

Technology Transfer through FDI in India: Mode, Extent and Prospects

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Technology Transfer through FDI in India: Mode, Extent and Prospects

*Swati Verma**

Abstract: Foreign technology collaboration is widely perceived as an effective means to address the technology gap in any developing economy. However, any foreign technology purchase is ruled by the various specific terms of technical collaboration contracts imposed by the technology supplier on the licensee. A number of restrictive and prohibitive intellectual property and other conditions may largely restrict the scope of technology transfer to the licensee, in both 'within firm' and 'open market' purchases. Perpetual payments of high value, limited technology transfer and continued technological dependence on foreign collaborators may result, and local innovation efforts of Indian licensee firm may get fairly inhibited. Owing to lack of evidence on technical collaboration contracts, these underlying aspects of technology transfer process in India remain largely unexplored. This study reviews the foreign technical collaborations of 164 FDI manufacturing companies in India and identifies a range of restrictive terms of foreign technical collaboration in many instances. Limited active absorption of foreign technology by local affiliates is indicated by companies in their disclosures in financial statements for a recent year. The local innovation initiatives are low or negligible for a majority of them. The findings signify an incomplete process of technology transfer via FDI channel to the economy.

Keywords: Technology Transfer, Technical Collaboration, Foreign Direct Investment.

JEL Classification: F23, L6, O3.

I. Context of Study

Technology flows from an MNC parent to an affiliate located in a developing economy is considered as a prime source of technology transfer and a key contribution of FDI to the host economy by the policymakers in various developing regions today.¹ It is assumed that

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¹ "Although TNCs are not the only source of technology, they are very important in high technology activities...bulk of technology dissemination is still undertaken through internalized channels within the networks of TNCs..." (See UNCTAD, 2010).

- "TNCs are among the main sources of new technology for developing countries...Internalized technology transfer takes the form of direct investment" (See UNCTAD, 2001).

- The foreign subsidiaries of multinational companies, preferably fully-owned, are regarded as the best form of technology transfer to developing economies by many theorists and policy makers. (For eg. see Behrman and Wallender, 1976.)

once an MNC establishes a branch in a country, the trade in technology by the foreign affiliated firm in lieu of these payments leads to effective transfer of technology eventually through spillovers and regular absorption by the host nation. It is with these clear set of expectations that technology related payments have been encouraged by host developing economies over years and these payments are also directly considered as an approximate indicator of transfer of technology to them. In fact, the perceived technology transfer through foreign invested firms is one of the main reasons for promoting foreign investment and supporting the establishment of wholly or partially owned subsidiaries of MNCs through frequent trade and investment policy reforms by several developing regions of the world. The Indian case has been no different, where FDI is primarily viewed as a major vehicle of technology transfer by policymakers² and has been actively and purposefully encouraged under a sequence of trade and foreign investment liberalisation reforms so vigorously since 1991. The foreign technology collaborations have been encouraged, and the caps related to outflows have been relaxed in a phased way to facilitate technology transfer. Very recently, the ceilings placed earlier on the payments of royalty have been removed in India under the Foreign Technology Agreement Policy, 2009 to ensure easy outflow of these payments to facilitate an easy inflow of technology.³

However, even in the backdrop of these policy efforts, conclusive evidence about the extent of transfer of technology through FDI is hardly available in the Indian context. Serious questions were indeed raised by the National Manufacturing Competitiveness Council of India in its report of the Prime Minister's Group (2008) regarding the difficulties in acquiring technology through FDI especially in the context of the liberal FDI policy the country has been pursuing since 1991. The report highlighted that there has been little or no emphasis on whether technology transfer is taking place.

Emphasizing similar concerns, the Discussion Paper on Industrial Policy (2017) has highlighted that technology transfer through FDI is suboptimal in India and a review of FDI policy to ensure more effective technology transfer is required. More recently, in view of the surge in payments after removal of caps on outflows, an inter-ministerial panel has been set-up by DIPP in April 2017 to analyse the payment norms and present legal structure dealing with royalty payments and transfer pricing⁴.

² "...FDI plays an important role in the long-term economic development of a country not only as a source of capital but also for enhancing competitiveness of the domestic economy through transfer of technology, ...etc.)" (Foreword, *FDI policy manual 2006*, Department of Industrial Policy and Promotion, Government of India)

³ Prior to April, 2010, the remittances under royalty payments made by Indian resident companies to foreign collaborators were capped at a lump-sum of \$2 million. All such caps were removed retrospectively from December 2009 under the 'Foreign Technology Agreement Policy, 2009'. (Press note no. 8, 16, 12, 2009, 2009 series, Department of Industrial Policy and Promotion, Government of India)

⁴ PTI (2017), "Govt. group to study royalty payment norms to check outflows", The Times of India, April 19.

Given this context, a deeper analysis of the cost and restrictive aspects of foreign technological collaborations and a closer evaluation of the real extent of technology transfer is imperative. This is especially relevant in view of the rising presence of financial-cum-technological foreign collaborations in India mainly under the FDI route and substantial perpetual payments being made to foreign technology licensors by several local licensee firms.

Indeed, a rising importance of financial-cum-technology collaboration contracts in India has been noted by the recent surveys on foreign collaboration in Indian industries by RBI⁵. Table 1 indicates that among the surveyed sample of Indian companies reporting any foreign technical collaboration in different years, the share of foreign subsidiaries and associates has been quite high (approx. 84% to 94%). This roughly reflects the rising importance of foreign investment linked technological collaborations in India recently. In contrast, the share of companies reporting pure technical collaborations has been quite low (0% to 6%) in these recent years. Also, the survey results show that the share of foreign technical agreements involving transfer of knowhow has been quite significant (more than two-thirds) especially in recent years compared to other forms of asset transfers like trademark or brand name and patents. In fact, a very negligible share of the total agreements involved any transfer of patents.

Table 1: Survey on Foreign Collaboration in Indian Industry, RBI (No. of Companies)

Year (press release date)	TOTAL Companies reporting FTC	Foreign subsidiary	Foreign associates	Foreign Equity less than 10 per cent or only Outward investment	Pure Technology collaboration	Transfer of know-how (share in total agreements)
2007-10 (July 11, 2013)	158	129	19	17	10	38.1%
2010–2012 (April 1, 2014)	244	144	83	17	0	45.8%
2012–2014 (March 24, 2015)	303	160	94	40	9	66.9%
2014–2016 (March 22, 2017)	306	185	75	35	11	68.6%

Note: FTC: Foreign Technical collaboration; Foreign subsidiaries: single foreign investor holding majority equity, >50%; Foreign associates: foreign investors' equity holding ranging between 10-50 per cent.

Source: Press releases, www.rbi.org.in

It is widely apprehended that the risk to high cost, transfer mispricing and abusive terms of collaboration are particularly high in intra-firm contracts. The rationale for technology import and associated payments and subsequent transfer of technology in many specific cases where the scope of license for technology transfer is particularly limited by a range of restrictive terms of technical collaborations needs a careful review. While payments for technology can ensure an 'access' to it for a prolonged period, its real 'absorption' in the economy calls for conscious policy efforts and directives.

⁵ RBI, Survey on Foreign Collaboration in Indian Industry, (Press Releases dated July 11, 2013, April 1, 2014, March 24, 2015 & March 22, 2017) www.rbi.org.in.

In view of these concerns that are very relevant amidst the rising significance of FDI linked technical collaborations in India and the substantive values of associated cross-border transfer payments on account of a range of foreign technology related purchases, the study closely examines a set of financial-cum-technological foreign collaborations by manufacturing companies in India in recent years to understand the process of technology transfer via the FDI mode.

By analysing the payments made for imported technology, the rationale for continued import of technology and the absorption of purchased technology over the years based on financial disclosures by FDI companies, the process and extent of technology transfer via FDI has been evaluated. The main focus of the study is on foreign invested companies with technology collaborations with the parent (network) supplier, especially in sectors that have been associated with high shares in technology payments in recent years. Mainly manufacturing FDI companies have been analyzed. Some pure technology collaborations by domestic companies have been reviewed as well.

II. Research Methodology

In order to assess the mode and extent of technology transfer through FDI route, a set of manufacturing companies with foreign technical collaborations were required to be identified, which is difficult as there is no particular database on operations or financials of FDI companies in India. In the website of Investment Map⁶, information on companies having inward FDI option in India was available for recent year. From this database, a set of foreign affiliates operating in India in manufacturing sector were identified. A similar search was made for identifying manufacturing foreign affiliates from the Prowess-IQ database of CMIE⁷.

The company documents including the annual financial statements of these companies were procured from the MCA website. FDI invested companies were identified from the schedule 5 (part 2) document that indicates the foreign shareholding in each company. For an identification of manufacturing companies and for mapping any company to an industrial group, the ITC HS code (4-digit) of the principle product (that earned highest revenue) in the study year 2015-16 disclosed by companies in the annual financial statements was used⁸. Indian Trade Classification based on Harmonized System of Coding is provided by Directorate General of Foreign Trade (DGFT) that describes 98 product chapter codes under 21 sections. For this study, the sample companies were classified under twelve broad manufacturing industrial groups based on these two-digit chapter codes. Some industries under different ITC-HS chapters with similar kind of products and/or with low number of companies have been clubbed together. (Appendix Table 1).

⁶ <https://www.investmentmap.org/>; Data is provided by International Trade Centre

⁷ <https://prowessiq.cmie.com/>

⁸ The industrial classification based on National Industrial Classification (NIC) code that represents main economic activity of the company was not used because this information was not reported by all sample companies in their financial statements.

Only manufacturing FDI companies making royalty and technology linked payments (at least Rs. 1 Crore) in foreign exchange in the year 2015-16 were considered for the study. The annual financial statements (XBRL format of reporting) for the year 2015-16 of a final sample of 164 FDI companies were downloaded from the MCA (Ministry of Corporate Affairs) website⁹.

The information on the pattern of technology linked payments, research and development expenditure, technology absorption status and technical collaboration details (as far as traceable) were procured for the sample FDI companies from these annual financial statements documents (including information on Board of Director's report) of individual companies. The extent of probable technological dependence on the foreign supplier has been assessed from the perpetual pattern of technology import, the inclination to develop local innovative capabilities and research efforts by select companies.

The information on terms of technology collaboration agreements of Indian companies is not available in public domain. However, a number of cross-border technology payments have been legally disputed in India mainly on grounds of pricing and benefit of technology payments. Several of the case documents of judgments delivered on these disputes have made reference to various initial terms of technical collaboration agreements. These case documents are available on few legal databases like www.indiakanoon.org and www.italonline.com. The information on specific terms of foreign technical collaboration agreements of Indian companies has been procured from these data sources by searching for individual companies, as far as traceable. About 65 companies, including mainly FDI companies, having foreign technical collaborations have been identified and about 164 restrictive terms of technical collaborations could be traced.

III. Pattern of Technology Linked Payments by Sample FDI Companies

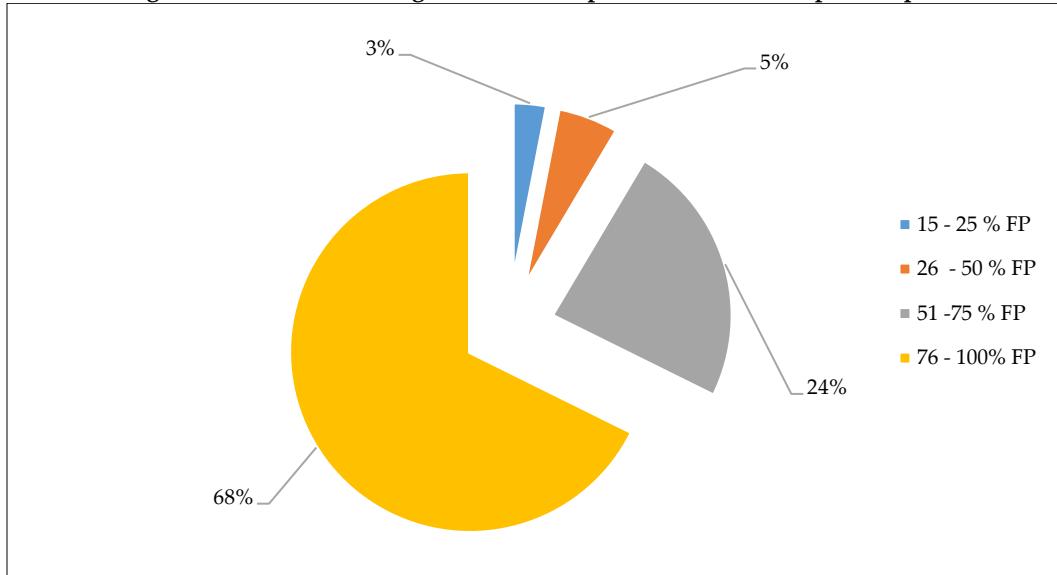
As Chart 1 shows, out of the 164 manufacturing FDI companies studied, about 92% of sample companies were majority or wholly-owned foreign subsidiaries, with nearly two-third companies having foreign promoter shareholding as higher than 75%. The remaining companies were associates. About 88.5% sample companies were incorporated at least 10 years ago, and more than 76% companies were incorporated at least 15 years ago. Overall, nearly 80% of sample companies were majority or wholly-owned foreign subsidiaries and have been operational in the economy for at least 10 years.

About three-fourth of the sample companies belonged to six manufacturing industrial groups namely, Chemicals or Allied Industries, Machinery & Mechanical appliances, Electrical Machinery & Equipments or Electronics, Vehicles & Transport Equipment, Rubber & Plastic and Vegetable products, Edible oil & Foodstuff. These are the six sectors that reported highest intensity for royalty payments (royalty/sales ratio) in the

⁹ <https://www.mca.gov.in/>

manufacturing sector in the year 2010-11 and 2011-12, as reported by the Survey of FDI companies published by RBI in year 2014¹⁰.

Chart 1: Foreign Promoter Shareholding in 164 FDI companies (Share of Sample Companies)



Source: Author's compilation from Company Annual Financial Statements (2015-16) downloaded from MCA website

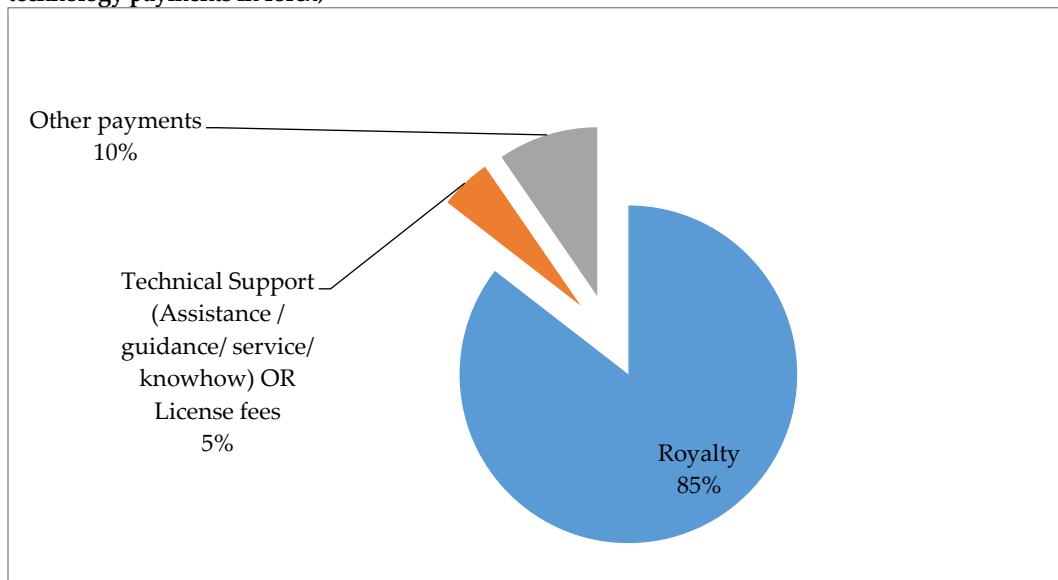
Table 2: Industrial Group Classification of 164 sample FDI Manufacturing Companies

Industrial group	No. of Cos.
1 Vegetable products, Edible oil & Foodstuffs	8
2 Pharmaceuticals	4
3 Chemicals Or Allied Industries (<i>excluding pharmaceuticals</i>)	17
4 Rubber & Plastic	8
5 Mineral, Stone & Glass	5
6 Base Metals & Products	9
7 Machinery & Mechanical appliances	40
8 Electrical Machinery & Equipments, Electronics	19
9 Vehicles & Transport Equipment	35
10 Instruments & Accessories (<i>Optical, Precision, Medical etc.</i>)	6
11 Other Manufacturing	6
12 Diversified Activity (<i>Manufacturing & Trading/ services</i>)	7
Total Number of Companies	164

Source: Author's compilation from Company Annual Financial Statements (2015-16) downloaded from MCA website.

¹⁰ Finances of Foreign Direct Investment Companies, 2011-12, RBI Monthly Bulletin , January 2014, <https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/02AB090114SF.pdf>

Chart 2: Types of Technology Linked Payments by 164 sample FDI Companies, 2015-16 (as % of total technology payments in forex)



Source: Author's compilation from Company Annual Financial Statements (2015-16) downloaded from MCA website.

The technology related payments in foreign exchange by sample FDI companies involved a number of complex forms and modes, as about 105 different types of technology linked payments could be traced for the year 2015-16 (Appendix Table 2). However, in terms of value, majority of the payments were made as royalty (85%), with a small share of payments (5%) made on account of technical assistance/ support fees or as license fees. The miscellaneous payments accounted for only 10% of total value of payments and comprised IT support fees, software expenses, training fees and other expenses. In Table 3, several companies making very high technology linked payments in foreign exchange have been identified. These transfers were made exclusively as royalty payments to foreign collaborators (Parent/affiliate) in various cases. Several of these companies are majority or wholly owned foreign subsidiaries.

Table 3: High Technology linked payments (in Foreign Exchange) by Various FDI Manufacturing Companies, 2015-16 (Rs. Crores)

	Name of company	Foreign Promoter %	Industrial group (ITC-HS)	Total Payments	Types of Payments
1	Maruti Suzuki India Limited	78.05	Vehicles & Transport Equipment	3553.80	Royalty 3244.3 + Lumpsum royalty and engineering support (excluding R&D cess) 167.8 + Technical Service 141.7
2	Samsung India Electronics Private Limited	100	Electrical Machinery & Equipments, Electronics	1967.00	Royalty 1967

	<i>Name of company</i>	<i>Foreign Promoter %</i>	<i>Industrial group (ITC-HS)</i>	<i>Total Payments</i>	<i>Types of Payments</i>
3	Hyundai Motor India Limited	100	Vehicles & Transport Equipment	992.16	Royalty 848.33 + Technical Knowhow 79.5 + Technical Assistance Fee for asset installation 51.29 + Technical Assistance Fee 13.04
4	Hindustan Unilever Limited	67.23	Chemicals Or Allied Industries (exclng. pharmaceuticals)	875.56	Royalty 875.56
5	Honda Cars India Limited	100	Vehicles & Transport Equipment	696.58	Royalty 660.70 + Technical Guidance 25.40 + Testing Fees 9.98 + Service Charge 0.5
6	Nestle India Limited	62.76	Vegetable products, Edible oil & Foodstuffs	430.52	Royalty 361.79 + IT & Management Information Systems 66.16 + Capital Project Management Costs 2.57
7	Procter & Gamble Home Products Private Limited	100	Chemicals Or Allied Industries (exclng. pharmaceuticals)	252.52	Royalty 239.81 + Computer expenses 12.71
8	Ford India Private Limited	100	Vehicles & Transport Equipment	202.54	Royalty 134.5 + IT Service Cost 68.04
9	L G Electronics India Private Limited	99.99	Machinery & Mechanical appliances	198.20	Royalty 195.8 + Research & Development expense 2.4
10	Colgate-Palmolive (India) Limited	51	Other Manufacturing	196.94	Royalty 196.94
11	Siemens Limited	79.66	Diversified Manufacturing	190.70	IT cost and other services purchased 150.9 + Expenditure on contracts at foreign sites 39.8
12	Renault Nissan Automotive India Private Limited	100	Vehicles & Transport Equipment	167.22	Royalty 158.73 + Technical Assistance 8.49
13	Bosch Ltd.	71.18	Machinery & Mechanical appliances	160.10	Royalty 160.1
14	Mondelez India Foods Private Limited	100	Vegetable products, Edible oil & Foodstuffs	147.38	Royalty 98.15 + IT Expenses 49.23
15	Kone Elevator India Private Limited	100	Machinery & Mechanical appliances	122.30	License & Technical Assistance Fees 122.3
16	Philips India Limited	96.19	Electrical Machinery & Equipments, Electronics	119.90	Royalty 25 + IT & Communication 93.4 + Training 1.5

	<i>Name of company</i>	<i>Foreign Promoter %</i>	<i>Industrial group (ITC-HS)</i>	<i>Total Payments</i>	<i>Types of Payments</i>
17	Basf India Limited	74.85	Chemicals Or Allied Industries (exclndg. pharmaceuticals)	109.76	Royalty 47.11 + Communication / System Expenses 62.65
18	Procter & Gamble Hygiene And Health Care Limited	68.73	Other Manufacturing	107.73	Royalty 107.73
19	Castrol India Limited	71.03	Mineral, Stone & Glass	104.00	Royalty 104
20	General Motors India Private Limited	100	Vehicles & Transport Equipment	99.45	Royalty 96.14 + Capital Services 3.31
21	Bridgestone India Private Limited	100	Rubber & Plastic	92.53	Royalty 92.53
22	Ambuja Cements Limited	83.58	Mineral, Stone & Glass	90.90	Knowhow 90.9
23	Givaudan (India) Private Limited	100	Chemicals Or Allied Industries (exclndg. pharmaceuticals)	84.46	Royalty 70.14 + Knowhow 14.32
24	Akzo Nobel India Limited	76.07	Chemicals Or Allied Industries (exclndg. pharmaceuticals)	82.90	Royalty 69.8 + IT networking cost/ communication expenses/ container hire cost/ training cost/ project cost 13.1
25	Piaggio Vehicles Private Limited	100	Vehicles & Transport Equipment	67.08	Royalty 67.08

Source: Author's compilation from Company Annual Financial Statements (2015-16) downloaded from MCA website.

IV. Inclination for Absorption of Foreign Technology and Local Innovation Efforts

Under the provision of section 134(3)(m) with rule 8(3) of the Companies (Accounts) Rules, 2014¹¹, the additional information pertaining to 'Conservation of Energy, Technology absorption, Foreign Exchange earnings and outgo' are required to be disclosed as annexure to Report of Board of Directors by Companies together with their annual filing of Annual Financial Statements. The disclosures are required to include the information on efforts made towards technology absorption, the benefits derived like product improvement, cost

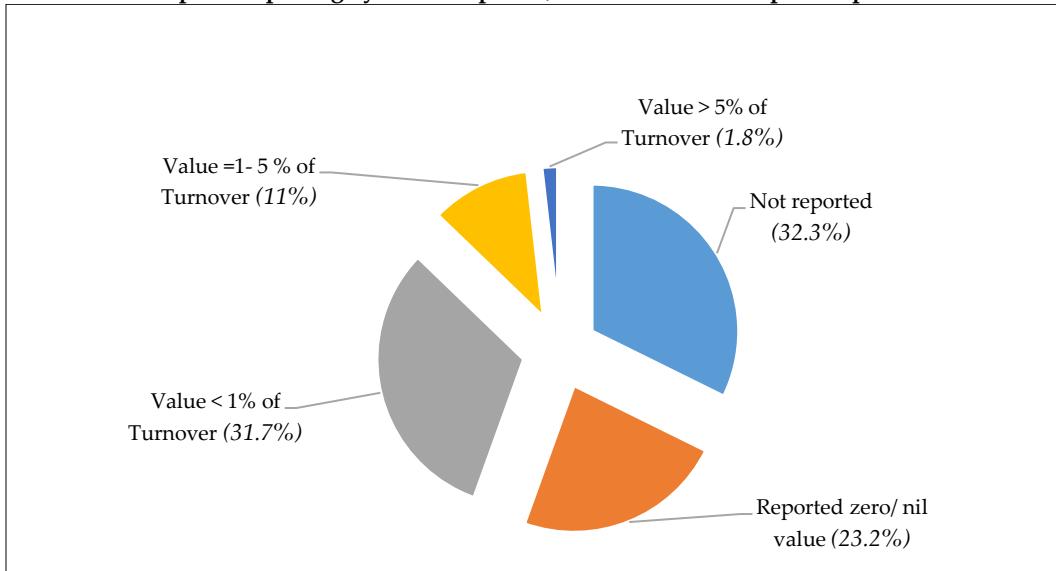
¹¹ See Notification dated 31st March, 2014, Ministry Of Corporate Affairs (MCA), The Gazette of India: Extraordinary, Serial no. 171, [PART II-SEC. 3(i)], pp.30-31, https://www.mca.gov.in/Ministry/pdf/NCARules_Chapter9.pdf

reduction, product development or import substitution, and in case of imported technology (imported during the last three years reckoned from the beginning of the financial year), the details of technology imported, the year of import, whether the technology been fully absorbed, if not fully absorbed, areas where absorption has not taken place, and the reasons thereof, and the expenditure incurred on Research and Development are needed to be reported. These information that are part of the Director's report are also available in the annual financial statement documents (XBRL format) of sample companies that were downloaded from MCA website, and they were used for the analysis.

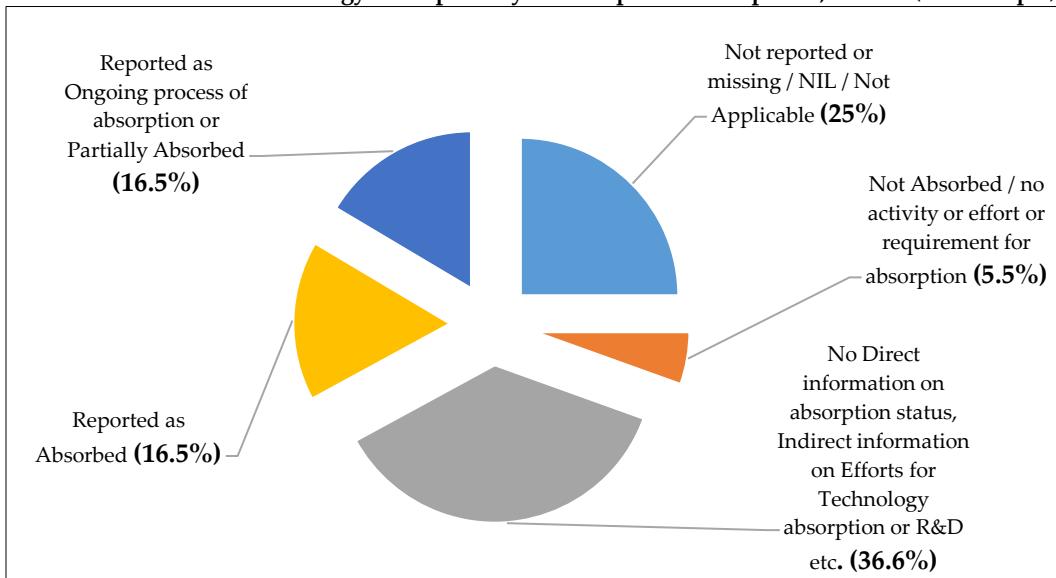
The disclosures in the annual financial statements on research and development (R&D) expenses are analyzed to assess the tendency to develop local innovative capabilities of FDI manufacturing companies that have foreign technical collaborations. Chart 3 indicates that where one-third of the sample companies did not report any R&D expenses in 2015-16, about 23% of companies reported zero R&D expenses. Overall, for more than half (55.5%) of the sample, no R&D expenses could be traced. Among the remaining companies, nearly one-third of sample reported R&D expenses that were less than 1% of their turnover in 2015-16. Only 1.8% of sample companies reported R&D expenses as being higher than 5% of their turnover. The findings indicate that the inclination to develop local innovation capability in the presence of foreign technical collaboration was negligible in the case of majority of the FDI companies.

Also, the required information on technology absorption status was not disclosed by the sample companies in their annual financial statements in a clear or homogenous manner in most of the cases, as several companies followed their own format of reporting. The Chart 4 shows that about 25% of companies did not report their technology absorption status, or indicated Nil absorption. Some have indicated no technology import over last 3 or 5 years and hence, reported absorption as 'not applicable'. About 5% of companies clearly reported non-absorption of technology, or no effort/requirement for technology absorption. No direct information on absorption status was disclosed by 37% of companies, many of them instead indicated their R&D efforts or new products or efforts towards technology absorption. The disclosure by some of these companies was very vague, and only some brief information about their technical collaboration or other information was available, without any mention of absorption process. Some of these cases of missing or vague reporting of technology absorption or non-absorption cases are highlighted in Table 4. The R&D efforts also remain Nil or unreported for many of them, as Table 4 indicates.

About 16.5% of companies only reported about their ongoing technology absorption process, and some of these cases are presented in Table 5. Some of them were incorporated more than 10 year ago, and still reported about an ongoing process of absorption in current year, even while substantial technology linked payments were being made to the foreign collaborator.

Chart 3: R&D Expense reporting by FDI Companies, 2015-16 (as % of sample companies)

Source: Author's compilation from Company Annual Financial Statements (2015-16) downloaded from MCA website

Chart 4: Disclosure on Technology Absorption by 164 Sample FDI Companies, 2015-16 (% of sample)

Source: Author's compilation from Company Annual Financial Statements (2015-16) downloaded from MCA website

The imported technology was reported as absorbed in the case of only 16.5% of sample, i.e. for 27 companies. Out of these, only 6 companies had reported details of their technology imports from the collaborator and absorption status of each technology import. Many among the remaining companies reported only a brief mention of absorption status as "Yes" with no further details.

The disclosures under this section on technology absorption status are mainly related to technology import over few recent years, however, many companies disclosed about their technology absorption details over a much longer period in the same section. Thus, this section provides a useful insight into the overall approach to technology absorption from foreign collaborator by the individual FDI companies. The tendency towards non-absorption is indicated clearly for few cases, whereas for various other companies, no direct information on absorption was available even when the technology linked payments made were of very high value. Very few FDI companies reported the technology as being absorbed. The disclosure requirement under this section only covers tangible imports and does not cover details of intangible payments that could be substantial for FDI linked companies.

Table 4: Disclosure on Technology Absorption Status by Various FDI Companies in Annual Report, 2015-16

	Name of Company	FP %	Incorporation	Industrial group (ITC-HS)	R&D value reported (Rs. Crores)	Technology linked payments in foreign exchange , 2015-16 (Rs. Crores)	Technology Absorption Status reported in AR	Technology Absorption related information in Annual report
1	Otsuka Chemical (India) Private Limited	94.46	2006	Diversified Manufacturing	NR	8.88 (Royalty)	Not Reported / NIL	"Company's products are manufactured by using in-house know how developed by parent company (Otsuka Chemical Co. Ltd., Japan) and no outside technology is being used <u>no technology absorption is required.</u> " (pg 12)
2	Covestro (India) Private Limited	100	1995	Rubber & Plastic	NR	1.66 (License fees)	Not Reported / NIL	" <u>No specific efforts</u> have been made in technology absorption." (pg 19)
3	Koyo Bearings India Private Limited	100	2009	Machinery & Mechanical appliances	NIL	3.13 (Royalty 2.97 + Technical Services 0.16)	Not Reported / NIL	"The Company has <u>not carried out any Technology Absorption</u> , adaptation and innovation work during the period " (pg 23)
4	Hsi Automotives Private Limited	99.99	1997	Rubber & Plastic	NIL	2.54 (Royalty)	Not Reported / NIL	"The company has <u>no activity relating to technology absorption</u> " (pg 8)

	<i>Name of Company</i>	<i>FP %</i>	<i>Incorporation</i>	<i>Industrial group (ITC-HS)</i>	<i>R&D value reported (Rs. Crores)</i>	<i>Technology linked payments in foreign exchange , 2015-16 (Rs. Crores)</i>	<i>Technology Absorption Status reported in AR</i>	<i>Technology Absorption related information in Annual report</i>
5	Toyota Kirloskar Auto Parts Private Limited	90	2002	Vehicles & Transport Equipment	NR	47.37 (Royalty 46.56 + Technical Assistance 0.4 + IT Support 0.41)	Not Reported / NIL	"..activities of the company at present <u>do not involve technology absorption</u> and research and development."(pg 9)
6	Ncr Corporation India Private Limited	100	1996	Machinery & Mechanical appliances	NR	27.90 (Royalty)	Not Reported / NIL	"..the operations of the Company <u>do not lead to any substantial technology absorption.</u> "(pg 5)
7	Keihin Fie Pvt. Ltd.	74	1999	Vehicles & Transport Equipment	NR	59.20 (Royalty 35.79 + Knowhow 20.97 + Engineering service fees 2.33 + Communication expense 0.097)	Not Reported / NIL	" There are <u>no details to report</u> in respect of Technological absorption"(pg 6)
8	Denso Kirloskar Industries Private Limited	97.87	1998	Machinery & Mechanical appliances	NR	16.81 (Royalty 11.14 + Tech. Assistance 0.83 + Application cost 4.66 + Communication expenses 0.18)	Not Reported / NIL	"The Company has developed indigenous technology and the Company has <u>not acquired any technology.</u> " (pg 18)
9	Te Connectivity India Private Limited	100	1993	Machinery & Mechanical appliances	NIL	10.4 (Royalty)	Not Reported / NIL	"The Company is keeping itself abreast with the latest technology(i) The efforts made towards technology absorption : None" (pg 49)
10	Bonfiglioli Transmissions Private Limited	99.99	1998	Machinery & Mechanical appliances	NR	9.03 (Royalty)	Not Reported / NIL	" Efforts, in brief, made towards technology absorption. Nil..... In case of imported technology ..following information may be furnished: Nil" (pg 18)

	Name of Company	FP %	Incorporation	Industrial group (ITC-HS)	R&D value reported (Rs. Crores)	Technology linked payments in foreign exchange , 2015-16 (Rs. Crores)	Technology Absorption Status reported in AR	Technology Absorption related information in Annual report
11	Dr. Oetker India Private Limited	100	2007	Rubber & Plastic	NIL	4.65 (<i>Royalty 1.61 + Technical Fee 3.04</i>)	Not Reported / NIL	" Efforts made for technology absorption : <u>Nil</u>Details of technology imported, if any : Nil " (pg 24)
12	De Diamond Electric India Private Limited	100	2007	Electrical Machinery & Equipments, Electronics	NIL	6.54 (<i>Royalty</i>)	Not Reported / NIL	" (i) the efforts made towards technology absorption: <u>Nil</u> (iii) in case of imported technology... : NIL " (pg 5)
13	Kone Elevator India Private Limited	100	1984	Machinery & Mechanical appliances	NIL	122.3 (<i>License and technical assistance fees</i>)	Not Applicable	" In case of imported technology (imported during the last three years) : NIL....(c) whether the technology been fully absorbed: <u>NA</u> " (pg 16)
14	Dresser-Rand India Private Limited	100	1998	Machinery & Mechanical appliances	NR	14 (<i>Engineering Services</i>)	Not Applicable	" Part A and B of the Rules, pertaining to conservation of energy and technology absorption, are <u>not applicable</u> to the Company." (pg 7)
15	Kemin Industries South Asia Private Limited	100	1998	Vegetable products, Edible oil & Foodstuffs	NR	13.85 (<i>Technical service fees 11.51 + Software maintenance 2.34</i>)	Not Applicable	" TECHNOLOGY ABSORPTION : <u>Not applicable</u> " (pg 10)
16	Bmw India Private Limited	100	1997	Vehicles & Transport Equipment	NR	11.32 (<i>IT support services</i>)	Not Applicable	"The company is taking care of latest developments and advancements in technology and all steps are being taken to adopt the same...(a) the details of technology imported N/A....(c) whether the technology been fully absorbed <u>N/A</u> . "(pg 10)

	<i>Name of Company</i>	<i>FP %</i>	<i>Incorporation</i>	<i>Industrial group (ITC-HS)</i>	<i>R&D value reported (Rs. Crores)</i>	<i>Technology linked payments in foreign exchange , 2015-16 (Rs. Crores)</i>	<i>Technology Absorption Status reported in AR</i>	<i>Technology Absorption related information in Annual report</i>
17	Cooper-Standard India Private Limited	100	1963	Vehicles & Transport Equipment	NR	1.73 (<i>Royalty 1.45 + Foreign technician expenses 0.07 + Quality inspection expense 0.21</i>)	Not Applicable	"The Provisions...regarding Conservation of Energy and Technology Absorption do not apply as operations of your Company are not energy - intensive for the period under review."(pg 15).
18	Colgate-Palmolive (India) Limited	51	1937	Other Manufacturing	<u>5.85</u>	196.94 (<i>Royalty</i>)	Not Reported	Missing information / Annexure
19	Jtek Sona Automotive India Limited	51	2007	Vehicles & Transport Equipment	NR	16.31 (<i>Royalty 12.27 + Technical fees 3.71 + Technical services 0.33</i>)	Not Reported	Missing information / Annexure
20	H-D Motor Company India Private Limited	99.99	2009	Vehicles & Transport Equipment	NIL	23.92 (<i>Technical and other services fees 6.85 + IT Expense 17.07</i>)	Not Applicable	" <u>Not Applicable</u> " (pg 8).
21	Yazaki India Private Limited	100	1997	Vehicles & Transport Equipment	<u>9.22</u>	40.14 (<i>Royalty 36.67 + Technical Assistance fee 3.47</i>)	Not Reported	"....(b) Year of Import (of technology) : 1999-2000....(c) Has the technology been fully imported: The import of technology has been continuous in the manufacturing process." (pg 6)
22	General Motors India Private Limited	100.00	1994	Vehicles & Transport Equipment	<u>72.09</u>	99.45 (<i>Royalty 96.14 + capital services 3.31</i>)	Not Reported	"The technical know-how received on an ongoing basis from its allied units helped the company to maintain its competitive edge" (pg 13)..
23	Renault Nissan	100.00	2007	Vehicles & Transport Equipment	NIL	167.22 (<i>Royalty 158.73 + Tech.</i>	Not Reported,	"...Company has a Manufacturing License

	<i>Name of Company</i>	<i>FP %</i>	<i>Incorporation</i>	<i>Industrial group (ITC-HS)</i>	<i>R&D value reported (Rs. Crores)</i>	<i>Technology linked payments in foreign exchange , 2015-16 (Rs. Crores)</i>	<i>Technology Absorption Status reported in AR</i>	<i>Technology Absorption related information in Annual report</i>
	Automotive India Private Limited					Assistance 8.49)	brief mention of collaboration	Agreement with Nissan Motor Company Limited, Japan and Renault SAS, France for obtaining technical assistance in the manufacture of Automobiles, Components and Spare parts" (pg 19)
24	Suzuki Motorcycle India Private Limited	100.00	1997	Diversified Manufacturing	NR	54.94 (Royalty)	Not Reported, brief mention of latest technology used	"Your company has procured various welding & painting robots of latest technology" (pg 13).
25	S C Johnson Products Private Limited	100	2004	Chemicals/ Allied Industries (excl.d.pharmaceuticals)	<u>0.69</u>	20.77 (Royalty)	Not Reported, brief mention of latest technology used	"The company took all possible steps to use the latest technology available in the Industry and use fully automatic bottling plants and machine rooms " (pg 22)
26	Honeywell Turbo Technologies (India) Private Limited	100	2004	Machinery & Mechanical appliances	NIL	11.50 (Royalty)	Not Reported, brief mention of Tech support	..During the year, the Company successfully carried out manufacturing of Turbochargers with technical support received from Honeywell group companies and suppliers of plant and machinery." (pg 14).
27	Bostik India Private Limited	100	2001	Chemicals/ Allied Industries (excl.d.pharmaceuticals)	NR	5.58 (Royalty 4.28 + Knowhow 1.02 + Communication cost 0.28)	Not Reported, brief mention of Tech accessed from collaborator	..Company continues to have access to some of the latest products and technology of Bostik S. A. France, the ultimate holding Company and roll out new products and

	<i>Name of Company</i>	<i>FP %</i>	<i>Incorporation</i>	<i>Industrial group (ITC-HS)</i>	<i>R&D value reported (Rs. Crores)</i>	<i>Technology linked payments in foreign exchange , 2015-16 (Rs. Crores)</i>	<i>Technology Absorption Status reported in AR</i>	<i>Technology Absorption related information in Annual report</i>
								technology in the Indian markets" (pg 11)
28	Keihin India Manufacturing Private Limited	100	1997	Machinery & Mechanical appliances	NIL	1.23 (Royalty)	Not Reported, brief mention of collaboration	"..The Company does not have any in house Research & Development Department. The Company is getting Technology & Technical Assistance from its Joint Venture Collaborators Keihin Corporation, Japan" (pg 6)
29	Samsung India Electronics Private Limited	100	1995	Electrical Machinery & Equipments, Electronics	<u>33.8</u>	1967.00 (Royalty)	Not Reported, mention of R&D activities	"During the period under review Research and Developmental activities were undertaken in the following areas..":...20 areas mentioned (pg 30)
30	Clariant Chemicals (India) Limited	63.4	1956	Chemicals/ Allied Industries (excl.d.pharmaceuticals)	NIL	16.22 (Royalty 0.87 + IT Services 15.35)	Not Reported, brief mention of Tech collaboration	"....The know-how and technology for the product is made available to the Company from Clariant. The adaptation of know-how and development to cater to the locally available raw materials and suit the requirement of customers for domestic or export markets is done by the Company ..." (pg 13)
31	Givaudan (India) Private Limited	100	1985	Chemicals Or Allied Industries (excluding pharmaceuticals)	NR	84.46 (Royalty 70.14 + Knowhow 14.32)	Not Reported, brief mention of Tech support from collaborator	"Currently a major portion of applied research activity is being carried out by our affiliates on a global basis.....The Company is engaged in the business of

	<i>Name of Company</i>	<i>FP %</i>	<i>Incorporation</i>	<i>Industrial group (ITC-HS)</i>	<i>R&D value reported (Rs. Crores)</i>	<i>Technology linked payments in foreign exchange , 2015-16 (Rs. Crores)</i>	<i>Technology Absorption Status reported in AR</i>	<i>Technology Absorption related information in Annual report</i>
								manufacturing flavours and fragrances based on the technology developed and provided by Givaudan SA"(pg 28).
32	Philips India Limited	96.19	1930	Electrical Machinery & Equipments, Electronics	<u>21.3</u>	119.9 (<i>Royalty 25 + IT and Communication 93.4 + Training 1.5</i>)	Not Reported, brief mention of absorption efforts & benefits	"1. Efforts made towards technology absorption. : Imbibing a strong digital capability, adding features related to Customer interface and connectivity. 2. Benefits derived : Improvement in Product quality, cost reduction, product development and import substitution."(pg 74)
33	Metso India Pvt. Ltd.	100	1992	Machinery & Mechanical appliances	NR	21.73 (<i>Royalty 4.34 + Software charges 17.35 + Design charges 0.04</i>)	Not Reported, brief mention of Tech support from collaborator	" Necessary drawings, specifications, testing data and other technical documentation and information necessary including technical assistance for the purpose of building this technical know-how here in the factory in India are being provided by the parent Company."(pg 23)
34	S C Johnson Products Private Limited	100	2004	Chemicals Or Allied Industries (excluding pharmaceuticals)	<u>0.69</u>	20.77 (<i>Royalty</i>)	Not Reported, brief mention of latest technology used	..company took all possible steps to use the latest technology available in the Industry and use fully automatic bottling plants and machine rooms, thereby reducing the cost of production, power and

	Name of Company	FP %	Incorporation	Industrial group (ITC-HS)	R&D value reported (Rs. Crores)	Technology linked payments in foreign exchange , 2015-16 (Rs. Crores)	Technology Absorption Status reported in AR	Technology Absorption related information in Annual report
								maximization of output."(pg 22)
35	Mat Brakes India Private Limited	26.35	2011	Vehicles & Transport Equipment	NIL	8.5 (Group management /technical fees 5.67 + computer expenses 2.83)	Not Reported	"The technology absorption, adaptation or innovation expenses paid by the company during the financial year under review. All the efforts made by the company are indigenous and are performed in India."(pg 34) .
36	Skoda Auto India Private Limited	100	1999	Vehicles & Transport Equipment	NR	8.29 (Royalty 2.44 + License fees/system maintenance 5.85)	Not Reported, brief mention of Tech collaboration	"The Company is receiving the required technology from SKODA AUTO.. This technical know-how has enabled the Company to conform to the highest level of quality and global standards..."(pg 14)

Source: Author's compilation from Company Annual Financial Statements (2015-16) downloaded from MCA website.

Table 5: Disclosure on Ongoing Technology Absorption by Various FDI Companies in Annual Report, 2015-16

	Name of Company	FP %	Incorporation	Industrial group (ITC-HS)	Technology linked payments in foreign exchange, 2015-16 (Rs. Crores)	Foreign collaborator	Excerpts from Annual reports
1	HONDA SIEL POWER PRODUCTS LTD.	66.67	2004	Electrical Machinery & Equipments, Electronics	30.48 (Royalty 24.53 + Technical guidance fees 5.95)	Honda Motor Co., Ltd.,Japan	".... Technology is being imported since beginning of the collaboration agreement dated 18.10.1985, as is renewed/revamped from time to time..(c) Whether the technology been fully absorbed : No, this is in the process of being <u>absorbed gradually.</u> "(pg 19)
2	HONDA CARS INDIA LIMITED	100	1995	Vehicles & Transport Equipment	696.58 (Royalty 660.7 + Tech. Guidance 25.40)	Honda Motor Co.Ltd., Japan	".Your Company has been <u>continuously assimilating</u> technology received from its

	Name of Company	FP %	Incorporation	Industrial group (ITC-HS)	Technology linked payments in foreign exchange, 2015-16 (Rs. Crores)	Foreign collaborator	Excerpts from Annual reports
					+ Testing fee & Service charge 10.48)		collaborator since inception to manufacture & make available high quality 'HONDA' cars in India."(pg 26)
3	NESTLE INDIA LIMITED	62.76	1959	Vegetable products, Edible oil & Foodstuffs	430.52 (<i>Royalty 361.79 + IT & Management Information Systems 66.16 + Capital Project Management Costs 2.57</i>)	Nestlé Group, Switzerland	"..As a result of the Company's ongoing access to the international technology from Nestlé Group, Switzerland, Company absorbs and adapts the technologies on a continuous basis to meet its specific needs from time to time. "(pg 75)
4	DENSO INDIA PVT. LTD.	90.47	1984	Electrical Machinery & Equipments, Electronics	32.30 (<i>Royalty 28.3 + Application Cost & Technical fee 4</i>)	Denso Corporation, Japan	"The Company has obtained technical know-how for the manufacture of auto components from Denso Corporation, Japan. ..absorption of the technology is a continuous process " (pg 16)
5	EXIDE INDUSTRIES LIMITED	61.97	1947	Electrical Machinery & Equipments, Electronics	23.62 (<i>Royalty 23.5 + Knowhow 0.12</i>)	Shin-Kobe Electric Machinery Co. Ltd.& Furukawa Battery Co. Ltd, Japan; East Penn Manufacturing Company Inc, USA	"... company also acquires state-of-the-art technologies through technical collaboration agreements with leading international battery manufacturers..... Up-gradation of the existing range of our products with help from our collaborators is a continuous process .." (pg 47).
6	FORD INDIA PRIVATE LIMITED	100	2000	Vehicles & Transport Equipment	202.54 (<i>Royalty 134.5 + IT Service cost 68.04</i>)	Ford motor company, USA	" Ford India absorbs and adapts International technologies from Ford Motor Company on a continuous basis to meet the specific needs of the Indian market " (pg 11).
7	HYUNDAI MOTOR INDIA LIMITED	100	1996	Vehicles & Transport Equipment	992.16 (<i>Royalty 848.33 + Knowhow 79.5 + Technical Assistance 13.04 + Tech. Assistance fee for asset installation 51.29</i>)	Hyundai Motor Company, Korea	"... company has been absorbing technology from Hyundai Motor Company - Korea "(pg 24)

	<i>Name of Company</i>	<i>FP %</i>	<i>Incorporation</i>	<i>Industrial group (ITC-HS)</i>	<i>Technology linked payments in foreign exchange, 2015-16 (Rs. Crores)</i>	<i>Foreign collaborator</i>	<i>Excerpts from Annual reports</i>
8	PIAGGIO VEHICLES PRIVATE LIMITED	100	1998	Vehicles & Transport Equipment	67.08 (<i>Royalty</i>)	M/s. PIAGGIO & C. SpA, Italy	".. Company is producing Vehicles based on the above-said technologies. However, absorption of technology is a <u>continuous and on-going</u> process" (pg 24).
9	TIMKEN INDIA LIMITED	81.53	1987	Machinery & Mechanical appliances	27.11 (<i>Royalty</i> 22.24 + <i>Network & ERP Expenses</i> 4.87)	Timken Company, USA, holding co	"...technology imported.....Manufacture of Tapered Roller Bearings....1991-92 onwards..It is being <u>gradually absorbed</u> and is continuous process. " (pg 16)
10	TOYOTETSU INDIA AUTO PARTS PRIVATE LIMITED	99.75	2008	Vehicles & Transport Equipment	8.84 (<i>Royalty</i> 4.03 + <i>Tech Assistance</i> 4.7 + <i>Technical Training fees</i> 0.11)	M/s. Toyoda Iron Works Co., Ltd. Japan (since 2009)	".. Technology up gradation/ <u>absorption is a continuing process</u> in the Company."(pg 26)
11	TOYOTETSU INDIA PRIVATE LIMITED	99.55	1998	Base Metals & Products	8.71 (<i>Royalty</i> 4.46 + <i>Tech Assistance</i> 4.07 + <i>Trainee fees</i> 0.18)	M/s. Toyoda Iron Works Co., Ltd., Japan (since 1999)	"..Technology up gradation/ <u>absorption is a continuing process</u> . Our collaborators M/s. Toyoda Iron Works Co., Ltd., Japan ... they continuously update us on technology developments" (pg 18)

Source: Author's compilation from Company Annual Financial Statements (2015-16) downloaded from MCA website.

V. Continued Technological Dependence on Foreign collaborator

The continued technological dependence on the foreign collaborator can be observed for a number of FDI companies, as presented in Table 6. Many of them have reported negligible or nil R&D activity, while they have continuously received technology from their foreign collaborators in the lieu of perpetual payments. The research activity is carried out by the parent supplier only in various instances, where some of the local affiliates express inability to carry out any manufacturing activity without the access to technical knowhow of the collaborator. A situation of technological dependence is indicated for various FDI companies.

Table 7 presents the perpetual payments for royalty/ technical fees made by FDI manufacturing companies to foreign collaborators for several recent years. A drain of resources in foreign exchange on this account can be noted, at least for some companies, where restrictive IPR terms of collaboration may inhibit the technology absorption process over years, while the local affiliate may be dependent on foreign technology supplier for years, with limited tendency to develop of local innovative capabilities. Some select cases of FDI companies that have indicated efforts towards localization of inputs in their annual

reports are presented in Table 8. However, the share of imports in total components consumed is still half or higher for some of them.

Table 6: Technological Dependence on Foreign Collaborator by FDI Companies: Some Indicative Cases

	Name of Company	FP %	Incorporation	Technology linked payments*	R&D Expenses*	Excerpts from Annual reports (indicating Technological Dependence on Foreign Collaborator)
1	Alfa Laval India Limited	98.2	1937	15.07	<u>NIL</u>	"... research and development activities are <u>centralized with the Principals</u> , the Company does <u>not incur expenditure on research and development</u> The Company's operations are based on three key technologies;..which are provided by the Company's <u>Principals</u> ." (pg 14)
2	Lotte India Corporation Limited	98.47	1954	4.07	<u>Not Reported</u>	"... Company has the advantage of <u>availing advanced technology and constant upgradation</u> of the same from its holding company viz., <u>Lotte Confectionery Co.Ltd. Seoul, Korea.</u> " (pg 4)
3	Clariant Chemicals (India) Limited	63.4	1956	16.22	<u>NIL</u>	"Company during the 15 months period ended March 31, 2016 has <u>not carried out any activity</u> which can be construed as <u>Research & Development</u> .. now there is <u>no specific plan</u> for engaging into such activities.know-how and technology for the product is made available to the Company from <u>Clariant</u> ." (pg 13)
4	Nestle India Limited	62.76	1959	430.52	30.09	"All the food products manufactured and / or sold by the Company are by virtue of the imported technology received on an ongoing basis from the <u>collaborators</u> ." (pg 75)
5	Skf India Limited	53.58	1961	47.29	<u>NIL</u>	".The Company continues to receive technical know-how from <u>parent Company</u> on <u>all the areas</u> of manufacturing " (pg 65)
6	Givaudan (India) Private Limited	100	1985	84.46	<u>Not Reported</u>	"..Currently a major portion of applied <u>research activity is being carried out by our affiliates</u> on a global basis.... Company is engaged in the business of manufacturing flavours and fragrances based on the technology developed and provided by <u>Givaudan SA</u> ".(pg 28)
7	Timken India Limited	81.53	1987	27.11	<u>Not Reported</u>	"..The benefits of Research facilities available with The <u>Timken company</u> are extended to Timken India Limited on a <u>continuing basis</u> ".(pg 17)
8	Vesuvius India Ltd	55.57	1991	14.54	<u>NIL</u>	"The Company does <u>not have a Research and Development</u> unit or any activity related to R&D in India. All R&D support are received from the <u>Vesuvius Group</u> "(pg 70)
9	Metso India Pvt. Ltd.	100	1992	21.73	<u>Not Reported</u>	" <u>Metso Minerals Inc. the Finnish Co.</u> , is the owner and holder of intellectual capital..... Necessary drawings, specifications, testing data and other technical documentation and information necessary

	<i>Name of Company</i>	<i>FP %</i>	<i>Incorporation</i>	<i>Technology linked payments*</i>	<i>R&D Expenses*</i>	<i>Excerpts from Annual reports (indicating Technological Dependence on Foreign Collaborator)</i>
						including technical assistance are being <u>provided by the parent Company.</u> " (pg 23)
10	Mercedes-Benz India Private Limited	100.00	1994	38.1	<u>Nil</u>	"..Company does <u>not carry out R and D activity</u> Our engineers have been able to and continue to learn modern techniques and assimilate them due to our <u>on-going technology absorption process</u> ."(pg 43)
11	Samsung India Electronics Private Ltd.	100	1995	1967	33.8	"...Assessee <u>cannot carry out manufacturing activity</u> without access to the technical know-how and expertise developed by <u>SEC Korea</u> ." (I.T.A. No. 5316/Delhi/2011) #
12	Reebok India Company Limited	93.15	1995	"..Appellant does <u>not undertake any significant research and development activity</u> on its own and <u>solely depends</u> upon the associated enterprise for provision of technology . "(I.T.A. No. 5857/Delhi/2012). #
13	Keihin India Manufacturing Private Limited**	100	1997	1.23	<u>Nil</u>	"The Company does <u>not have any in house Research & Development</u> Department ..Company is getting Technology & Technical Assistance from its Joint Venture Collaborators <u>Keihin Corporation, Japan</u> " (pg 6) "..KPL undertakes <u>no R&D activities</u>assessee <u>could not produce or sell</u> without the availability of such technology by its AE ." (ITA 3287/Delhi/2011 & 5546/Delhi/2012) #
14	L G Electronics India Private Limited	99.99	1997	198.2	66.9	"..without the payment of royalty, the assessee <u>could not have carried on its business</u> " (ITA No.5140/Delhi/2011) #
15	Toyota Kirloskar Motor Pvt. Ltd.	89	1997	".. the manufacture of such products is <u>dependent upon</u> the Technical knowhow / Technology/ License/ Patent available with the <u>supplier</u> ." (C/231/04 and C/949/04) #
16	Toyotetsu India Private Limited	99.55	1998	8.71	<u>Not Reported</u>	".. Our collaborators <u>M/s. Toyoda Iron Works Co., Ltd., Japan</u> have a full fledged Research and Development Department and they <u>continuously update</u> us on technology developments." (pg 18)
17	Bostik India Private Limited	100	2001	5.58	<u>Not Reported</u>	".. Company <u>continues to have access</u> to some of the latest products and technology of <u>Bostik S. A. France</u> , the ultimate holding Company ." (pg 11)
18	Toyota Kirloskar Auto Parts Private Limited	90	2002	47.37	<u>Not Reported</u>	"...activities of the company at present <u>do not involve technology absorption and research & development</u> ." (pg 9) "... assessee <u>neither undertook any significant R & D activity</u> of its own nor can it procure the technology in the open market....is thus <u>totally dependent on the AE</u> for the technology" (IT(TP)A No. 1642/Bangalore/2012) #

	Name of Company	FP %	Incorporation	Technology linked payments*	R&D Expenses*	Excerpts from Annual reports (indicating Technological Dependence on Foreign Collaborator)						
19	Otsuka Chemical (India) Private Limited	94.46	2006	8.88	Not Reported	"...Company's products are manufactured by using in-house know how developed by <u>parent company</u> (Otsuka Chemical Co. Ltd., Japan) ...Therefore <u>no technology absorption is required.</u> " (pg 12)						
20	Toyotetsu India Auto Parts Private Limited	99.75	2008	8.84	Not Reported	"...Our collaborators <u>M/s. Toyoda Iron Works Co., Ltd. Japan</u> have a full fledged Research and Development Department and they <u>continuously update</u> us on technology developments" (pg 26)						

Note: (*) All Values in Rs. Crores; (**) Previous name: Keihin Panalfa Ltd.; (#) Extracts from Case Documents of Tax disputes, www.indiakanoon.org

Source: Author's compilation from Company Annual Financial Statements (2015-16) downloaded from MCA website

**Table 7: Perpetual Royalty/Technical Fees Payments by few FDI Cos. (1999-2016)
(Annualized values in Rs. Crores)**

	ABB ltd.	BASF India Ltd.	Bosch Ltd.	Colgate Palmolove (India) Ltd.	Cummins India Ltd.	Denso India Pvt. Ltd.	Exide Industries Ltd.	Federal Mogul Goetze India Ltd.	Hindustan Unilever Ltd.	Honda Siel Power Products Ltd.	Maruti Suzuki India Ltd.	Mother-Sumitomo Systems Ltd.	SKF India Ltd.	Schaeffler India Ltd.	Whirlpool of India Ltd.
1998-99	4.0	1.1	15.9	1.0	2.1	3.6	2.5	2.6	7.6	2.6	75.4	1.1	4.3	2.4	
1999-00	4.2	1.0	17.4	1.3	4.8	2.4	3.4	2.5	9.3	2.5	106.0	2.0	4.6	4.3	
2000-01	3.0	2.0	18.1	2.4	7.3	3.2	5.1	2.8	47.2	2.8	110.1	1.3	4.4	4.8	
2001-02	11.0	2.3	13.9	1.7	7.4	6.9	5.2	2.0	51.4	2.2	138.3	1.8	4.7	5.9	
2002-03	10.9	2.4	15.4	0.7	8.2	4.7	4.7	0.7	53.6	3.0	130.3	1.2	5.3	6.7	
2003-04	9.6	3.2	15.7	12.2	11.4	5.0	4.5	1.0	54.7	2.5	86.0	2.8	5.9	6.8	
2004-05	13.8	2.6	19.8	4.3	15.6	9.4	3.2	2.7	51.3	4.6	147.8	3.0	7.0	7.7	
2005-06	19.4	1.8	31.0	19.3	20.5	6.8	3.1	5.1	60.6	4.3	182.1	5.1	7.1	9.6	1
2006-07	27.5	0.8	37.9	29.2	35.8	9.6	3.3	0.1	70.8	5.2	301.1	2.4	8.8	12.2	1
2007-08	86.6	2.4	25.8	33.4	42.9	11.7	2.9	4.5	55.1	9.5	446.5	6.4	9.7	13.9	1
2008-09	125.7	3.1	45.8	35.6	43.2	15.6	3.7	2.2	104.7	7.7	687.6	6.8	9.5	15.3	2
2009-10	124.1	4.0	46.3	69.7	27.5	19.0	4.1	15.1	85.2	10.1	909.1	5.8	8.9	13.9	3
2010-11	157.0	21.5	109.3	97.0	62.1	34.6	6.5	8.9	266.0	22.5	2021.3	15.1	11.3	18.2	3
2011-12	218.4	26.9	116.2	120.5	64.9	43.6	10.2	9.4	289.5	28.5	2079.9	18.7	13.8	24.0	3
2012-13	239.8	29.0	147.7	143.5	65.0	40.8	16.1	11.6	371.7	37.1	2633.1	22.2	28.7	30.8	3
2013-14	256.9	35.2	136.3	165.7	60.8	35.3	19.6	19.2	514.1	35.4	2664.7	26.1	37.3	24.2	3
2014-15	266.3	40.6	149.0	187.9	62.8	26.5	20.7	16.4	727.0	33.4	2994.0	26.9	39.3	25.6	4
2015-16	375.9	47.1	160.1	197.0	44.5	28.3	23.6	19.6	875.6	30.5	3553.8	26.7	37.8	27.6	4

Note: Technology Payment Values based on Annual Report data include royalty, technical fees and various other similar payments related to technology purchase, and may differ from the data reported here based on Prowess as latter mainly includes royalty and technical fee value.

Source: Prowess, CMIE.

Table 8: Efforts for Localization of Inputs by FDI Cos.: Some Cases

	Name Of Company	FP %	Incorporation	Imported raw material & components in 2015-16 (% share of total consumption)	Efforts for localization of inputs (excerpts from Annual Report, 2015-16)
1	Gillette India Limited	50.36	1984	48.00	"Continued implementation of quality control/quality assurance procedures of products and processes were successfully adapted on commercial scale to <u>utilize local raw materials and machinery</u>All the above efforts resulted in improving process efficiencies,..... <u>import substitution</u> and successful absorption of technology." (pg 21)
2	Yazaki India Private Limited	100	1997	60.00	"..During the year the Company has signed a Drawing/Specification License Agreement with Yazaki Corporation for <u>localization of components</u> using the License provided by Yazaki.." (pg 6)
3	Skoda Auto India Private Limited	100	1999	99.17	" Company is importing parts and components not only from SKODA AUTO a.s. but also from Volkswagen AG, Audi AG, Germany, Audi Hungaria Motor kft, Volkswagen De Mexico S.A., Mexico.....It is Skoda Auto Indias continuous endeavour to <u>increase the use of the localized parts / components</u> in all its models..." (pg 14)
4	Robert Bosch Automotive Steering Private Ltd. (2014-15)	74	2007	52.02	".. company has entered into a License Agreement with Robert Bosch Automotive Steering GmbH...BENEFIT: The Company is <u>able to source and assemble the components locally ..</u> " (pg 8)
5	Kobelco Cranes India Private Limited	100	2010	84.67	"We are continuously <u>trying to increase local content</u> of our machines from when we start the operation in India..Your Company has started manufacture of 100, 150 and 260 Tonnes Hydraulic Crawler Crane at the first stage itself with India manufactured components comprising 15% value of the machine cost " (pg 15)

Source: Author's compilation from Company Annual Financial Statements (2015-16) downloaded from MCA website.

VI. Limited Scope of Technology Transfer under Restrictive Terms of Technical Collaboration

In view of the prevalence of a range of restrictive conditions on the use and dissemination of intellectual property or technical knowhow in a number of customary technical collaboration agreements that may substantially limit the transfer of technology to any licensee located in a developing economy in present times, a closer review of the terms of foreign technical collaboration contracts is imperative. This is critical also because a rising number of such foreign collaborations involve financial relations with the technology supplier under FDI route. The possibility of technology transfer via the FDI mode of

technology acquisition in a developing host economy may remain largely limited, mainly due to the weak bargaining power of the licensee in such set-up.

The specific terms of technical collaboration contract that may reasonably limit the technology transfer extent¹² from the technology supplier or licensor to the affiliated or unrelated licensee and eventually to the host developing economy where the licensee is located are particular direct clauses linked to non-transferability and indivisibility of license, strict confidentiality or secrecy of intellectual property or knowhow, restrictions placed on use of technology and geographical territory of its application, strict duration of contract, stringent termination and post-expiration requirements, restrictions on research and development and grant back provisions¹³. In addition, the terms pertaining to non-exclusivity of license, export restrictions, tying-in clauses linked to sales or imports, provisions for quality control, non-competition clauses and other unfair terms reflect the control that the licensor may directly or indirectly exercise on technology or intellectual property. In effect, these prohibitive clauses collectively ensure that the purchased technology or knowhow remains an exclusive asset of the licensor with a very limited scope for eventual 'real acquisition' or 'absorption' by the licensee either during the duration of the agreement or even after the expiry or termination of contract.

It is evident that the various terms of technical collaboration agreements can significantly influence the eventual transfer of technology to a licensee located in a resource constrained developing economy like India. An evaluation of these collaboration contracts is crucial especially for the FDI companies to assess the scope of technology transfer via the FDI route.

Disappointingly, the information on actual terms of technology collaboration agreements of Indian companies is not available in public domain. However, a number of companies having foreign technical collaboration and the initial terms of the technical collaboration have been identified from the case documents of judgements delivered by tribunal and other courts on recent tax disputes around the pricing and benefits aspects of technology linked payments by these companies. Several of these tax disputes are on the issue whether royalty or technical fees payments made by companies can be allowed as a deductible expenditure¹⁴ under Section 37(1) of Income Tax Act 1961. These case documents are procured from few legal databases like www.indiakanoon.org. About 65 companies, mainly FDI companies having foreign technical collaborations and about 164 restrictive IPR conditions present in their technical collaboration contracts have been identified and reviewed.

The following sub-sections (6.1 to 6.12) discuss the various restrictive terms of transfer of Intellectual Property Rights (IPR) and technology present in the foreign technical

¹² Various restrictive terms are identified in UNCTAD, Control of restrictive practices in transfer of technology transactions, (Report by UNCTAD secretariat, United Nations Publication: New York, 1982).

¹³ For a discussion on some standard clauses, see Ryder and Madhavan (2014).

¹⁴ Refers to deduction in computing the income chargeable under the head 'Profit and gain from business or profession'.

collaboration contracts that may directly or indirectly limit the transfer of technological know-how to an Indian licensee company. Certain other conditions emphasising a high degree of control of licensor on technology are discussed as well.

6.1 Restriction on field of use, volume, territory: Field of use restrictions are applied in clauses of contractual license to limit the use of technology to a specific technical field of application and may restrict the forms in which the industrial property or intellectual property may be used. Conditions pertaining to usage of technology may specify the product or output volume requirements which are associated with the application of the licensed technical knowhow and may reasonably limit the manufacturing activity to a very specific production or distribution process. Hence, these clauses allow the supplier to control or regulate the production or marketing of the licensee beyond what is necessary for the protection of his right under the act in question. For example, in the case of Maruti Suzuki India Ltd.¹⁵, licensee was not allowed to use licensed information directly or indirectly in connection with the manufacture of any product other than those agreed under the agreement. The licensee obtained the license to manufacture only in accordance to the designs and process specified by the foreign collaborator namely Daimler Benz in the case of Bajaj Tempo Ltd.¹⁶.

Territorial restrictions specifying the geographical territory of production, distribution, sale or assembly activity may be imposed on the licensee. Specific territory was specified for the application of technology in certain cases like Honda Siel Cars India Ltd¹⁷.

6.2 Secrecy/confidentiality of knowhow: Restrictive clauses related to maintenance of the secrecy or confidentiality of the licensed or transferred knowhow by licensee especially with respect to divulging of information like inventions, drawings, documents, designs and specifications supplied by licensor to any third party are introduced in the collaboration contracts to ensure that the control on the technology remains with the licensor. Such restrictive conditions may reasonably limit the scope of transfer of technology or intellectual property to the licensee over time and development of forward and backward linkages in any developing economy buying such technology from a foreign licensor.

The common clauses used for this purpose are towards strict confidentiality, secrecy, non-partibility of information, non-disclosure to unauthorized person or entity, information not being communicated to any person other than the responsible employees of the licensee, being barred from assigning the information to any third party or from making any copies of technology without licensor's consent. For example, in the case of Mikuni Corporation¹⁸, both parties were required not to disclose the information to any third party. In the particular case of LG Electronics India Pvt. Ltd.¹⁹, the confidentiality clause

¹⁵ Maruti Suzuki India Ltd. v/s Additional Commissioner of Income Tax (ACIT) ITA 5120/2010 & 2441/2012 pg 19, 20 (ITAT Delhi: 2015).

¹⁶ Assistant CIT v/s Bajaj Tempo Ltd. I. T. A. Nos. 271 & 272/1985 pg 3, 5 (ITAT Pune: 1995).

¹⁷ Honda Siel Cars India Ltd. v/s Assistant Commissioner of Income-Tax (ACIT) 109 ITD 1 & 111 TTJ 630 pg 5, 8 (Delhi ITAT: 2007).

¹⁸ Mikuni Corporation v/s Ucal Fuel Systems Limited (1) ARBLR 503 pg 1, 3 (Delhi High Court: 2008).

¹⁹ LG Electronics India Pvt. Ltd. v/s ACIT ITA No. 5140/2011 pg 27, 28 (ITAT Delhi: 2014).

prevented the direct or indirect disclosure of technical information during the continuance as well as after the expiry of the contract.

6.3 Non-Transferability/Indivisibility/Restriction on Sub-licensing: Specific clauses indicating the rights under the license to be indivisible or non-transferable ensure that the licensee is not authorized to permit another person to have access to the technology. Under this term, the licensee does not have any right to sub-license, transfer, assign or convey the know-how to any third party. This condition out rightly limits the possibility of usage of the technology by any third party and may particularly inhibit the transfer of technology to any entity beyond allowing a restricted access to the licensee itself. Indivisible, non-transferable license was granted by the licensor to an Indian company in various cases like Hero Honda Motors Ltd.²⁰ (article 2 in agreement) and Honda Siel Cars India Ltd. In certain other cases like Eicher Motors Ltd.²¹, sub-licensing was allowed only after prior approval or written consent by the licensor.

6.4 Strict Duration of agreement: The clause related to duration of the grant of intellectual property under a legal contract or license specifically indicates whether the license has been granted perpetually or for a definite term or a limited time. The terms of agreement that imply a strict period of contract are designed to provide a very limited access of the intellectual property to the licensee, and poses particular limitations on technology absorption by the licensee. The initial agreement period was ten years that was extendable to further five years after necessary government approval in the case of Kirloskar Cummins Ltd.²²

6.5 Stringent Termination requirements: The presence of stringent terms of termination of a collaboration contract (usually in the event of a default by any party) specially limit the possibility of technology transfer to the licensee, in so far as the further use of technology is prohibited and the buyer is required to promptly return all assets, residuary rights, relevant documents, tangible property or information belonging to the supplier on termination of the agreement. In the case of Samsung India Electronics Private Ltd.²³, licensee was required to stop using the technical know-how and to return the technical information to licensor on termination. In the case of Toyota Kirloskar Motor Pvt. Ltd.²⁴, all technical knowhow was to be sent back to the licensor even during the terms of agreement as soon as licensor requested so.

6.6 Restrictions after expiration of agreement: In various contracts, the restrictions on usage of technology were imposed by licensor even after the expiration of the term of the contract. The confidentiality or secrecy clause was applicable even after the expiration of contract period in

²⁰ Hero Honda Motors Ltd. v/s DCIT ITA no. 2148/2009 pg 7, 9 (Delhi ITAT: 2017).

²¹ Eicher Motors Ltd. v/s Deputy Commissioner Of Income Tax 82 TTJ 61/ 2004 pg 8, 9 (Indore ITAT: 2002).

²² Commissioner of Income Tax v/s Kirloskar Cummins Ltd. 202 ITR 36 pg 1, 3 (Bombay High court: 1993).

²³ Samsung India Electronics Private Ltd. v/s Assistant Commissioner of Income Tax ITA no. 5316 pg 19, 20 (Delhi ITAT: 2011).

²⁴ Commissioner of Customs (Port) v/s Toyota Kirloskar Motor Pvt. Ltd. Appeal (civil) 3635 of 2006 pg 1, 2 (Supreme Court of India: 2007).

the case of LG Electronics India Pvt. Ltd.²⁵, and in the case of Mikuni Corporation Ltd.²⁶ where secrecy obligation was applicable until such information was made public by any third party. These conditions ensure that the licensed technology remains an exclusive asset of the licensor even after the collaboration ends, and they limit technology transfer in various instances.

6.7 Grant-Back Provisions/ Restriction on Research and Development: Under such conditions, as in the case of Maruti Suzuki India Ltd.²⁷, any discovery or improvement with respect to the product or parts by the licensee during the agreement period is required to be transferred to the licensor. Grant back of intellectual property by the licensee, Saraswati Industrial Syndicate Ltd.²⁸ was required to happen through a non-exclusive, royalty free, irrevocable license. Such clauses directly place restrictions by the licensor on the research and development made by the licensee with respect to the purchased technology and fairly impede the development of local innovative capability or the absorption process.

6.8 Non – Exclusivity: In an exclusive license, only the licensee has a right to utilize the technology that has been licensed and is quite similar to an assignment of Intellectual Property. However, in a number of customary cases, the licensor prefers to grant a non-exclusive license under which it can license the technology or IP to as many licensees as it may want. This ensures the absolute control of the licensor on the intellectual property and also indicates the negligible rights of the licensee over the licensed knowhow. The Survey on Foreign Collaboration in Indian Industry published by RBI over few recent years indicate that the share of foreign collaboration agreements with exclusive rights has been much limited, i.e. within the range of 23 % to 38 % in the studied recent years.²⁹ Licenses of a non-exclusive type have been granted in the cases of Maruti Suzuki India Ltd.³⁰ and Toyota Kirloskar Motor Pvt. Ltd.³¹

6.9 Export restrictions: In certain technical collaboration contracts, specific restrictions on exports or sales are stipulated, which also signify a direct restrictive control on the use of technology by the technology supplier. For instance, prior consent of the licensor was required for Honda Siel Cars India Ltd.³² to sell or export any product or part to any place outside Indian Territory. The Survey on Foreign Collaboration in Indian Industry published by RBI for some recent years show that nearly 30 % of foreign collaboration agreements contained export restrictive clauses in recent years.³³

²⁵ *Ibid* footnote no. 19.

²⁶ *Ibid* footnote no. 18.

²⁷ *Ibid* footnote no. 15.

²⁸ D.C.I.T. v/s Saraswati Industrial Syndicate Ltd. 150 906 & 929 ITA pg 12, 18 (Chandigarh ITAT: 2016).

²⁹ See Footnote 4. Shares are 22.5% (2007- 2010 survey, 158 co); 27.5% (2010- 2012 survey, 244 co.); 38.4% (2012- 2014 survey, 303 co.) and 35.9% (2014- 2016 survey, 306 co.).

³⁰ *Ibid* footnote no. 15.

³¹ *Ibid* footnote no. 24.

³² *Ibid* footnote no. 17.

³³ See Footnote 4. Shares are 16.3% (2007- 2010 survey, 158 co.); 27.5% (2010- 2012 survey, 244 co.); 30.3% (2012- 2014 survey, 303 co.) and 32% (2014- 2016 survey, 306 co.).

6.10 *Tying in arrangements/ Exclusive sale:* Restrictive terms linked to tying of imports or exclusive sales are present in certain collaboration contracts. An undue influence of the licensor on the terms of technical collaboration is suggested in these cases. For instance, Royalties and license fees were found to be related to the imported goods for Ferodo India Pvt. Ltd.³⁴.

6.11 *Use of Quality Controls:* In various agreements, like in the cases of Hero Honda Motors Ltd.³⁵ and Keihin Panalfa Ltd.³⁶, the licensee was required to maintain the quality standards of the Products and the Parts in accordance with the specification and standards set by the licensor. For ensuring this, a Quality Control Director may be appointed by the licensee/ licensor. Such terms highlight the directly restrictive conditions imposed on the licensee's use of technology.

6.12 *Non-competition Clauses:* A non-competition clause may be introduced to ensure that the licensee, usually the affiliated company, does not manufacture or sell a similar product in the specified territory as the licensor. Such conditions may be imposed to exert a control on the usage of technology by the licensee and to restrict the production or sale of any product linked to the technology. Similar clauses are noted in few cases like Hero Honda Motors Ltd.³⁷ and Mikuni Corporation Ltd.³⁸

An evaluation of the terms of the foreign technical collaboration of 65 Indian companies, as far as traceable, highlights the presence of a range of these restrictive IPR conditions in the contracts of the individual companies. Table 9 presents several of such companies having one or more of these restrictive conditions in their foreign collaboration agreements. For some companies, at least seven types of restrictive conditions could be traced, highlighting the much limited scope for technology transfer in such collaboration arrangements.

Overall, about 164 instances of restrictive clauses could be identified in technical collaboration agreements of 65 FDI manufacturing companies, for which the information on the initial terms of the technical collaboration could be traced from the case documents of tax dispute judgements. About 12 kinds of restrictive clauses comprising restrictive terms of transfer of Intellectual Property Rights (IPR) and various other conditions indicating a high degree of control of licensor on technology could be traced (See Table 10).

Table 11 presents a number of cases of foreign technical collaborations of Indian companies, including many FDI companies, where a limited right to 'use' technology is indicated in the presence of restrictive terms of technical collaborations. In these cases, the companies have included royalty or technical fees payments made to licensor as a 'revenue' expenditure item in computing their annual income for the purpose of claiming deductions

³⁴ Commissioner Of Customs v/s Ferodo India Pvt. Ltd. Appeal (civil) 8426 of 2002 pg 1, 2 (Supreme Court of India: 2008).

³⁵ *Ibid* footnote no. 20.

³⁶ ACIT v/s Keihin Panalfa Ltd. ITA Nos. 3287/2011 & 5546/2012 pg 1, 9 (Delhi ITAT: 2014).

³⁷ *Ibid* footnote no. 20.

³⁸ *Ibid* footnote no. 18.

on income under provisions of Section 37(1) of the Income Tax Act, 1961.³⁹ The payments for royalty (for know-how) or technical fees to licensor have been defended by various companies perpetually in this way, where they have argued that such payments are not 'capital expenditure' in nature as they have not caused any enduring benefit to the company and are paid for mere 'use' or 'access' of the purchased technology over a restricted period and not for its 'acquisition'. They have stated in some instances that the technology remains an exclusive asset of the licensor, while the licensee has very limited rights to use technology and has no ownership of the technology/ knowhow either during or after the contract period. The excerpts of arguments made by the counsel of the companies or revenue department or observations of the tribunal court on this matter in some of the tax dispute cases are presented in Table 10.

An inadequate transfer of technology is significantly indicated in several of these cases, where restrictive terms of technical collaboration have also been simultaneously identified. Also, these payments have been accounted as 'revenue expenses' by some of the companies for many continued years, which also suggests that these payments have not caused any 'enduring' advantage to the licensee company over the period, and have only been made for 'running the business', as per the company's stance in tax courts.

Table 9: Various Companies with Restrictive Terms in Foreign Technical Collaboration Contracts

SN.	Name of company	Details of Tax Dispute Case	Restrictive Clauses
1	<i>Hero Honda Motors Ltd.</i>	Hero Honda Motors Ltd. v/s DCIT ITA no. 2148/2009 (Delhi ITAT : 2017) {pg 7, 9 }	Restriction on field of use or volume or territory + Secrecy /confidentiality + Non- Transferability/ Indivisibility + Strict Duration of agreement + Stringent Termination Requirements + Restrictions after expiration of agreement + Quality Control + Non-competition
2	<i>Syngenta India Ltd.</i>	Syngenta India Ltd. v/s Deputy CIT IT (TP) A No. 1373/2014 (Mumbai ITAT : 2016), {pg 12, 13}	Non- Transferability/ Indivisibility + Non-Exclusivity
3	<i>Kirloskar Cummins Ltd.</i>	Commissioner of Income Tax v/s Kirloskar Cummins Ltd. 202 ITR 36 (Bombay High court : 1993), {pg 1, 3 }	Secrecy /confidentiality + Strict Duration of agreement + Stringent Termination Requirements + Non-Exclusivity + Quality Control
4	<i>LG Electronics India Pvt. Ltd.</i>	LG Electronics India Pvt. Ltd. v/s ACIT ITA No. 5140/2011 (ITAT Delhi : 2014), {pg 27, 28 }	Secrecy /confidentiality + Non- Transferability/ Indivisibility + Strict Duration of agreement + Stringent Termination Requirements + Restrictions after expiration of agreement

³⁹ Expenditure of capital nature are not allowed for general deductions for business and profit under Section 37(1) of income Tax Act 1961. 'Capital' expenses generally refer to expenses incurred in improving, acquiring or extending the life of any fixed asset and 'revenue' expenses refer to expenses incurred in a normal course of business. (See https://www.incometaxindia.gov.in/_layouts/15/dit/pages/viewer; also see <https://taxguru.in/income-tax/section-37-general-deductions-allowed-business-profession.html> and <https://taxguru.in/income-tax/general-deductions-expenditure-section-371.html>)

<i>SN.</i>	<i>Name of company</i>	<i>Details of Tax Dispute Case</i>	<i>Restrictive Clauses</i>
5	<i>Mikuni Corporation Ltd.</i>	Mikuni Corporation v/s Ucal Fuel Systems Limited (1) ARBLR 503 (Delhi High Court : 2008), {pg 1,3 }	Secrecy /confidentiality + Restrictions after expiration of agreement + Non-competition
6	<i>Munjal Showa Limited</i>	CIT v/s Munjal Showa Limited ITA 149 & 150/ 2011 (Delhi High court : 2012), {pg 2, 3}	Non- Transferability/ Indivisibility
7	<i>Nestle India Ltd.</i>	Additional Commissioner of Income Tax v/s Nestle India Ltd., 94 TTJ/53 (ITAT Delhi 2005), {pg 2, 3}	Secrecy /confidentiality
8	<i>Reebok India Co.Ltd.</i>	Deputy Commissioner of Income Tax v/s Reebok India Co. ITA No. 1137/2014 (ITAT Delhi : 2016), {pg 4, 5}	Non- Transferability/ Indivisibility + Non-Exclusivity
9	<i>Samsung India Electronics Private Ltd.</i>	Samsung India Electronics Private Ltd. v/s Assistant Commissioner of Income Tax ITA no. 5316 (Delhi ITAT : 2011), {pg 19, 20}	Non- Transferability/ Indivisibility + Stringent Termination Requirements
10	<i>Toyota Kirloskar Motor Pvt. Ltd.</i>	Commissioner of Customs (Port) v/s Toyota Kirloskar Motor Pvt. Ltd. Appeal (civil) 3635 of 2006 (Supreme Court of India : 2007), {pg 1, 2 }	Non- Transferability/ Indivisibility + Stringent Termination Requirements + Non-Exclusivity + Tying in of imports
11	<i>Triveni Engineering WorksLtd.</i>	The Triveni Engineering Works v/s Commissioner Of Income-Tax 136 ITR 340(Delhi High Court : 1982), { pg 4 , 6 }	Secrecy /confidentiality
12	<i>Yamaha Motors (India) Pvt. Limited</i>	Yamaha Motors (India) Pvt. Limited v/s Cce (186) ELT 161 Tri Delhi/2005 & 3 S T R 665/2006 (Delhi Customs, Excise and Gold Tribunal : 2005), {pg 1, 2 }	Restriction on field of use or volume or territory + Non- Transferability/ Indivisibility
13	<i>Toyotetsu India Pvt. Ltd.</i>	Annual report 2015-16 {pg 18}	Non- Transferability/ Indivisibility + Non-Exclusivity
14	<i>Toyotetsu India Auto Parts Private Limited</i>	Annual report 2015-16 {pg 25}	Non- Transferability/ Indivisibility + Non-Exclusivity
15	<i>Mesto Minerals (India) Pvt.Ltd.</i>	Mesto Minerals (India) Pvt.Ltd. v.s. Addl. CIT ITA No.4414 /2012 (Delhi ITAT : 2014) (pg 6)	Secrecy/ confidentiality + Non- Transferability / Indivisibility + Non-Exclusivity
16	<i>Carraro India Ltd.</i>	DCIT v/s Carraro India Ltd. ITA No.1384&1385 / 2010 (Pune ITAT : 2012) (pg 5-7, 9-11)	Restriction on field of use or volume or territory + Non- Exclusivity + Non- Transferability / Indivisibility/ Restriction on Sub-licensing + Quality Controls + Stringent Termination Requirements

<i>SN.</i>	<i>Name of company</i>	<i>Details of Tax Dispute Case</i>	<i>Restrictive Clauses</i>
17	<i>Power Plant Performance & Improvement Ltd</i>	DCIT v/s. Power Plant Performance & Improvement Ltd. ITA No. 4317/ 2009 (Delhi ITAT : 2009) {pg 5-6}	Secrecy/ confidentiality of knowhow + Non- Transferability / Indivisibility/ Restriction on Sub-licensing + Non-Exclusivity + Export restrictions + Grant-Back Provisions/ restrictions + Stringent Termination Requirements + Quality Control
18	<i>ABB Ltd.</i>	ABB Ltd. v/s Commissioner of Customs (Import) Appeal no. 112/MCH/ AC/SVB/2011 (Mumbai Custom, Excise & Service Tax Tribunal : 2012), {pg 2, 3}	Non-Exclusivity
19	<i>Ferodo India Pvt. Ltd.</i>	Commissioner Of Customs v/s Ferodo India Pvt. Ltd. Appeal (civil) 8426 of 2002 (Supreme Court of India : 2008), {pg 1, 2}	Tying in of imports
20	<i>Graziano Trasmissioni India Pvt. Ltd.</i>	DCIT v/s Graziano Trasmissioni India Pvt. Ltd. I.T.A. No. 5536/ 2013 (Delhi ITAT : 2014) {pg 3-4}	Stringent Termination Requirements + Non-Exclusivity
21	<i>Advanta India Ltd.</i>	The Commissioner Of Income-Tax v/s Advanta India Ltd. I.T.T.A.No.153 / 2004 (Andhra High Court : 2015) {pg 3}	Non- Transferability / Indivisibility/ Restriction on Sub-licensing
22	<i>Saraswati Industrial Syndicate Ltd.</i>	D.C.I.T. v/s Saraswati Industrial Syndicate Ltd. 150 906 & 929 ITA (Chandigarh ITAT : 2016), {pg 12, 18 }	Restriction on field of use or volume or territory + Secrecy /confidentiality + Non- Transferability/ Indivisibility/ Restriction to sub-licensing + Stringent Termination Requirements + Grant-Back Provisions/ restrictions
23	<i>J.K. Synthetics Ltd.</i>	Commissioner of Income tax (CIT) v/s J.K. Synthetics Ltd. ITR 139/1988 & 202/1989 (Delhi High Court : 2008), {pg 4 , 7}	Restriction on field of use or volume or territory + Secrecy /confidentiality + Non- Transferability/ Indivisibility
24	<i>Hindusthan Motors Ltd.</i>	Commissioner Of Income Tax v/s Hindusthan Motors Ltd. 192 ITR 619/ 1991 (Calcutta High Court : 1990) {pg 4, 6}	Non- Transferability/ Indivisibility / Restriction to sub-licensing + Stringent Termination Requirements + Quality Control
25	<i>Bajaj Tempo Ltd.</i>	Assistant CIT v/s Bajaj Tempo Ltd. I. T. A. Nos. 271 & 272/1985 (ITAT Pune : 1995), {pg 3, 5}	Restriction on field of use or volume or territory + Secrecy /confidentiality + Strict Duration of agreement + Stringent Termination Requirements

Source: www.indiakanoon.org

Table 10: Restrictive Clauses Identified in Recent Technical Collaboration Agreements of 65 FDI Manufacturing Companies

	<i>Restrictive Terms in Technology Agreements</i>	<i>No. of Cases</i>
1	Restriction on field of use or volume or territory	16
2	Secrecy / confidentiality of know-how	33
3	Non-transferability / indivisibility / restriction on sub-licensing	33
4	Strict duration of agreement	11

5	Stringent termination requirements	26
6	Restrictions after expiry of agreements	6
7	Grant-back provisions / related restrictions	5
8	Non-exclusive license	20
9	Export restrictions	3
10	Tying-in of imports	2
11	Quality controls	7
12	Non-competition clauses	2
TOTAL		164

Source: www.indiakanoon.org

Table 11: Various Cases of Limited Access to Technology in presence of Restrictive Terms of Foreign Technical Collaboration

<i>SN.</i>	<i>Name of company</i>	<i>Details of Tax Case</i>	<i>Restrictive Clauses in Collaboration Contract</i>	<i>Extracts from Case Documents of Tax Disputes</i>
1	<i>Hewlett Packard Ltd.</i>	Assistant Commissioner Of Income Tax v/s Hewlett Packard Ltd ITAT (Delhi ITAT : 2001) {pg 2, 8-9, 11 }	Secrecy/ confidentiality of knowhow + Strict Duration of agreement + Restrictions after expiration of agreement + Quality Control	"...All in conclusive terms....amount to hedging/restricting the transfer and user of technology and not a case of outright sale/transfer of technology..."
2	<i>Eicher Motors Ltd.</i>	Eicher Motors Ltd. v/s Deputy Commissioner Of Income Tax 82 TTJ 61/ 2004 (Indore ITAT : 2002), {pg 8, 9}	Non- Transferability/ Indivisibility / Restriction to sub-licensing + Strict Duration of agreement	".There as nothing on record especially in the agreement dt. 4th Oct., 1982, to suggest that the assessee had acquired the know-how including drawing etc. from MMC as an absolute owner.." (ITAT)
3	<i>Maruti Suzuki India Ltd.</i>	Maruti Suzuki India Ltd. v/s Additional Commissioner of Income Tax (ACIT) ITA 5120/2010 & 2441/2012 (ITAT Delhi : 2015). {pg 19, 20}	Restriction on field of use/ volume / territory + Secrecy /confidentiality + Non- Transferability/ Indivisibility + Stringent Termination Requirements + Non-Exclusivity + Grant-Back Provisions/ restrictions	"..royalty payment is 'for use of the Licensed Information and not 'for acquisition as its owner."
4	<i>Honda Siel Cars India Ltd.</i>	Honda Siel Cars India Ltd. v/s Assistant Commissioner of Income-Tax (ACIT) 109 ITD 1 & 111 TTJ 630/2007 (Delhi ITAT : 2006), {pg 5, 8 }	Restriction on field of use or volume or territory + Secrecy /confidentiality + Non- Transferability/ Indivisibility + Stringent Termination Requirements + Export restrictions	"..assessee had limited right to use and access of knowledge and technical information for manufacture of its own products. The assessee was not owner of the such know-how"
5	<i>Honda Siel Power Products Ltd.</i>	Honda Siel Power Products Ltd. v/s D.C.I.T. ITA no. 5713/2011 (Delhi ITAT : 2014), {pg 15-19, 21, 25}	Secrecy /confidentiality + Stringent Termination Requirements +Non- Transferability/ Indivisibility + Grant-Back Provisions/ restrictions	"..intangible property continues to be owned of the licensor and the assessee has not acquired any know- how"

SN.	Name of company	Details of Tax Case	Restrictive Clauses in Collaboration Contract	Extracts from Case Documents of Tax Disputes
				or license by virtue of this agreement"
6	<i>Procter & Gamble Hygiene & Healthcare Ltd.</i>	Procter & Gamble Hygiene & Healthcare Ltd.v/s ACIT ITA Nos. 6795 & 8999 /2004 (Mumbai ITAT : 2004) (pg 6-7)	Restriction on field of use + Secrecy/ confidentiality + Non- Transferability / Indivisibility/ Restriction on Sub-licensing	"..assessee has not acquired any particular asset in the nature of intangible asset which can be stated as an exclusive acquisition of know-how .."
7	<i>Shriram Pistons and Rings Ltd.</i>	Shriram Pistons and Rings Ltd. v/s Commissioner of Income Tax (Delhi High Court : 2008) Judgment dated 29 April 2008, {pg 2, 6}	Secrecy /confidentiality + Non- Transferability/ Indivisibility / Restriction to sub-licensing + Stringent Termination Requirements	"assessee's right were hedged in with all sorts of conditions, clearly making it a case of right to use technology and not sale of technical know-how" (HC)
8	<i>I.F.G.L Refractories Ltd.</i>	Deputy Commissioner of Income-tax v/s I.F.G.L Refractories Ltd. I.T.A No. 1913 /2008 (Kolkata ITAT : 2015) (pg 5-6)	Secrecy/ confidentiality of knowhow + Non- Transferability / Indivisibility/ Restriction on Sub-licensing	"..transaction was not for acquisition of know-how, but for mere use of know-how... .By disclosing the technical information KHC had not parted with any of its assets"
9	<i>Cabot India Ltd.</i>	Cabot India Ltd. v/s DCIT ITA No. 8495 (ITAT Mumbai : 2010), {pg 5, 6}	Secrecy /confidentiality + Non- Transferability/ Indivisibility	"....assessee was given only the right to use the relevant information and knowledge by the US company.... assessee cannot be said to have acquired any asset or advantage of enduring nature."
10	<i>Dakin Air Conditioning (India) Pvt. Ltd.</i>	Dakin Air Conditioning (India) Pvt. Ltd. v/s Department Of Income Tax ITA 1328/ 2011 (Delhi ITAT :2011) {pg 6,7}	Restriction on field of use /volume /territory +Secrecy/ confidentiality + Non- Transferability/ Restriction on Sub-licensing +Strict Duration of agreement +Stringent Termination Requirements + Export restrictions + Grant-Back Provisions/ restrictions	"....assessee was entitled only access to the technical knowledge and information from Daikin ...it was not a case of absolute transfer of Daikin Technology"
11	<i>Eli Lilly & Company India Private Limited</i>	Eli Lilly & Company India Private Limited v/s Dcit I.T.A.7487/2018 (Delhi ITAT :2018) {pg 2, 4-7}	Non- Transferability/ Indivisibility + Non-Exclusivity + Strict Duration of agreement + Stringent Termination Requirements	" no enduring benefit had resulted to the assessee by payment of the license fee....what all acquired is mere license with limited rights to use the same during the currency of the agreement"
12	<i>Panasonic Home Appliances India Company Ltd.</i>	Panasonic Home Appliances India Company Ltd. v/s DCIT	Restriction on field of use/ volume/ territory + Secrecy /confidentiality +	"..ownership of the right to technology has not been transferred or vested in the

SN.	Name of company	Details of Tax Case	Restrictive Clauses in Collaboration Contract	Extracts from Case Documents of Tax Disputes
		82 ITA/2009 (Chennai ITAT : 2011), {pg 5-7 }	Non- Transferability/ Indivisibility + Non-Exclusivity	assessee-company but it remained the property of M/s MEI, the Collaborator.."
13	<i>Motherson Sumi Systems Ltd.</i>	Motherson Sumi Systems Ltd. v/s Additional CIT I.T.A No. 3728 (ITAT Delhi : 2009), {pg 7, 8 }	Stringent Termination Requirements + Non-Exclusivity	"assessee was not left with any asset or residuary right on termination of agreement."
14	<i>Sumi Motherson Innovative Engg. Ltd.</i>	DCIT v/s Sumi Motherson Innovative Engg. Ltd. ITA No.1164./2008 (Delhi ITAT : 2008) {pg 7-8 }	Restriction on field of use /volume / territory + Non-Exclusivity + Strict Duration of agreement + Stringent Termination Requirements	".assessee was not left with any asset or residuary right on termination of agreement.."
15	<i>Honda Cars India Ltd.</i>	Dcit(Ltu), New Delhi v/s M/S. Honda Cars India Ltd. ITA No:- 3229 /2014 (Delhi ITAT : 2019) {pg 2-3}	Secrecy/ confidentiality of knowhow + Non- Transferability/ Indivisibility	"...assessee merely acquired a right to use the technical information ... ownership / proprietary rights in the technical know-how continue to vest in HMCL.."
16	<i>Climate Systems Pvt. Ltd.</i>	Dy.Commissioner of Income Tax v/s Climate Systems Pvt. Ltd. ITA NO. 1552 /2010 (Delhi ITAT : 2009) {pg 3-4)	Secrecy/ confidentiality + Strict Duration of agreement + Non- Transferability / Indivisibility/ Restriction on Sub-licensing + Stringent Termination Requirements	".the assessee merely acquired the limited right to use the technical know-how/information.."
17	<i>Essel Propack Limited</i>	The Commissioner Of Income Tax - v/s Essel Propack Limited ITA 2305 / 2009 (Bombay High Court : 2010) {pg 2-3)	Restriction on field of use / volume / territory + Non-Exclusivity + Strict Duration of agreement	".The assessee .. had a limited right to use the technical know- how for manufacturing machines over a limited tenure.."
18	<i>Kirloskar Tractors Ltd.</i>	Commissioner Of Income-Tax v/s Kirloskar Tractors Ltd. 231 ITR 849 (Bombay High Court : 1998), {pg 1-2}	Secrecy /confidentiality + Non- Transferability/ Indivisibility	".The Tribunal observed that in the present case there was no sale of "know-how".
19	<i>Perma Pipe India Pvt. Ltd.</i>	Perma Pipe India Pvt. Ltd v/s Deputy Director of Income Tax ITA NO 471/ 2015 (Mumbai ITAT : 2015) {pg 4)	Secrecy/ confidentiality of knowhow + Stringent Termination Requirements	".The assessee does not become owner of the technical knowhow.."
20	<i>FAG Bearings India Ltd.</i>	FAG Bearings India Ltd. v/s. DCIT (Deputy Commissioner of Income Tax), ITA no. 793 & 817/ 2006 (Ahmedabad ITAT : 2014) {pg 9, 10, 29}	Restriction on field of use/ volume/ territory + Secrecy /confidentiality + Stringent Termination Requirements	".. on the same technology, royalty was being paid at 1.5% in the last 15 to 20 years"

<i>SN.</i>	<i>Name of company</i>	<i>Details of Tax Case</i>	<i>Restrictive Clauses in Collaboration Contract</i>	<i>Extracts from Case Documents of Tax Disputes</i>
21	<i>Keihin India Manufacturing Pvt. Ltd.</i>	ACIT v/s Keihin Panalfa Ltd. ITA No. 3287/2011 & 5546/2012 (Delhi ITAT : 2014), {pg 1, 9, 11}	Quality Control	"..payment allowed as revenue expenditure since 1997 "
22	<i>Lumax Industries Ltd.</i>	DCIT v/s Lumax Industries Ltd. ITA No.4715 & 6086 (Delhi ITAT : 2010), {pg 7, 25, 26, 35}	Non-Exclusivity	"..TPO has raised objections as to why the royalty is being paid each year for the last about 20 years or so."

Source: www.indiakanoon.org

These distinct cases highlight that even after payments of high value being made for technology related purchases under foreign technical collaborations, the real extent of technology transfer remains highly questionable in so far as these contracts pertain to 'limited use' or 'access' to technology. Also, the transfer or acquisition of technology may not be ensured even in cases involving FDI invested companies, as long as the collaboration contracts include restrictive IPR conditions and stringent constraints on technology usage.

Hence, the FDI route of technology transfer can be just as vulnerable to inadequate levels of foreign technology acquisitions as the pure technology collaboration route.

VII. Conclusion

A closer evaluation of the specific terms of foreign technical collaboration contracts, local innovation efforts and approach to technology absorption, as indicated in annual financial disclosures, of a set of FDI manufacturing companies, where most of them are majority or wholly owned foreign subsidiaries, indicates that the technology transfer process via FDI route may be associated with limited or inadequate technology transfer, even while substantial value of payments are made by the local affiliate to foreign collaborator over a number of years.

It is observed that in several instances, various key clauses have been imposed by technology licensor on the local affiliate in the foreign technical collaboration contracts that effectively restrict the scope of technology transfer to the licensee over years, while the continued payments may have only ensured prolonged 'access' to technology. These restrictive IPR condition and other restrictions on technology use ensure limited or nil acquisition of technology by various FDI companies from foreign collaborator even after many years and high value of payments, while the licensor continues to have an absolute control over the technology. Such cases show that the FDI route of technology transfer is equally vulnerable to inadequate levels of technology acquisitions when compared to pure technology collaboration route.

Moreover, the disclosures in financial statements of a set of FDI manufacturing companies indicate limited active absorption by local affiliates, and low or negligible inclination for undertaking local innovation for majority of them. Very few companies report absolute absorption of imported technology over subsequent years, while several report ongoing, nil or unreported technology absorption status.

While the financial disclosure norms need to be appropriately revised to ensure precise reporting of the overall technology absorption process by the companies, a strict regulation of high cost and restrictive conditions of technology purchases is urgently required through proper policy intervention, both in the case of within-firm or open market purchases of foreign technology. Moreover, the limited absorption of technology by the local affiliate and possible continued dependence on foreign collaborator for technology over years in these technology purchase arrangements, especially in the case of FDI linked purchases, is a serious issue from a purely policy perspective in India that is seeking real technology transfer in this set-up and is intensively focused on attracting higher levels of FDI in future for such purpose.

In the Indian case, a supervision of real technology absorption over years from FDI channels in the economy is crucial. In addition, a serious policy intervention is required to ensure that the restrictive licensing conditions (intellectual property and other) in any foreign technical collaboration agreements are minimized and deeper levels of technology acquisitions could be realized through FDI or open market purchase route. A strict monitoring of the negotiated terms of contract, strengthening of the bargaining power of the local licensee and regulatory supervision of technology transfer and its eventual absorption in economy over years is essentially needed in the Indian context if higher level of technological upgradation is desired.

Appendix

Appendix Table 1: Description of Industrial Group classification used in study based on ITC-HS codes

SN.	Industrial group Classification Used	HScode (2 Digit)	Description Of CODES
1	Vegetable Products, Edible Oils & Foodstuffs	11	Products Of The Milling Industry; Malt; Starches; Inulin; Wheat Gluten.
		13	Lac; Gums, Resins And Other Vegetable Saps And Extracts.
		15	Animal Or Vegetable Fats And Oils And Their Cleavage Products; Pre. Edible Fats; Animal Or Vegetable Waxex.
		17	Sugars And Sugar Confectionery.
		18	Cocoa And Cocoa Preparations.
		19	Preparations Of Cereals, Flour, Starch Or Milk; Pastrycooks Products.
		21	Miscellaneous Edible Preparations.
		22	Beverages, Spirits And Vinegar.
		23	Residues And Waste From The Food Industries; Prepared Animal Foder.
		24	Tobacco And Manufactured Tobacco Substitutes.
2	Pharmaceuticals	30	Pharmaceutical Products
3	Chemicals Or Allied Industries (Excluding Pharmaceuticals)	28	Inorganic Chemicals; Organic Or Inorganic Compounds Of Precious Metals, Of Rare-Earth Metals, Or Radi. Elem. Or Of Isotopes.
		29	Organic Chemicals
		31	Fertilisers.
		32	Tanning Or Dyeing Extracts; Tannins And Their Deri. Dyes, Pigments And Other Colouring Matter; Paints And Ver; Putty And Other Mastics; Inks.
		33	Essential Oils And Resinoids; Perfumery, Cosmetic Or Toilet Preparations.
		34	Soap, Organic Surface-Active Agents, Washing Preprns., Lubricating Preprns., Artificial Waxes, Prepared Waxes, Polishing/Scouring Prep.
		35	Albuminoidal Substances; Modified Starches; Glues; Enzymes.
		36	Explosives; Pyrotechnic Products; Matches; Pyrophoric Alloys; Certain Combustible Preparations.
		38	Miscellaneous Chemical Products.
4	Rubber & Plastic	39	Plastic And Articles Thereof.
		40	Rubber And Articles Thereof.
5	Mineral, Stone & Glass	25	Salt; Sulphur; Earths And Stone; Plastering Materials, Lime And Cement.

<i>SN.</i>	<i>Industrial group Classification Used</i>	<i>HScode (2 Digit)</i>	<i>Description Of CODES</i>
		27	Mineral Fuels, Mineral Oils And Products Of Their Distillation; Bituminous Substances; Mineral Waxes.
		68	Articles Of Stone, Plaster, Cement, Asbestos, Mica Or Similar Materials.
		69	Ceramic Products.
		70	Glass And Glassware.
6	Base Metals & Products	72	Iron And Steel
		73	Articles Of Iron Or Steel
		74	Copper And Articles Thereof.
		82	Tools Implements, Cutlery, Spoons And Forks, Of Base Metal; Parts Thereof Of Base Metal.
		83	Miscellaneous Articles Of Base Metal.
7	Machinery & Mechanical Appliances	84	Nuclear Reactors, Boilers, Machinery And Mechanical Appliances; Parts Thereof.
8	Electrical Machinery & Equipments, Electronics	85	Electrical Machinery & Equipment, Parts Thereof; Sound Recorders & Reproducers, Television Image & Sound Recorders & Reproducers, Parts.
9	Vehicles & Transport Equipment	86	Railway Or Tramway Locomotives, Rolling-Stock & Parts Thereof; Railway Or Tramway Track Fixtures & Fittings & Parts Thereof; Mechanical
		87	Vehicles Other Than Railway Or Tramway Rolling Stock, & Parts & Accessories Thereof.
10	Instruments & Accessories (Optical, Precision, Medical Etc.)	90	Optical, Photographic Cinematographic Measuring, Checking Precision, Medical Or Surgical Inst. & Apparatus Parts & Accessories Thereof
		91	Clocks And Watches & Parts Thereof.
		92	Musical Instruments; Parts & Accessories Of Such Articles.
11	Other Manufacturing	42	Articles Of Leather,Saddlery And Harness;Travel Goods, Handbags And Similar Cont.ARTICLES OF ANIMAL GUT(Othr Thn Silk-Wrm)Gut.
		48	Paper And Paperboard; Articles Of Paper Pulp, Of Paper Or Of Paperboard.
		57	Carpets And Other Textile Floor Coverings.
		61	Articles Of Apparel And Clothing Accessories, Knitted Or Crocheted.
		64	Footwear, Gaiters And The Like; Parts Of Such Articles.
		94	Furniture; Bedding, Mattresses, Mattress Supports, Cushions And Similar Stuffed Furnishing; Lamps And Lighting Fittings Not Elsewhere Inc
		96	Miscellaneous Manufactured Articles.

SN.	<i>Industrial group Classification Used</i>	<i>HScode (2 Digit)</i>	<i>Description Of CODES</i>
12	Diversified Activity (Manufacturing & Trading/Services)	99	Miscellaneous Goods.

Source: www.dgft.org

Appendix Table 2: Types of Technology Linked Payments

Types of Technology-Linked Payments (105)		
application Cost	IT License and Other Consultancy Fee	small & consumable tools
capital work in progress	IT networking cost	software and networking charges
capital services	IT Usage Charges	software development services
communication Charges	lab supplies	software expenses
communication/system expenses	lease line expenses	software implementation
computer expense	license application	software license fees
computer maintenance	license fee for use of knowhow	software mobile license
container hire cost	license fee/revenue	software Purchase
data processing & IT outsourcing expenses	maintenance of equipment	software support expenses
data service	management and IT Service	software usage fee
database	material inspection and rework charges	software-field failure monetary recovery system
design & development fees	model fees	sterilisation
design & drawing charges	module purchases	supervision fees
design & engineering charges	mould expense	system and software Expenses
design & service charge	network & ERP Expenses	system maintenance
design cost/ charges	payments for intangible assets	technical assistance
engine development	product Development Cost	technical services/charges/fees
engineering service	professional - technical consultancy fees	technical assistance fee for asset installation
engineering site	professional technical fees	technical collaboration fees
engineering support charges	project expense	technical consultancy fee
equipment rental charges	quality inspection expense	technical guidance fee
erection charges	R & D charges/expenses	technical knowhow
foreign service engineer fee	R & D recovery	technical Supervisor Fees
foreign technician expense	R & D services	technical support
group mangement charges/technical fees	repairs and maintenance-machinery	technical training fees

Types of Technology-Linked Payments (105)		
headquarter & IT charges	repairs of plant/machinery	technician fee
information technology fees	research & engineering expenses	technology use fee
information technology services	research expenses/services	testing & calibration expenses
intranet	royalty	testing agency
IT & communication	sample development	testing charges & catalogues
IT & support service	sample testing charge/fees	testing/trial charge
IT charge/cost/expense/service/support	SAP charges	tooling purchases on behalf of customer
IT enabled services	SAP maintenance	training cost/fees
expense on import of software master copy	rework charge	transfers under license agreement from enterprise
expenditure in foreign currency for research & development	Project Management Costs for Capital Projects	software development and procurement of license

Source: Based on information in Annual Financial Statements of Companies, 2015-16 (www.mca.gov.in)

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