the foreign affiliates remain domestic market-oriented, the addition of foreign exchange by these firms through the export route are not expected to be high. The introduction of several export facilitation measures and incentives over the reforms period may not have altered such behaviour significantly. A largely domestic market orientation of FDI in Indian manufacturing has been identified by World Investment Report (UNCTAD, 2003)¹⁰.

In the light of these apprehensions, further in-depth studies of foreign exchange use by foreign enterprises in India over this period are called for, involving a closer survey of various components of foreign exchange expenses. Such analysis becomes more significant in the 'trade commitment's phase' under the WTO's TRIMS agreement since 1995, which restricts the imposition of any trade balancing condition or local input requirement condition on any import transaction of a foreign enterprise.

The negative net foreign exchange contribution of foreign affiliates in India has been identified by a host of studies covering the pre-reform and post-reform years like Goyal (1979), Krishna and Mitra (1982), Lieten (1987), Chandra (1993), Athreya and Kapur (2001), ISID study (2002), Ranganathan & Murthy (2008) and Chaudhuri (2009) along with the

Manu Kaushik, Business Today, March 6, 2011].

⁸ Chandrasekhar and Ghosh (2010) have argued earlier that a greater expenditure of foreign exchange by these firms on imported inputs, royalties and technical fees payments and dividends encouraged by the more liberalised environment can be expected (*FDI and the Balance of Payments in the 2000s*, Macroscan, 2010).

⁹ Some alarming evidence of significant transfer pricing manipulations by the Indian companies (foreign and domestic) is provided by the tax audits conducted by the directorate of transfer pricing in India since 2004-05. Over the 2002-03 to 2010-11 assessment year period, the number of transfer pricing audits completed (1061 to 3617) and the number of tax adjustment cases (239 to 1920) have risen considerably, with the total amount of adjustment demanded showing a significant rise (Rs 1,220 crore to Rs 59,602 crore) over the years (ANNUAL REPORT, 2013-14, Ministry of Finance). In many cases, the transfer pricing orders are followed by litigations by the companies due to disagreement with the tax authorities. The Ernst and Young Global transfer pricing survey, 2012 suggests that at least 3500 transfer pricing disputes were pending in litigation at various authorities in India in August 2012, making India the third highest jurisdiction with pending transfer pricing disputes ([articles.economictimes.indiatimes.com/ 20.8.2012](http://articles.economictimes.indiatimes.com/20.8.2012)). This highlights the gravity of the issue in the Indian context.

¹⁰ Also, Pradhan, Das and Paul (2006) found that the foreign affiliates in India have played a very minimal role in the export activities in the 1991-2005 period, accounting for a share between 7 to 9 per cent of total manufacturing exports.

annual Reserve Bank of India (RBI) surveys of FDI companies from 1990-91 to 2010-11. While these studies have covered different sample of companies, years, or sectors, and have mainly examined the aggregate behaviour, they are indicative of a mostly negative trend.

Chandra (1993) found the net foreign exchange contribution of foreign controlled firms was negative through the 1960s and 1970s. A study of 133 foreign subsidiaries and 189 foreign controlled companies by Goyal (1979) found net foreign exchange losses by the two groups to be Rs. 984.34 million and Rs. 139 million respectively in the year 1975-76. Athreya & Kapur (2001) used RBI data, and found that net foreign exchange contribution as percentage of net sales for foreign companies fell from 0 per cent in 1975 to -4 per cent in 1985, but recovered to 0 per cent in 1995. However, they found broad similarities in the net contribution of both foreign and domestic firms over 1970-1994. Negative current account effect was noted for Dutch investments in India by Krishna and Mitra (1982) in years 1977 and 1978. A continuous net drain of foreign exchange was observed for two large Dutch companies, Hindustan lever and Phillips-peico by Lieten (1987) over 1977-85 and 1973-84 periods respectively.

Significant net foreign exchange losses were noted in each year from 1995-96 to 2000-01 for a consistent sample of 289 listed foreign controlled companies in a study conducted by Institute for Studies in Industrial Development (2002). A study by Ranganathan & Murthy (2008) that covered 207 listed manufacturing FDI companies found that FDI companies were net losers of foreign exchange from 2001 to 2004 in eight out of ten studied sectors, which included transport equipment, machinery and equipment, electrical machinery and pharmaceuticals.

The RBI surveys of selected samples indicate that foreign companies lost foreign exchange heavily on account of high imports and other expenses for all samples surveyed from 2003-04 onwards up to 2010-11 (*Chart 1*). Based on this data source, Chandrasekhar and Ghosh (2010) noted a sharp change in net flows of foreign exchange by these companies from 3.4 per cent positive net earnings in 2001-02 to a striking negative 9.1 per cent in 2006-07¹¹.

The 2013-14 round of RBI's Annual Census on Foreign Liabilities and Assets of Indian companies (FLA census) covered 9,081 Indian companies which were subsidiaries of foreign companies. The report observed negative trade balance for foreign subsidiaries in the overall manufacturing sector and for at least 15 out of 24 sub-sectors including

¹¹ These figures (three year averages for a common set of firms) were normalised with the total income earned by these firms by the authors. However, as the RBI surveys do not necessarily cover a consistent sample of companies across various reports, comparison or evaluation of transactions for a common set of firms over a longer period is not meaningful. Also, there is the possibility of these sample estimates being influenced by the higher value of transactions of a handful of large companies. In addition, the aggregate sectoral data and the aggregate transaction data are not available after 2003-04 and 2010-11 respectively, as succeeding surveys report only the growth rates in such foreign exchange transactions, which are linked to different base values in each report.

Chart 1: Average Net Foreign Exchange Earnings of FDI Companies*(Different samples covered by RBI survey of FDI cos. in various years #, values in Rs. Lakhs)*

More than one survey published in a year are indicated by A, B, C in chronological order

Source: RBI BULLETIN, various issues (listed in bibliography)

chemicals and chemical products, basic metals, computer, electronics and electrical equipment sectors in both 2012-13 and 2013-14. Imports accounted for half of total purchases by these manufacturing foreign subsidiaries in 2013-14.

Focusing on a consistent set of firms, Chaudhuri (2009) found that the import intensity of 193 foreign companies in the Indian manufacturing sector increased from 3.3 per cent in 1991-92 to 10.5 per cent in 2006-07, while their export intensity showed a lower rise from 7.4 per cent to 10.7 per cent. The study noted an overall decline in net foreign exchange earning intensity from -0.03 per cent to -7.45 per cent over the same period. However, these ratios represent sample aggregate values which are susceptible to high intensities or transaction values by a few companies. The significantly higher propensity of foreign firms to import raw materials, capital goods and finished goods and distribute higher royalty and dividend payments in comparison to local firms has been noted by Ray and Venaik (2001) for electronics, electrical and computer sectors in 1997-98 and for foreign technology purchases by Basant (1997). Jadhav and Reddy (2013) found no significant difference between the export intensity of foreign and domestic firms in capital goods sector over the 1995 to 2010

period¹². They also found very slow spillover effects from FDI in these sectors over the study years.

All these studies provide valuable evidence of the foreign currency utilization tendency of foreign affiliates in the Indian economy in select years. However, they do not adequately capture the response of individual firms to the changes in trade and foreign exchange transaction policies over the post-reform years as they are based on aggregate transactions data or are limited by the lack of a consistent sample and/or the limited coverage of years.

Section 2: Research Design

To address the above research gap, the present study is concerned with trends in firm-level foreign exchange use of a consistent set of company balance sheet data of foreign affiliates operating in five high technology sub-sectors in Indian manufacturing over the period 1993 to 2014. Though the FLA census of 2013-14 by RBI showed that at least 13,686 companies reported inward direct investment, and 9,081 foreign subsidiary companies were operational in 2013-14, the data for a large number of unlisted companies was difficult to trace over the study period due to data availability issues over a longer term and inadequate information disclosure by the companies in many cases. Hence, the study restricts itself mainly to the listed firms that showed a continuous time series for studied variables over a longer time period that facilitated an appropriate analysis over the post-reform years¹³.

The focus is on the manufacturing sector, which has been at the core of many reforms in industry and trade, and has also attracted a significant amount of foreign direct investment. This sector has also been associated with a regularly rising share of inflow of FDI in recent years i.e., from 2006 to 2011 (RBI Bulletin, May 2012). The FLA census (2013-14) shows that the manufacturing sector accounted for nearly half of the total FDI at market prices in 2014.

The five sectors studied here, namely Transport Equipment, Chemicals (excluding Drugs & Pharmaceuticals), Drugs & Pharmaceuticals, Electrical equipment and Non-electrical Machinery together accounted for 12.15 per cent of total FDI inflows received between April 2000 and August 2010 and were the leading industrial groups among 'tradable' group sectors in the manufacturing sector that have received FDI inflows in India (FDI Statistics, DIPP)¹⁴.

¹² The study covered 318 firms belonging to the electrical and power equipment, earthmoving and construction equipment, machine tools and process plant equipment industries in the capital goods sector.

¹³ This study focuses on a consistent sample of FDI firms having a continued operational presence in the economy as well as foreign presence over the study period. Due to data issues pertaining to unlisted firms and the consistent sample criteria followed by the study, the samples studied for both foreign and local firms are limited in coverage.

¹⁴ In the Chemicals sector, certain sub-groups were dropped due to a very low presence of listed
contd...

The transactions of the foreign affiliates in these sectors have been analysed *vis-à-vis* a reasonably comparable sample of domestic firms which acts as a control group since they have faced a broadly similar policy regime with respect to imports and royalty payments. Companies which had share of equity held by foreign promoters (corporate body) greater than 10 per cent were classified as the 'FDI' group and represented foreign affiliates in each sector-sample¹⁵. Those companies which had foreign promoters' equity holding equal to zero were classified as the 'NON-FDI' group in each sector and represented a control group comprising only domestic companies with no foreign presence. Since foreign affiliates are more likely to have a global view of firm operations, unlike the domestic firms, the comparison seems to be appropriate with regard to foreign exchange use.

For the analysis, the required firm-level data have been taken from the Prowess database of CMIE, based on audited annual financial reports of companies¹⁶. The FDI and NON-FDI firms were classified for each sector on the basis of 'foreign promoters' equity share' provided by this database from 2001 onwards¹⁷.

The FDI & Non-FDI samples in each of the five sectors were selected on the basis of CMIE classification of industries within the 'Manufacturing' group under the 'Non-financial' industry category listed as pre-defined sets in Prowess¹⁸. Only those companies which had

foreign companies in the prowess database.

¹⁵ The companies having foreign promoter's equity holding between 0.1 per cent and 10 per cent have been excluded. Also, only those companies whose foreign promoter belonged to the 'foreign corporate bodies' category were included since the focus of the study is on the evaluation of the response to policy changes of firms with foreign shareholders that are linked to global MNC networks and have a long term interest in the company.

¹⁶ CMIE: Centre for monitoring Indian economy; Prowess release 3.1 (updated on 16 June 2011; covered more than 27,000 companies) and Prowess release 4.15 (updated 16 February 2015, covered 26,814 companies). The Prowess database showed lots of data gaps which arose due to either a change in financial year, or due to data entry errors that were filled by either annualizing (as the next reported value usually represents the data aggregates for all gap quarters) or substitution process (values taken from the other quarterly results if no change in financial year has happened) for every variable. Also, the reported annual value figures in a given financial year did not always represent a four quarter total due to frequent changes in financial year, hence had to be annualised. All annualised figures, however, did not necessarily represent the aggregate of the same set of four quarters due to a difference in financial years of various firms.

¹⁷ Since foreign equity ownership data are available in the Prowess database only from 2001 onwards, the ownership information for companies over the period 1993-2000 was supplemented from the respective company websites, the BSE & NSE websites and various other websites reporting company history

¹⁸ The NIC-98 codes which get covered are 242 (2423 excluded) for Chemicals (excluding drugs and pharmaceuticals), 2423 for Drugs and Pharmaceuticals, 34 & 35 for Transport equipment, two digit codes 28, 29 & 31 for Electrical machinery sector and 3-digit codes 291 & 292 for Non-electrical machinery. These last two sectors defined as distinct sets under Prowess have overlapping NIC-98 codes since NIC is an industry based classification while every company in Prowess is mapped to a product or a service from the CMIE product/service classification, thus reflecting the company's main economic activity during a year.

average annual sales value of at least Rs.10 crore over the 2011-13 period were selected for both groups in each sector. Out of 2,309 companies listed in Prowess under these five sectors, only 309 companies were sampled, as listed below in *Table 1*. In 2012-13, these sampled companies together explained 64.04 per cent of aggregate sales, 45.82 per cent of aggregate foreign exchange earnings and 55.53 per cent of aggregate foreign exchange expenses of all 2,309 companies considered in the five manufacturing sub-sectors covered by Prowess¹⁹. Out of the sample FDI firms, 56 firms were subsidiaries of foreign companies in 2012-13, as per the definition of a subsidiary followed by the FLA census (RBI)²⁰. These 56 FDI firms accounted for 40 per cent of sales and 30 per cent of imports of the 880 foreign subsidiaries (manufacturing sector) covered by the FLA census 2012-13 and were fairly representative of the foreign subsidiaries operating in the manufacturing sector.

Table 1: Sample of FDI and Non-FDI Cos.

	<i>Chemicals (Excluding Drugs & Pharmaceuticals)</i>	<i>Drugs & Pharmaceuticals</i>	<i>Electrical Machinery</i>	<i>Non-Electrical Machinery</i>	<i>Transport Equipment</i>	<i>Total Cos.</i>
FDI sample	21	10	12	17	23	83
Non-FDI Sample	65	22	48	36	55	226
Total Sample	86	32	60	53	78	309

Source: Prowess (CMIE)

The period 1993-2013 was chosen because it covers a major part of the on-going reform phase since 1991, marked by a series of policy initiatives directed towards removal of import controls in a phased manner, and relaxation in norms related to repatriation of funds by foreign affiliates *via* dividend and royalty payment routes. The period between 1991 and 1993 has been excluded due to data availability issues of foreign firms²¹. Data was not available for all sample firms in 2013-14 due to which 2012-13 was taken as the end year of the study.

The foreign exchange use behaviour was analysed by studying each of the main foreign exchange transaction components, namely total foreign exchange earnings, total foreign exchange expenses, net foreign exchange earnings, export of goods, import of intermediate goods (raw materials & stores & spares), import of finished goods, import of capital goods, total import of goods (raw materials, stores & spares, finished goods & capital goods) and

¹⁹ The aggregates are provided by Prowess at sectoral levels; the shares of aggregate values are rough estimations due to difference in financial years among firms.

²⁰ The FLA census conducted by RBI considers a subsidiary as a company in which a single foreign investor holds more than 50 per cent of total equity. The company is classified to an activity group from which it has earned major revenue. This classification is similar to the sectoral classification followed by Prowess.

²¹ Out of 83 sample foreign companies, three firms were incorporated after 1990 and data for all of them was available only from 1993-94 onwards.

other payments in foreign exchange, namely dividend payments, payment of royalties and technical knowhow fees and other expenses²².

The foreign exchange use tendency was studied both in absolute value terms as well as in the terms of transaction intensity over the studied years. Transaction intensity has been investigated by deflating the absolute values of transactions for each firm by its sales value in a given year in order to control for firm size. The main findings are presented in the next section.

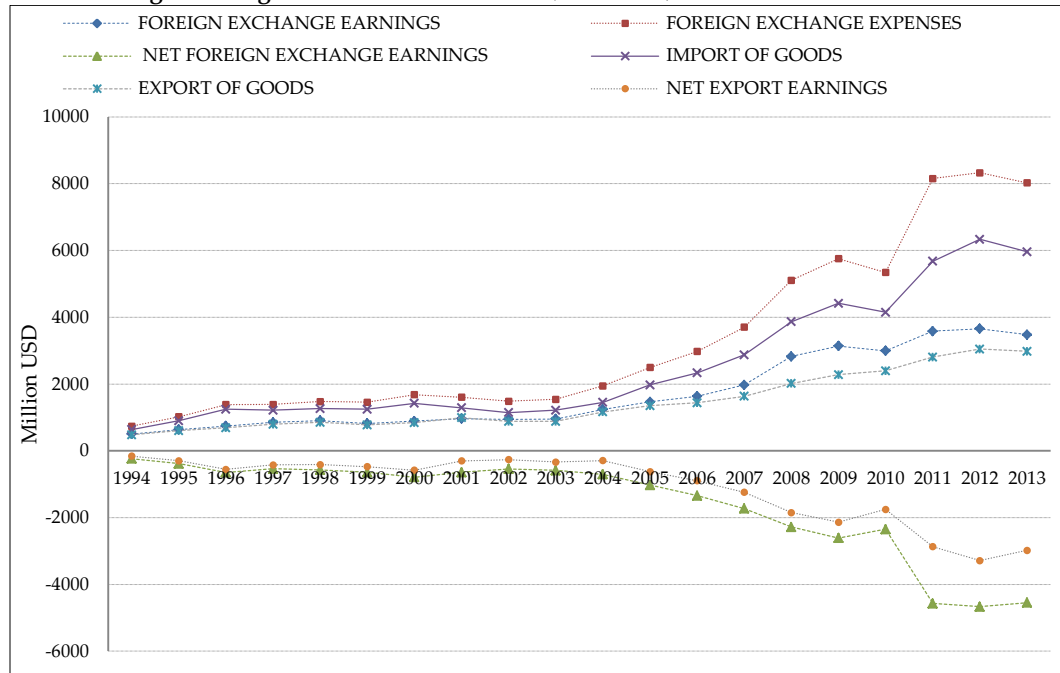
Section 3: Transaction Value Analysis: Main findings

The rising contribution of FDI sample firms to the current account deficit and trade deficit of India over the post-reform years is indicated in *Chart 2*, where the annual addition of foreign exchange *via* foreign exchange earnings and exports have risen over the period, especially after 2003, but were outpaced by an even steeper rise in foreign exchange expenses and imports. In the last three years, the gap rose notably where foreign exchange earnings have been able to cover less than half of the total foreign exchange expenses. Consequently, the net foreign exchange losses have also risen continuously in value terms (million USD and Rs. crores) after 2003, and have crossed \$4,500 million in 2011. A similar pattern can be observed in the negative net export earnings or trade account losses of these firms which have become higher than \$2500 million in the last few years. While the net contribution to the current or trade account of BoP by these firms has been negative throughout this twenty year period, the magnitude of losses involved have been much more significant over the recent decade. When cumulative net foreign currency losses over the entire study period are analysed, the figure stands at \$31,404 million, where 82 per cent of these cumulative net losses are observed over the last decade (2004-13) while nearly 60 per cent of the cumulative net outflows have happened over the last five years of the study period (*Chart 3*).

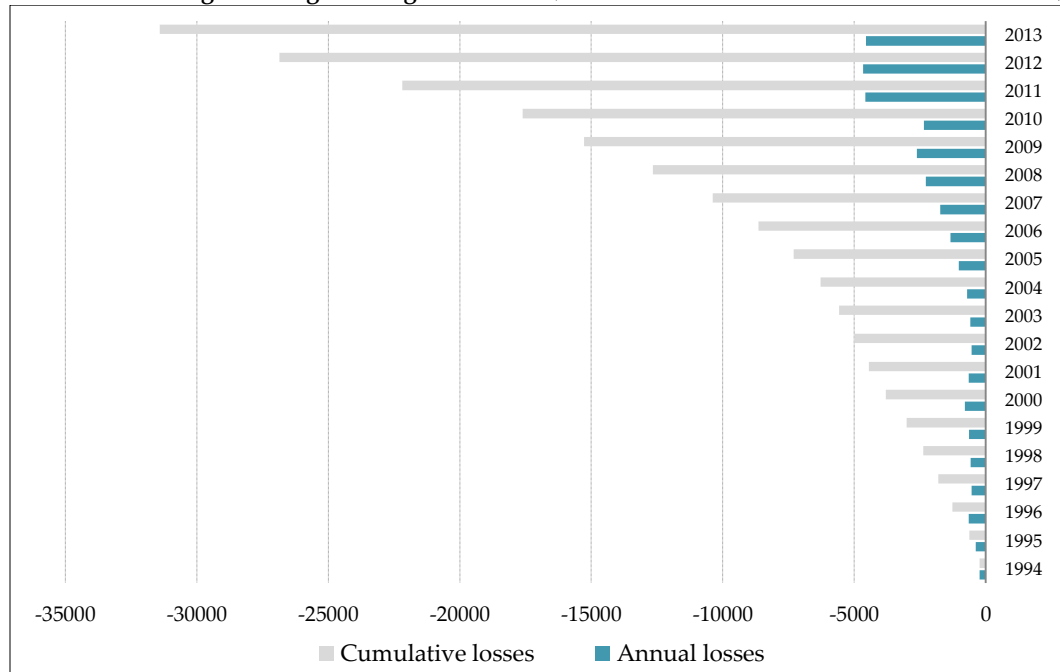
Clearly, the trend of losing foreign currency on a net basis has been upward for the sample foreign firms in the post-reform scenario. The compounded annual growth rate (CAGR) of net foreign exchange losses by FDI firms was 20 per cent, while the CAGR for the NON-FDI firms was 2 per cent over the study period.

Among the FDI firms, at least 70 per cent of the sample firms affected the current account negatively annually in almost each year of the study period, with the proportion being more than 80 per cent of the sample in the last six years (*Chart 4*). The proportion of firms

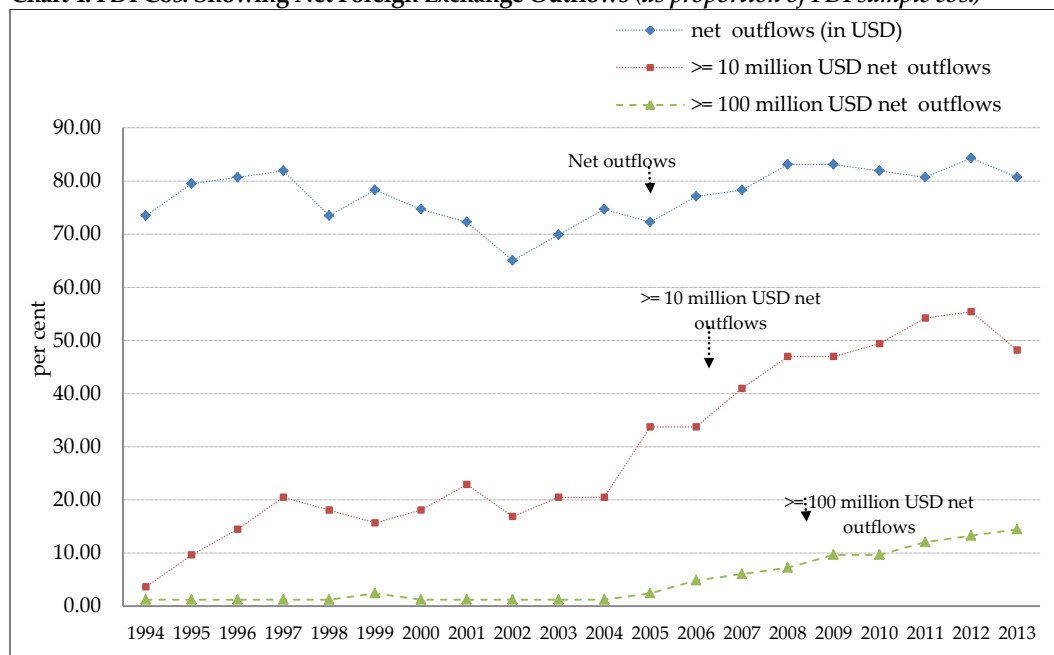
²² Other expenses in foreign exchange cover payments on various expense heads like services received , reimbursement of expenses, rent, management fees, services shared, inter-corporate deposits (ICD) repaid, processing and other charges, employee welfare expenses, technical services, payments on behalf of related parties, marketing expenses, loan given, expenses recharged by other companies, payment of service fee and commission, trade advance paid, donation expenses, commission on guarantee, model fees, purchase of services, legal & profession expenses, discounting charges etc.

Chart 2: Foreign Exchange Transactions of FDI Cos. (Annualized)

Source: Prowess (CMIE Database)

Chart 3: Net Foreign Exchange Earnings of FDI Cos. (Annualized series and cumulative total in Million USD)

Source: Prowess (CMIE Database)

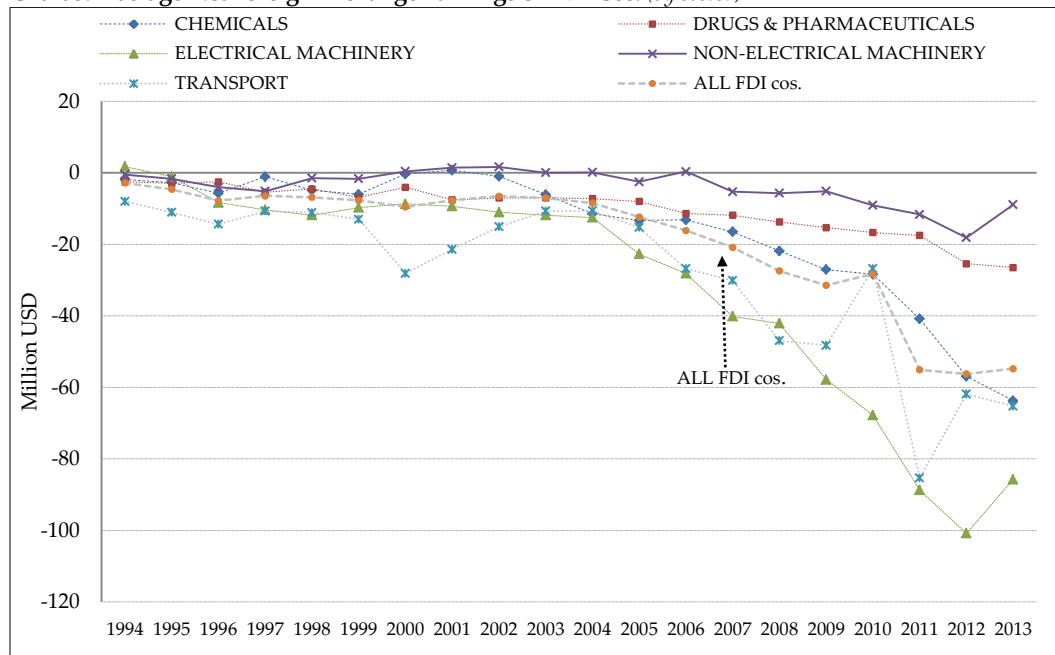
Chart 4: FDI Cos. Showing Net Foreign Exchange Outflows (as proportion of FDI sample cos.)

Source: Prowess (CMIE Database)

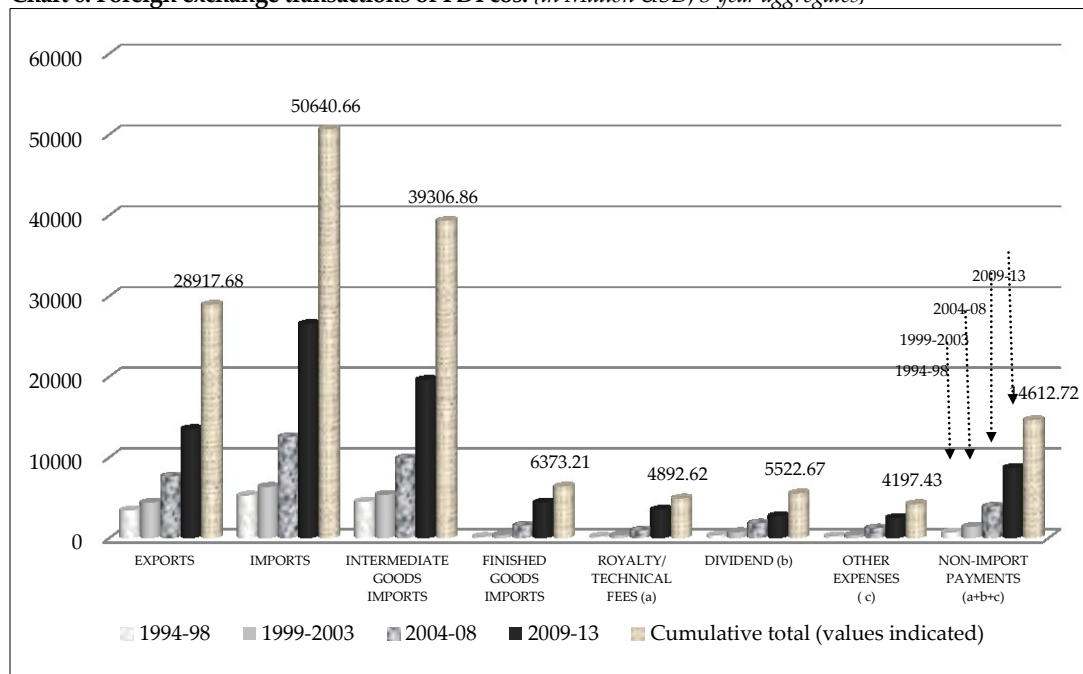
showing annual net foreign exchange outflows of at least \$10 million has also shown a remarkable rise over this period, the rise being noteworthy especially after 2004. In the last four years, nearly half of the sample firms lost \$10 million or more annually. The proportion of firms showing net losses worth \$100 million or more has also risen over the last decade. A rising tendency among foreign firms towards higher net losses of foreign exchange is evident here as well, in the recent years.

On an average, the net foreign exchange losses of FDI sample firms has risen considerably from \$ 3 million in 1993-94 to \$ 55 million in 2012-13 (*Chart 5*). The FDI firms in each of the five studied sectors showed negative net foreign exchange earnings on an average for nearly the entire study period and the average net losses have risen significantly in the case of each sector in the recent decade, the rise being more steeper in the case of Chemicals, Electrical machinery and Transport equipment sector firms.

A closer appraisal of various important components of foreign exchange use by FDI firms is presented in *Chart 6*, which plots the aggregate transaction values for each main component over the entire study period both in the terms of five year aggregate values for four sub-periods and the cumulative sum for the entire period. The aggregate transaction values have been higher for the succeeding sub-periods in the case of each component showing rising outflows through each transaction route over the years. Interestingly, last decade has been 80 per cent or more for the dividend payments, other expenses and non-import payments categories and more than 90 per cent for the finished goods imports and royalty/technical knowhow fees payments heads. At least half of the cumulative outflows

Chart 5: Average Net Foreign Exchange Earnings of FDI Cos. (by sector)

Source: Prowess (CMIE database)

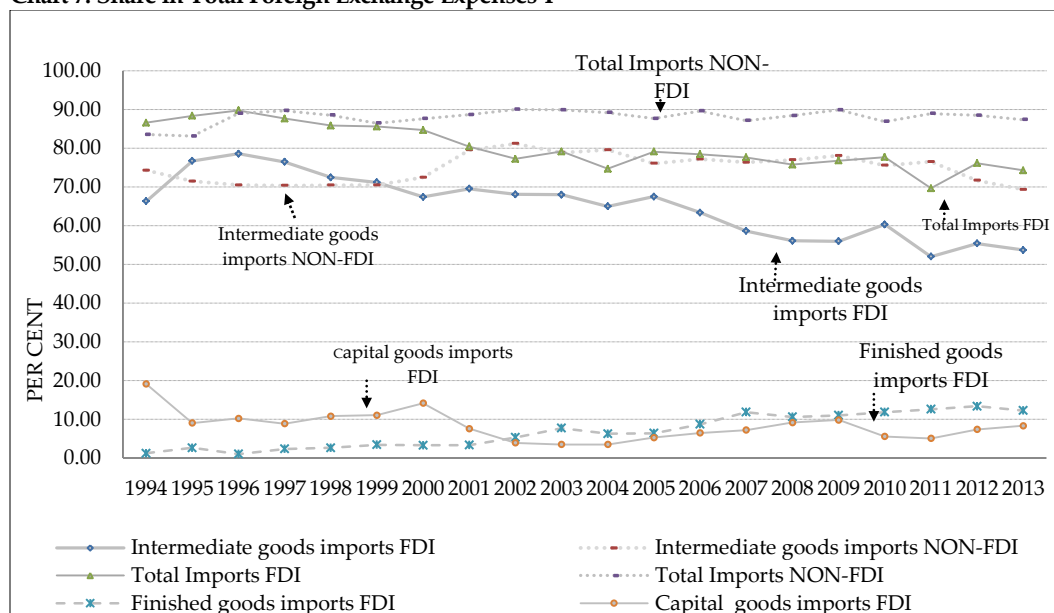
Chart 6: Foreign exchange transactions of FDI cos. [in Million USD; 5 year aggregates]

Source: Prowess (CMIE Database)

via these heads have taken place over the last five years (2009-13), the shares being much higher (about 70 per cent) in the case of finished goods imports and royalty/technical fees payments routes. Clearly, each of these transaction routes (especially finished goods imports and royalty/technical fees payments) have become significant routes of foreign exchange outflows over the last decade, and have been used more intensely over the last five years by these firms.

The respective shares of each main component of foreign exchange expenses in total annual foreign exchange transactions are plotted in *Chart 7* and *Chart 8*. The shares of total imports and intermediate goods imports have remained more or less stable and high over the entire period for the NON-FDI sample (*Chart 7*). The corresponding shares of the FDI sample remained close to the NON-FDI share values till 1999, after which both the imports and intermediate goods imports graph showed a fall over the period and deviated continuously from the respective NON-FDI line. For the FDI firms, the capital goods' import share remained less than 10 per cent for most part of the period, while the share of finished goods imports have risen persistently from 1 per cent to 12 per cent, the rise being noteworthy especially after 2001.

Chart 7: Share in Total Foreign Exchange Expenses-I

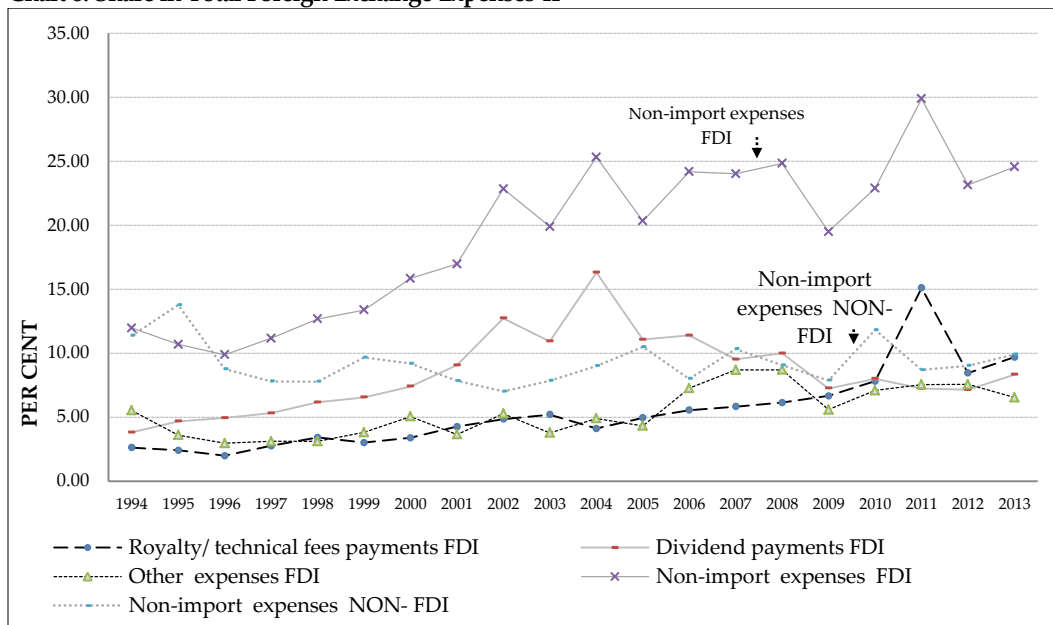


Source: Prowess (CMIE Database)

The non-import expenses in foreign exchange comprising the main non-import categories like royalty/technical fees payments, dividend payments and other expenses are plotted in *Chart 8*. The non-import expenses' share of NON-FDI sample firms fluctuated between 7 to 14 per cent over the period, while the share of FDI sample rose from 10-11 per cent to 23-25 per cent range over the years. The royalty/technical fees payments share of FDI firms also rose from 3 per cent to 10 per cent over the period. The share of dividend payments

showed an overall increase from 4 per cent to 8 per cent over the period after a steep rise till 2004 followed by a decline in the shares for FDI firms. The share of other expenses also showed a marginal rise over the years for the FDI sample where the share remained less than 5 per cent till 2005 after which it remained higher than 6 per cent. For the FDI firms, the fall in share of intermediate goods imports over the study period is counterbalanced by a rise in share of finished goods imports and non-import expenses where each of the components namely royalty/technical fees payments, dividend payments and other expenses have shown a rise in shares.

Chart 8: Share in Total Foreign Exchange Expenses-II



Source: Prowess (CMIE Database)

The dividend payments represent the financial component of FDI and are absolute losses in foreign exchange to the economy. The 'other expenses' head clubs together various expense categories mostly involving payments for different services and complex financial transactions²³. The rise in royalty/technical fees and other expenses payments largely represent a rise in payments for intangibles (services of various kinds). Detection of transaction and finding an appropriate comparable arm's length price is very difficult in the case of intangibles and represents a difficult area of transfer pricing taxation practice in

²³ The various expense sub-heads under the 'other expenses' head could not be identified individually through the aggregate foreign exchange transaction details reported in the audited annual financial statements. The disaggregated related party transaction disclosures in the 'Notes to accounts' section of the annual reports cover many of such transactions separately, but the foreign transaction could not be identified in every case as the location of the related party was not disclosed every time. Also, the unrelated party transactions remain unknown.

India²⁴. A rise in expense tendency through these routes by foreign affiliates poses grave challenges to the revenue authorities in detecting any shielded cross-border current and future outflows of foreign exchange from the economy *via* transfer mispricing by these firms. The rise in tendency to import finished goods may not be considered desirable since such imports do not add any value to the economy and are mainly targeted at the domestic market. These imports also tend to happen mainly on an intra-firm basis and are quite susceptible to transfer mispricing.

Section 4: Transaction intensity analysis: Main findings

The above analysis highlights the significant changes in foreign exchange use pattern of foreign firms over the post-reform years in value terms on an aggregate basis. It is also worth investigating the intensity of foreign exchange use in terms of 'proportion of sales' which effectively controls for firm size.

The ANOVA results presented in *Table 2, 3 & 4* statistically examine the variation in mean foreign exchange use intensity in the case of various foreign exchange use components for FDI and NON-FDI groups. The difference in mean transaction intensity between FDI and NON-FDI groups has been tested in four sub-periods using a Two-sample t-test in *Table 2* where five year averages have been analysed. *Table 3* presents results of a similar test between FDI and NON-FDI firms belonging to different size classes in the most recent sub-period for few main variables. The difference in mean transaction intensity is further tested between years 1994-95 and 2011-12 (three year averages) within both FDI and NON-FDI groups using separate One-sample paired t-tests for each group in *Table 4*. The null hypothesis of zero difference (d) between the two means is tested in every case. In cases where the normality assumption is violated, non-parametric tests of equality in median are used namely the Wilcoxon rank sum test for two samples and Wilcoxon signed-rank test for paired samples.

The ANOVA results in *Table 2* indicate statistically significant higher intensity of the FDI group than the NON-FDI group for total foreign exchange expenses and net foreign exchange losses in each sub-period and for total import of goods and import of intermediate goods in the recent sub-periods. In the cases where normality assumption of t-test was not satisfied, the non-parametric tests indicate significant difference in median transaction intensity between both groups for dividend payments and royalty and technology fees payments in each sub-period, for import of intermediate goods in the

²⁴ The United Nations practical manual on transfer pricing (UN, New York, 2013) discusses the Indian experience with regard to the difficulties faced in dealing with transfer pricing of intangibles. Also, intra-group financial transactions, including related party loans, guarantees, cash pooling and other forms of financing, are increasingly receiving close attention from tax authorities around the world due to the complex pricing involved (exacerbated by the financial crisis), significant amounts at stake, limited guidance from the OECD, and impact of passive association when pricing financial transactions at arm's length. (*Transfer pricing perspectives*, www.pwc.com, October 2011)

Table 2: ANOVA results: Difference in FDI & Non-FDI group mean [Two-sample t-test] (a)

Model variable (Proportions) {N: FDI = 83; NON-FDI = 226}	1994-98		1999-2003		2004-08		2009-13	
	difference in mean(d); \$, ++	t-stat {significan ce level} @, ^^	difference in mean(d); \$, ++	t-stat {significa nce level} @, ^^	difference in mean(d); \$, ++	t-stat {significance level} @, ^^	difference in mean(d); \$, ++	t-stat {significan ce level} @, ^^
Export of goods / sales	0.008	1.167 NS	0.002	0.438 NS	(-)0.035	(-)1.234 NS	(-)0.056	(-)2.166*
Total foreign exchange expenses/ sales	0.030 {0.089, 0.077}	3.623***	0.07 {0.1537, 0.054}	8.908***	0.0698 {0.195, 0.065}	6.89***	0.082 {0.059, 0.077}	6.78***
Net foreign exchange earnings/ sales	(-)0.032 {0.3022, 0.081}	(-)2.72**	(-)0.046 {0.786, 0.077}	(-)3.98 ***	(-)0.085 {0.135, 0.057}	(-)5.7***	(-)0.012 {0.425, 0.283}	(-)7.09***
Import of goods / sales	0.001 {0.06, 0.055}	0.17 NS	0.061 {0.054, 0.061}	8.45***	0.052 {0.106, 0.08}	5.70***	0.051 {0.052, 0.05}	4.66***
Import of intermediate goods / sales (includes raw materials & stores and spares)	0.032	3.79*	0.035	4.6*	0.03 {0.059, 0.055}	3.5***	0.027 {0.064, 0.052}	2.66**
Import of finished goods/ sales	0.000	1.35 NS	0.004	3.31*	0.012	4.18*	0.023	4.95*
Import of capital goods/ sales	(-)0.0031	1.95 NS	0.001	1.37 NS	(-)0.0001	0.66 NS	0.000	0.41 NS
Foreign exchange expense on dividend/ sales	0.005	10.78*	0.008	11.89*	0.014	12.02*	0.015	12.368*
Foreign exchange expense on royalty & technical knowhow/ sales	0.003	6.28*	0.004	6.78*	0.005	7.57*	0.007	8.44*
Other foreign exchange expenses/ sales	(-)0.001	(-)0.092 NS	(-)0.0002	0.205 NS	(-)0.0001	0.537 NS	0.004	3.597*

(a) transaction values (annualised) for each firm in each sub-period represent five year averages; \$: difference(d) = mean(FDI) - mean(NONFDI); ++: Prob>chi2 forsk-test for testing normality reported in parenthesis {FDI, NFDI} where normality is satisfied i.e. Prob>chi2 is >= 0.05 (approximate); outliers (>1.5 IQR) were dropped whenever normality condition is not satisfied initially; @ ***p<0.001, **p<0.01, *p<0.05, #p<0.10, NS= not significant. The significance levels are substantively similar for tests (one tailed, t-test) based on assumption of unequal variance between groups; ^^: Wilcoxon rank sum test z statistic and significance level are reported whenever normality condition is not satisfied after removing outliers. For this test, P-value > 0.05 (α) shows no significant difference between two population medians (NS), (*) shows rejection of null hypothesis of equal population medians. Such cases are reported in shaded cells.

Data source: Prowess (CMIE database)

Table 3: ANOVA results : Difference in FDI & NON-FDI group mean in 2009-13 {Two-sample t-test} (a)

Model variable (Proportions)	Small Size Firms (N : FDI = 60 cos., NFDI = 160 cos)		Medium Size Firms (N : FDI = 13 cos., NFDI = 30 cos)		Large Size Firms (N : FDI = 10 cos., NFDI = 36 cos)	
	difference in mean(d) ; \$, ++	t-stat {significance level} @ , ^^	difference in mean(d) ; \$, ++	t-stat {significa nce level} @ , ^^	difference in mean(d) ; \$, ++	t-stat {significance level} @ , ^^
Total foreign exchange expenses/sales	0.080	5.07*	0.07 {0.10, 0.41}	2.33*	0.036 {0.12, 0.146}	0.816 NS
Net foreign exchange earnings/sales	(-)0.11 {0.52, 0.64}	(-)6.72***	(-)0.117 {0.44, 0.12}	(-)1.93*	(-)0.17 {0.344, 0.256}	(-)1.94*
Import of goods/sales	0.058	4.181*	0.056 {0.11, 0.45}	1.91*	0.017 {0.084, 0.21}	0.42 NS

(a) transaction values (annualised) for each firm represent five year averages; Classification in size categories based on average gross fixed assets over 2009-13: small (less than Rs. 500 crores), medium (Rs. 500 crores - Rs. 1000 crores), large (more than Rs. 1000 crores); \$: difference(d) = mean(FDI) - mean(NONFDI); ++, @, ^^ symbols have similar explanation as Table 2

Data source: Prowess (CMIE database)

Table 4: ANOVA results: Difference in 1994-95 and 2011-12 group mean {One-sample paired t-test for FDI & NON-FDI groups } (a)

Model variable (Proportions)	N: FDI (83 cos.); NON- FDI (226 cos.)	difference(d) = mean(2012) - mean(1995)	Prob>chi2 of d (sktest for normality) \$	t-stat {significance level} @ , ^^
Export of goods/sales	FDI	0.006	0.318	1.078 NS
	NON-FDI	0.037	0.0781	5.932***
Total foreign exchange expenses/sales	FDI	0.064	0.5984	5.517***
	NON-FDI	0.019	0.44	2.528**
Net foreign exchange earnings/sales	FDI	-0.045	0.993	(-)3.069**
	NON-FDI	0.053	0.1135	6.035***
Import of goods/sales	FDI	0.046	0.8505	4.224***
	NON-FDI	-0.042	0.0640	(-)4.887***
Import of intermediate goods/sales (includes raw materials & stores and spares)	FDI	0.014	0.5638	1.693*
	NON-FDI	0.018	0.3871	3.100**
Import of finished goods/sales	FDI (40) ++	0.063	0.0501	5.665***
	FDI	0.030		4.289*
	NON-FDI	0.004		1.841 NS
Import of capital goods/sales	FDI	-0.0001	0.0853	(-)0.245 NS
	NON-FDI	-0.001	0.15	(-)1.298 #
Foreign exchange expense on dividend/sales	FDI	0.005	0.0580	4.566***
	NON-FDI	0.000		(-)1.054 NS
Foreign exchange expense on royalty & technical knowhow/sales	FDI	0.0008	0.3556	1.086 NS
	NON-FDI	(-)0.003		(-)6.508*
Other foreign exchange expenses/sales	FDI	0.002	0.0569	2.361 *
	NON-FDI	(-)0.0002	0.2262	(-)1.003 NS

(a) transaction values (annualised) for each firm represent three year averages of 1993-96 & 2010-13 period respectively; \$: Prob>chi2 for sktest after removing outliers are reported whenever normality condition is not

satisfied initially; @: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, # $p < 0.10$, NS= not significant; ++: FDI firms that import finished goods in either or both of the two end-point years; ^^: Wilcoxon signed-rank test z-statistic and significance level are reported whenever normality condition is not satisfied after removing outliers. For this test, P-value > 0.05 (α) shows no significant difference between two population medians (NS), (*) shows rejection of null hypothesis of equal population medians. Such cases are reported in shaded cells.

Data source: Prowess (CMIE database)

beginning two sub-periods and for finished goods imports in the last three sub-periods. In the case of export of goods and other foreign exchange expenses, significant difference in intensity was noticed in the last sub-period where NON-FDI group showed higher mean export intensity and FDI group showed higher mean intensity for other foreign exchange expenses. Overall, a difference in tendency of FDI and NON-FDI group for foreign exchange expenditure through various key import and non-import routes is indicated by the above analysis, especially in the more recent sub-periods.

The ANOVA results of *Table 3* focusing on the recent sub-period i.e. 2009-13 show significant difference in foreign exchange expenses and import intensity between FDI and NON-FDI firms in both small and medium size categories. The net foreign exchange earnings intensity of FDI firms remained statistically significantly lower than the NON-FDI firms in the case of each size class, indicating that the group tendency towards losing foreign currency was different among both groups irrespective of the scale of operation²⁵.

A further analysis of the variation in transaction intensity of both groups of firms between the end-point years of the study period indicates significant changes in such intensities over the period in the case of various components for each group (*Table 4*). The ANOVA results indicate statistically significant higher intensity of FDI firms for foreign exchange expenses, net foreign exchange losses, import of goods, import of intermediate goods, finished goods imports, dividend payments and other expenses in foreign exchange in the end point year compared to the beginning point year. The intensity of these firms for export of goods and import of technology (capital goods and royalty/technical fees payments) did not show any significant change over the years though. In the case of the NON-FDI group, significantly higher intensity was observed in 2011-12 compared to 1994-95 for exports, foreign exchange expenses, net foreign exchange earnings as well as import of intermediate goods. The intensity of these firms for total imports and technology imports (capital goods and royalty/ technical fees payments) was significantly lower in the end point year.

The results of the paired tests suggest that the variation in transaction intensity has been positive for both groups of firms in the case of foreign exchange expenses and import of intermediate goods over the period. The FDI firms that imported finished goods also exhibit a significant rise in such intensity over the period. This could be the possible

²⁵ Other transaction components have not been tested due to low number of FDI and NON-FDI firms in the medium and large size category since normality condition was not satisfied in many cases as very low number of firms engaged in certain kinds of transactions.

outcome of a phased removal of import controls (tariff barriers and quantitative restrictions) over these years followed under the trade liberalization policy^{26, 27, 28}. Apart from the intermediate goods and finished goods import categories, the FDI firms also show a marginal yet significant rise in expense tendency through other non-import routes like dividend payments and other expenses in foreign exchange. However, the introduction of various export facilitation policy measures over the same period seems to have significantly altered the export earning intensity of only the NON-FDI firms.

A further investigation into the changes in transaction pattern of firms as a response to specific policy changes over the entire period is required. It is apparent, however, that the tendency of the two groups of firms to influence the current account of BoP has shown a significant variation in opposite direction over the post-reform years, where the intensity of FDI firms to earn net foreign exchange has fallen significantly.

Section 5: Issues and Future Concerns

A persistent and overall rising negative net impact of foreign affiliates operating in high-technology manufacturing sub-sectors on the current account and the trade account of BoP of India is observed over the two decades of reforms phase. The sample foreign firms showed a steep rise in net foreign exchange losses on both accounts after 2003, where the loss values have been of substantial magnitudes especially over the recent few years. Such a tendency has been observed for a large majority of firms, where the proportion of firms associated with higher net losses in foreign exchange has also risen over these years. A similar negative pattern is observed on an average basis in the case of firms of four sub-sectors. Overall, these findings are similar to the experience of other developing host economies (Lall 1978, Smits 1988, Jansen 1995, Chudnovsky & Lopez 2004 etc.).

²⁶ India's foreign trade rose over 18 times since the launch of economic liberalisation programme in 1991 while the trade deficit widened by more than 22 times. (*Trade deficit jumps to \$136 bn in 2013-14*, December 25, 2014, Businessline, The Hindu)

²⁷ "Increase in oil and gold imports accounts for only about 33 per cent of the incremental value of imports over the 10 years (2002-03 to 2012-13). The balance 67 per cent increase in imports is due to the opening up of imports of all kinds of capital goods and consumption goods, which are not supported by a commensurate increase in exports. In effect, the country is on an import binge aided by policy and so-called reforms which resulted in a \$195-billion deficit in merchandise trade last year. Even if we eliminate oil and gold imports, the country will still have a merchandise trade deficit of over \$50 billion! Exports of services (mostly IT), remittances from Indians abroad, and inward capital flows through FDI and FII, are simply inadequate to bridge the import deficit." (*Rupee caught in perfect storm*, Shekhar Swamy, October 20, 2013, Businessline, The Hindu)

²⁸ The rise in finished product imports, especially in the manufacturing sector, could be due to the inverted duty structure followed in India under which finished goods are taxed (custom duty) at lower rates than raw materials. This has been identified as a problem area of taxation and has been addressed for certain products in the Union Budget 2014. (*Budget 2014 addresses inverted duty structure to boost manufacturing*, PTL, July 10, 2014, The Economic Times). The removal of QRs from 1998-99 onwards could have also encouraged such imports.

A closer survey of various foreign exchange expense components reveals a rising level of outflows through different import and non-import transaction routes over the period, where the outflows through each of these main routes have been markedly significant in the last decade and the intensity has been much higher in recent years. A shift in the pattern of foreign currency expenses is also seen for foreign firms where the relative importance of intermediate goods imports has declined over the study years whereas the expense routes namely finished goods imports and the non-import payment routes like dividend payments and other payments largely involving intangibles have gained prominence. Such a marked shift in pattern of expenses is not observed for a comparable set of local firms over the same period.

An analysis of firm level intensity over the period points to a similar tendency of foreign firms towards significantly rising foreign exchange expenses on certain main import heads like intermediate goods and finished goods and on the main non-import routes like dividend and other payment categories involving various intangibles. A difference in intensity of foreign firms and local firms towards such expenses was also found for most of these expense categories especially in the recent decade. While the rising foreign currency expenses on dividend payments and finished goods imports do not add any value to the host economy and represent the routes of absolute foreign currency losses, the various intangible payments can be easy routes of illicit transfer of funds across border due to difficulty in transfer mispricing assessment.

Even though the foreign firms showed a rise in aggregate foreign exchange earning values and exports over the years, the rise has not been on par with the rise in aggregate outflows. Also, the rise in intensity towards such earnings was not found to be significant at the firm level.

When the net current account impact is analysed, the net foreign exchange earning intensity of foreign firms remained significantly lower than the local firms over the four sub-periods of the study years and their intensity has also fallen significantly over the period. A continuation of the rising trend of net foreign currency losses both in the terms of values and intensity for foreign firms as observed especially over the past decade will only worsen the already in-deficit current account of BoP. Unless their exports rise on par or the losses are controlled by appropriate measures to check the repatriation of funds through various routes and strict monitoring of possible transfer pricing manipulations, the positive initial impact of FDI on the capital account can be easily offset by the growing negative effect on the current account in few coming years. If the tendency towards foreign exchange expenses on intangible payments increases further for foreign firms, the detection of transfer mispricing in their cross-border transactions will become far more challenging for the tax authorities in future given the associated complexities.

Even though the coverage of foreign affiliates in this study is limited, some indicative trends in their foreign exchange use pattern can surely be identified over the post-reform years. A high or rising propensity of foreign affiliates in some high technology sub-sectors to use certain specific routes of foreign exchange outflows raises serious concerns regarding

the use of such routes towards illicit transfer of funds through transfer payments^{29, 30, 31}. The 'abusive mispricing of trade' has been suggested to be the single biggest form of illicit fund flows from developing to developed nations in recent years by a study by Global Financial Integrity (2011)³².

In the Indian context, it is evident that trying to use all sorts of FDI inflows as the means to solve the BoP problem is at best a short-sighted strategy, since foreign affiliates may result in significant foreign exchange losses for the economy in the medium term through direct or likely shielded routes. Since the BoP is already emerging as a constraint on India's growth, such adverse trends deserve to be analyzed more carefully and the policy regime that facilitates such negative trends may need to be reconsidered. A closer inspection of possible illegal transfer of funds within global multinational networks *via* the cross-border transactions of these foreign affiliates is absolutely crucial.

²⁹ "It is a common practice for multinationals to house their headquarters in low-tax countries and transfer profits there to avoid tax liability. Indeed, royalty payments is a time-tested method of transferring profits from a high-tax country to a low- or zero tax one. The infamous Nokia case relates to alleged non-payment of tax on royalties paid by the Indian unit to its parent in Finland." {*Tax terrorism versus tax haven*, Raghuvir Srinivasan, April 12, 2015, Business Line, The Hindu}

³⁰ A study of extent of related party dealings of India's 500 largest listed companies conducted by Business line found over 460 of these companies (both domestic and foreign affiliates) engaged in related party deals in one form or another in 2012-13. 158 companies reported high value dealings (annual transactions over Rs. 1,000 crores) with related parties. Both type of companies showed high tendency towards such transactions. The study highlighted unusual deals where sizable amounts were transferred under murky heads like data sourcing fees, conference and travelling expenses, subcontracting work to relatives of key managers, aircraft charter payments, and machinery/helicopter hire charges by certain companies. Royalty payments to promoter entities were dubiously high, particularly for multinationals. (*All in the Family*, Bhavana Acharya, 7th April, 2014, Business Line, The Hindu)

³¹ A number of transfer mispricing cases involving foreign transactions of foreign affiliates could be identified from the documents of judgements delivered on the transfer pricing litigations filed by these firms. Some of the high value transfer pricing adjustment ordered by the revenue authorities are: *B A S F India Ltd.* (2002-03, *Royalty payment*, Rs. 78,28, 908); *Kansai Nerolac Paints Ltd.* (2002-03, *Payment of royalty for use of technical knowhow*, Rs. 1,16,44,298); *Hindustan Unilever* (2006-07, *Purchase & sales + royalty*, Rs. 368,79,26,000); *Aventis Pharma* (1997-98, *Purchase of raw materials*, Rs. 13,68,74,668); *Whirlpool of India Ltd.* (2008-09, *Marketing intangible*, Rs. 203,00,00,000); *Hero Honda Motors Ltd.* (2006-07, *Export commission + model fees + royalty payments + purchase of raw materials, spares and components*, Rs. 57,24,42,096); *Maruti Suzuki India Ltd.* (2005-06, *royalty for brand name + advertising, marketing, promotion expenses*, Rs. 248,37,80,296); *Munjal Showa Ltd.* {(2002-03, *royalty + technical fees + design & drawing fees*, Rs. 1,55,40,371) and (2006-07, *import of parts & components + royalty payments*, Rs. 4,89,58,700)} {Source : www.indiakanoon.org, www.itatonline.in}

³² Global Financial Integrity released a study in 2011 based on World Bank and IMF data which found that illicit transfer payments ranging between \$850 billion and \$1 trillion went annually from developing to developed countries between 2002 and 2006. 60 per cent of the trade with African countries and nearly half of the trade with Latin American countries were based on phony transfer prices, according to Raymond Baker. Simon J. Pak estimated that amount of capital leaking out of Africa via transfer mispricing rose from \$1.9 billion in 1996 to \$4.9 billion in 2005.

References

- Amelia Santos-Paulino and A.P. Thirlwall (2004), "The Impact of Trade Liberalisation on Exports, Imports and the Balance of Payments of Developing Countries", *The Economic Journal*, Vol. 114, No. 493, pp. F50-F72
- Anwar, Sajid and Lan Phi Nguyen (2011), "Foreign direct investment and trade: The case of Vietnam", *Research in International Business and Finance*, Vol. 25, pp. 39-52
- Archana, K. (2013), "Effects of Agreement on Trims on Indian Foreign Trade", *International Journal of Computational Engineering Research*, Vol. 03, Issue 5
- Athreya, Suma and Sandeep Kapur (2001), "Private Foreign Investment in India 'Pain or Panacea?'" *The World Economy*, Vol. 24, No 3, pp. 399-424
- Basant, Rakesh (1997), "Technology Strategies of Large Enterprises in Indian Industry: Some Explorations," *World Development*, Vol. 25, No 10, pp. 1683-1700
- Bhat, T.P., Atulan Guha, Mahua Paul and Partha Pratim Sahu (2007), "Estimates of import intensity in India's manufacturing sector, Recent trends and dimensions", ISID Working Paper 2007/08
- Blomström, Magnus and Ari Kokko (1998), "Multinational Corporations and Spillover", *Journal of Economic Surveys*, Vol. 12, pp. 247-77
- Boff, Richard B. Du (1971), "Transferring Wealth from Underdeveloped to Developed Countries via Direct Foreign Investment: Comment," *Southern Economic Journal*, Vol. 38, No. 1
- Buckley, Peter J. and M. Casson (2003), "The Future of the Multinational Enterprise in Retrospect and in Prospect", *Journal of International Business Studies*, Vol. 34, No. 2, pp. 219-22
- Casson, Mark and Robert D. Pearce (1987), *Multinational Enterprises in LDCs*, Edited by Norman Gemmell, Surveys in Development Economics, Oxford: Blackwell
- Census on Foreign Liabilities and Assets of Indian Companies: 2013-14 (2015), Reserve Bank of India (RBI), www.rbi.org.in
- Chandra, N.K. (1993), "Planning and Foreign Investment in Indian Manufacturing," *The State and Development Planning in India*, Delhi: Oxford University Press
- Chandrasekhar, C.P. (1997), "The Trade-Investment nexus and industrialisation: An assessment based on the Asian Experience", Edited by Deepak Nayyar, *Trade and Industrialisation*, Oxford University Press, Delhi
- Chandrasekhar, C.P. and Jayati Ghosh (2010), "FDI and the Balance of Payments in the 2000s," *Macroscan*, 10 March
- Chaudhuri, Sudip (2010), "Avoiding BOP Crisis: Manufacturing Trade Deficit and Industrial policy in India", www.networkideas.org
- Chaudhuri, Sudip (2009), "Growth of Manufacturing Sector in Post-reforms India: Some Disquieting Features," www.networkideas.org.
- Chenery, H.B. and A.M. Strout, (1966), "Foreign Assistance and Economic Development", *American Economic Review*, Vol. 56, 4(1), pp. 679-733

- Chudnovsky, Daniel and Andrés López (2004), "Transnational Corporations' Strategies and Foreign Trade Patterns in MERCOSUR Countries in the 1990s," *Cambridge Journal of Economics*, Vol. 28, No. 5, pp. 635–52
- Clausing, Kimberly A. (2003), "Tax-motivated transfer pricing and US intra firm trade prices", *Journal of Public Economics*, Vol. 87, pp. 2207–23
- Cohen, Benjamin I (1973), "Comparative Behaviour of Foreign and Domestic Export Firms in a Developing Economy," *The Review of Economics and Statistics*, Vol. 55, No. 2, pp. 190–97
- Dhar, Biswajit and Saikat Sinha Roy (1996), "Foreign Direct Investment and Domestic Savings Investment Behaviour: Developing Countries' Experience," *Economic & Political Weekly*, Vol. 31, No. 35–36–37, pp. 2547–51
- Dunning, John H. (1974), "Multinational Enterprises and Trade Flows of Less Developed Countries," *World Development*, Vol. 2, No 2, pp. 131–38
- FDI Statistics (nd), FDI Statistics, various years, http://dipp.nic.in/English/Publications/FDI_Statistics/FDI_Statistics.aspx
- Global Financial Integrity (2011), *Illicit Financial Flows from the Least Developed Countries: 1990-2008*, Commissioned by UNDP, <http://www.gfintegrity.org/>
- Goldar, Bishwanath (2005), "Impact on India of Tariff and Quantitative Restrictions under WTO", Working Paper no. 172, ICRIER
- Goyal, S.K. (1979), "Impact of Foreign Subsidiaries on India's Balance of Payments," Corporate Studies Group, Indian Institute of Public Administration, New Delhi
- Grubert, H. and J. Mutti (1991), "Taxes, tariffs and transfer pricing in multinational corporation decision making", *Review of Economics and Statistics*, Vol. 73, No. 2, pp. 285–293
- Helleiner, G.K. (1981), "Intra-firm Trade and the Developing Countries: An Assessment of the Data," *Multinational Beyond the Market*, Brighton: Harvester
- Hines, J.R. and E.M. Rice (1994), "Fiscal paradise: foreign tax havens and American business", *Quarterly Journal of Economics*, Vol. 109, Issue (1), pp. 149–182
- Hufbauer, Gary C. and F.M. Adler (1968), "Overseas Manufacturing Investment and the Balance of Payments," *Tax Policy Research Study No 1*, Washington DC: Department of the Treasury
- ISID (1991), "India's Imports and Exports: Some Insights," The Institute for Studies in Industrial Development, New Delhi
- ISID (2002), "India's External Trade during the Nineties: Some Aspects: An Analysis of Customs House and Company Data," The Institute for Studies in Industrial Development, New Delhi
- Jadhav, Aditya Mohan and V. Nagi Reddy (2013), "Does FDI Contribute to Growth? Evidence from the Capital Goods Sector in India," *Economic & Political Weekly*, Vol. 48, No 12, pp. 59–68
- Jansen, Karel (1995), "The Macroeconomic Effects of Direct Foreign Investment: The Case of Thailand," *World Development*, Vol. 23, No 2, pp. 193–210
- Jenkins, Rhys (1979), "The Export Performance of Multinational Corporations in Mexican Industry", *Journal of Development Studies*, Vol.15, No. 3

- Jhaveri , N.J. and L. Bhagirathi (1979), "Net Foreign Exchange Earnings from Export of Industrial Manufactures, 1974-75 to 1977-78", *Economic and Political Weekly*, Vol. 14, No. 23, pp. 970-974
- Joseph, T.J. and V. Nagi Reddy (2009), "FDI Spillovers and Export Performance of Indian Manufacturing Firms after Liberalisation", *Economic & Political Weekly*, Vol. 44, Issue No. 52
- Krishna, Sridhar and Amitava Mitra (1982), "Balance of Payment Implications, Statistical Appendix," *Indu Emencee Report* 6
- Lall, S. and P. Streeten (1977), *Foreign Investment, Transnationals and Developing Countries*, London: Macmillan
- Lall, Sanjaya (1978), "Transnationals, Domestic Enterprises and Industrial Structure in Host LDCs: A Survey," *Oxford Economic Papers*, New Series, Vol. 30, No. 2, pp. 217-48
- Lattore- Munoz, Maria C., O. Bajo-Rubio and A. G. Gomez-Plana (2009): "The Effects of Multinationals on Host-economies: A CGE Approach," *Economic Modelling*, Vol. 26, pp. 851-64
- Lieten, G.K. (1987), *The Dutch Multinational Corporations in India*, New Delhi: Manohar Books
- Lipsey, Robert E. (2002), "Home and host country effects of FDI", Working Paper 9293, NBER working paper
- Morris, Sebastian (1991), "Multinational affiliates in India: Why are they different from Indian firms?" *Economic and Political Weekly*, Vol. 26, Issue No. 22-23, pp. 1395-1398
- Morris, Sebastian (1994), "Prospects for FDI and Multinational Activity in the 90s", *Economic and Political Weekly*, Vol. 29, Issue No. 19, pp. 1141-1146
- Nagaraj, R. (2003), "Foreign Direct Investment in India in the 1990s: Trends and Issues", *Economic and Political Weekly*, Vol. 26, pp. 1701-1712
- Natke, Paul A. (1981), "Foreign Ownership and Firm-Level Import Performance in Brazilian Manufacturing Industries", *Atlantic Economic Journal*, Vol. 15, Issue 4, pp. 39-48
- Nayyar, Deepak (1978), "Transnational corporations and manufactured exports from poor countries", *Economic Journal*, Vol. 88, No. 349, pp. 59-84
- Newfarmer, R. and L. Marsh (1981): "Foreign Ownership, Market Structure and Industrial Performance-Brazil's Electrical Industry," *Journal of Development Economics*, Vol. 8, pp. 47-75
- Pacheco-López, Penélope (2005), "Foreign Direct Investment, Exports and Imports in Mexico", *The World Economy*, Wiley Blackwell, Vol. 28 (8), pp. 1157-1172
- Pitre, Vidya (1989), "Net Foreign Exchange Earnings of Private Corporate Sector", *Economic and Political Weekly*, Vol. 24, No. 38, pp. 2155-63
- Pongpisanupichit, J. et al. (1989), "Direct Foreign Investment and Capital Flows", Background paper no. 6, TDRI year-end conference, Bangkok, TDRI
- Pradhan, Jaya Prakash, Keshab Das and Mahua Paul (2006), "Export orientation of foreign manufacturing affiliates in India: Factors, Tendencies and Implications", ISID Working Paper 2006/08

- Ranganathan, K.V.K. and M.R. Murthy (2008), "Some Aspects of FDI in the Indian Corporate Sector," *Indian Industrial Development and Globalisation*, New Delhi: Academic Foundation
- Ray, Alok (1987), "Economic Liberalisation in India: Balance of Payments Implications", *Economic and Political Weekly*, Vol. 22, No. 28, pp. 1141-1148
- Ray, Pradeep Kanta and Sunil Venaik (2001), "Foreign Firms and Local Linkages: Multinational Affiliates and Local Enterprises in India: A Comparative Study," *Economic & Political Weekly*, Vol. 36, Nos 46/47, pp. 4385-91
- RBI Bulletin (1999-2012), Finances of FDI companies, 1999 (March, June), 2000 (February, July), 2001 (February, May), 2003 (April, December), 2005 (April), 2006 (April), 2007 (May), 2008 (May), 2009 (February), 2010 (February), 2011 (March, November), 2012 (May, December), *Reserve Bank of India Bulletin*, RBI, Government of India
- Russ, Katherine N. (2009), "The New Theory of Foreign Direct Investment: Merging Trade and Capital Flows", *International Finance*, Vol. 12 (1), pp. 107-119
- Sathe, Dhanmanjiri (1997), "Import Intensity of India's Exports: Some Fresh Evidence", *Economic and Political Weekly*, Vol. 32, No. 8, pp. M31-M44
- Sen, Pronab (1995), "Foreign Direct Investment: A Solution to BOP Problems?" *Economic & Political Weekly*, Vol. 30, No 30, pp. 1921-27
- Siddharthan, N.S. and K. Lal (2004), "Liberalisation, MNE and Productivity of Indian Enterprises", *Economic and Political Weekly*, Vol. 39, No. 5, pp. 448-452
- Smits, W.J.B. (1988), "Foreign Direct Investment and Export and Import Value: A Cross-section Study for Thirty Less Developed Countries," *DE Economist*, Vol. 136, Issue 1
- Subrahmanian, K.K. and P. Mohanan Pillai (1979), *Multinationals and Indian Exports -A Study of Foreign Collaborations and Export Performance in Selected Indian Industries*, Allied Publishers, New Delhi
- UNCTAD (2003), "FDI Policies for Development: National and International Perspectives," *World Investment Report*, Geneva
- United Nations (2013), *United Nations Practical Manual on Transfer Pricing for Developing Countries*, pp 388-409, New York
- Whichard, O G (1980), "US Direct Investment Abroad in 1979," *Survey of Current Business*, Vol. 60, No 8, pp. 16-37
- Willmore, Larry N. (1986), "The Comparative Performance of Foreign and Domestic Firms in Brazil", *World Development*, Vol. 14, No. 4, pp. 489-502
- Yun-Jong, Jang (2008), "Current status of intra-firm trade among Korean enterprises and implications", *Industrial economic information*, vol. 405, KIET
- Zeile, William J. (1997), "U.S. Intra firm Trade in Goods", *Survey of Current Business*, pp. 23-38
- Websites: www.thehindubusinessline.com, www.bseindia.com, www.reuters.com, www.infoshine.com, www.corporateinformation.com, www.cbec.gov.in, www.unctad.org, www.economicstimes.indiatimes.com, www.slideshare.net, www.wikipedia.org, www.dipp.nic.in, www.thehindubusinessline.com, www.investingbusinessweek.com, www.wikimepio.org, www.forbes.com, www.moneycontrol.com, www.infoline.com, www.sebi.gov.in, www.indiakanoon.org, www.itatonline.in and respective websites of various companies.

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