



भारतीय रिज़र्व बैंक

RESERVE BANK OF INDIA

वेबसाइट : www.rbi.org.in/hindiWebsite : www.rbi.org.inइ-मेल email: helpdoc@rbi.org.in

संचार विभाग, केंद्रीय कार्यालय, एस.बी.एस.मार्ग, मुंबई-400001

DEPARTMENT OF COMMUNICATION, Central Office, S.B.S.Marg, Mumbai-400001

फोन/Phone: 91 22 2266 0502 फैक्स/Fax: 91 22 22660358

March 22, 2017

Survey on Foreign Collaboration in Indian Industry : 2014–2016 –Data Release

The RBI has today placed on its website Survey on Foreign Collaboration in Indian Industry for 2014-2016.

Foreign collaboration is widely used as an effective vehicle for overcoming the technology gap in the path of economic development. Cross-border technical collaboration is often embedded in financial collaboration, thus securing buy-in from the technology partner in corporate management. Regular assessment of the dimensions and impact of technological collaboration on various aspects of economic development is, therefore, useful for informing the setting of macroeconomic policies so as to derive maximum benefits from such collaborations.

In India, foreign collaborations have a long history. Over the years, companies have increased their overseas financial and technical alliances and foreign subsidiaries have been set up, as India's integration into the global economy has strengthened in multiple directions. In order to facilitate analytical studies in this area, the Reserve Bank has been conducting the *Survey on Foreign Collaboration in Indian Industry* since the 1960s. After introduction of the mandatory *Census on Foreign Liabilities and Assets (FLA) of Indian Direct Investment Companies* in 2011, this survey was restructured in 2012. It now supplements the FLA census and focuses on major operational facets of Indian companies that have technical collaboration agreements with foreign companies ([survey schedule](#) is attached).

The latest survey (eleventh round) covers the financial years 2014-15 and 2015-16.

Highlights:

- **Coverage:** Of the 694 Indian entities that responded in the latest survey round, 306 reported 590 foreign technical collaboration (FTC) agreements. Around 60 per cent of the reporting companies were foreign subsidiaries (single foreign investor holding majority equity) and a fourth were foreign associates (foreign investors' equity holding ranging between 10-50 per cent). Thus, an overwhelming majority of the FTC companies also had overseas financial collaboration. Only 11 companies had pure technical collaborations (Table 1). Of the 306 companies that reported FTCs, 183 are common in relation to the previous survey round, 123 are new in the sample and 38 companies, which reported in the last round, have not reported in the latest round.
- **Industry-wise Agreements:** 80 per cent of the reported FTC agreements belonged in the manufacturing sector, with nearly half relating to motor vehicles, transport, machinery and equipment, chemicals and pharmaceuticals. Construction attracted a higher number of such collaborations with a larger share of output in the latest round relative to the previous round. In the services sector, information and communication reported more FTC agreements than in the previous round (Table 2).

- **Partner Country Profile:** Japan, USA and Germany remained the top three technology source countries, together accounting for 58 per cent of the reported FTC agreements. UK, Italy, Republic of Korea, France and Switzerland were other countries with significant shares in total technical collaboration (Table 3).
- **Asset transfer and Payment Mode:** Over two-third of the FTC agreements involved know-how transfer by the foreign collaborator and another 10 per cent involved use of trade-marks / brand names. Less than one per cent of the agreements were on patent transfer (Table 4). An overwhelming majority of the FTCs provided for royalty payment, some of which also had additional clauses for lump-sum technical fees. Only 13.8 per cent of the reported contracts were based on pure lump-sum technical fees payments (Table 5).
- **Export Restriction Clauses and Exclusive Rights Provisions:** Export restriction clauses are typically written into FTCs by foreign collaborators intending to protect their own markets. On the other hand, local collaborators try include provision of exclusive rights on assets transferred under the agreement so as to restrict the foreign collaborator from transferring such assets to another local party. Over a third of the reported manufacturing sector FTC agreements had export restriction clauses whereas it was less than 10 per cent for the services sector. Within the manufacturing FTCs, the export-intensive chemicals, rubber and plastic and motor vehicles sectors had lower export restriction clauses. FTC agreements for pharmaceuticals and electrical and other machinery had a significant share of such clauses. Nevertheless, exports from these sectors remained substantial, implying that companies without export restriction clauses in their FTCs accounted for the larger part of export activity. Japan accounted for over a third of the reported FTC agreements and nearly 45 per cent of them had export restriction clauses. At the aggregate level, around 32 per cent of reported FTCs had export restriction clauses and nearly 36 per cent had provision for exclusive rights on assets transferred under the agreements (Tables 6, 7, 8 and 10).
- **Value of Production:** The total value of production of the FTC reporting companies increased by 10.3 per cent to ₹ 4,387 billion in 2015-16. Nearly 80 per cent of this output related to the manufacturing sector, where motor vehicles were the largest sub-sector, followed by chemicals (Tables 9).
- **Exports and Imports:** Total exports of FTC reporting companies recorded y-on-y increase of 6.7 per cent, rising to ₹ 788.8 billion in 2015-16, with the manufacturing sector recording the dominant share. On the other hand, imports increased by 7.7 per cent to ₹ 877.3 billion. The ratio of exports and imports to value of production stood at 18 per cent and 20 per cent, respectively, at the aggregate level, but there were large inter-sectoral variations. (Tables 10 and 11).
- **Profitability:** The average profitability of FTC reporting companies, measured by the ratio of gross profit to capital employed, has increased during the last three survey rounds. In the latest survey, this ratio increased from 17.3 per cent in 2014-15 to 18.5 per cent in 2015-16 (Table 12).

The results of the earlier round of the Survey on Foreign Collaboration in Indian Industry for the period 2012-14 (tenth round) were released on the RBI website on [March 24, 2015](#).

Table 1: Company Group-wise Number of Companies having Foreign Technical Collaboration

Company Group	Number of Companies
Foreign Subsidiary	185
Foreign Associate	75
Pure Technical Collaboration	11
Others (<i>Foreign Equity less than 10 per cent or only Outward investment</i>)	35
Total	306

Table 2: Industry-wise Distribution of Agreements of FTC Companies

Industry	Tenth Round (2012-13 to 2013-14)		Eleventh Round (2014-15 to 2015-16)	
	Number	% of total	Number	% of total
A. Agriculture-related, Plantations & Allied activities	17	3.2	22	3.7
B. Mining and quarrying	1	0.2	1	0.2
C. Manufacturing	409	77.5	471	79.8
1. Food Products	8	1.5	13	2.2
2. Beverages	0	0.0	0	0.0
3. Textiles	3	0.6	2	0.3
4. Wearing Apparel	0	0.0	0	0.0
5. Leather and Related Products	2	0.4	2	0.3
6. Wood and Products Of Wood and Cork, Except Furniture	0	0.0	0	0.0
7. Printing and Reproduction Of Recorded Media	0	0.0	0	0.0
8. Coke and Refined Petroleum Products	0	0.0	4	0.7
9. Chemicals and Chemical Products	30	5.7	42	7.1
10. Pharmaceuticals, Medicinal Chemical & Botanical Products	19	3.6	27	4.6
11. Rubber and Plastics Products	11	2.1	11	1.9
12. Other Non-Metallic Mineral Products	0	0.0	1	0.2
13. Fabricated Metal Products, Except Machinery & Equipment	7	1.3	9	1.5
14. Computer, Electronic and Optical Products	3	0.6	6	1.0
15. Electrical Equipment	14	2.7	24	4.1
16 Machinery and Equipment N.E.C.	58	11.0	61	10.3
17. Motor Vehicles, Trailers and Semi-Trailers	59	11.2	69	11.7
18. Other Transport Equipment	47	8.9	49	8.3
19. Other manufacturing	148	28.0	151	25.6
D. Electricity, gas, steam and air conditioning supply	0	0.0	0	0.0
E. Water supply; sewerage, waste management and remediation activities	1	0.2	0	0.0
F. Construction	10	1.9	14	2.4
G. Services	90	17.0	82	13.9
1. Wholesale & retail trade; repair of motor vehicles & motorcycles	0	0.0	1	0.2
2. Repair and installation of machinery and equipment	11	2.1	6	1.0
3. Accommodation and Food service activities	6	1.1	5	0.9
4. Information and communication	14	2.7	19	3.2
5. Financial and insurance activities	2	0.4	5	0.8
6. Real estate activities	0	0.0	0	0.0
7. Other service activities	57	10.8	46	7.8
Total	528	100.0	590	100.0

Note: The sum of the constituent items may not add to the total due to rounding off. (Also applicable to other tables)

Table 3: Country-wise Distribution of Agreements of FTC Companies

Country	Tenth Round (2012-13 to 2013-14)		Eleventh Round (2014-15 to 2015-16)	
	Number	% of total	Number	% of total
Japan	133	25.2	200	33.9
USA	69	13	82	13.9
Germany	67	12.6	63	10.7
UK	31	5.9	30	5.1
Italy	24	4.5	27	4.6
Republic of Korea	22	4.2	22	3.7
France	31	5.9	20	3.4
Switzerland	22	4.2	17	2.9
Singapore	13	2.5	9	1.5
Others	116	22	120	20.3
Total	528	100.0	590	100.0

Table 4: Distribution of Agreements According to Type of Assets Transferred of FTC Companies

Asset transferred	Tenth Round (2012-13 to 2013-14)		Eleventh Round (2014-15 to 2015-16)	
	Number	% of total	Number	% of total
Know-how	353	66.9	405	68.6
Trademark/ Brand Name	51	9.6	59	10.0
Patent	11	2.1	4	0.7
Others	113	21.4	122	20.7
Total	528	100.0	590	100.0

Table 5: Distribution of Agreements According to Mode of Payment of FTC Companies

Mode of Payment	Tenth Round (2012-13 to 2013-14)		Eleventh Round (2014-15 to 2015-16)	
	Number	% of total	Number	% of total
Royalty	216	48.1	268	55.4
Lump sum technical fees	96	21.4	67	13.8
Both Royalty and Lump-sum technical fees	137	30.5	149	30.8
Total	449	100	484*	100.0

* Of the 590 agreements, 484 agreements reported along with the specific mode of payment in the present survey.

Table 6: Industry-wise Agreements with Exports Restrictive Clauses of FTC Companies

Industry	Tenth Round (2012-13 to 2013-14)			Eleventh Round (2014-15 to 2015-16)		
	Total no of Agreement	Number of Agreements with Export Restrictive Clauses	% of Agreements with Export Restrictive Clauses	Total no of Agreement	Number of Agreements with Export Restrictive Clauses	% of Agreements with Export Restrictive Clauses
A. Agriculture-related, Plantations & Allied activities	17	1	8.9	22	2	4.5
B. Mining and quarrying	1	0	0.0	1	0	0.0
C. Manufacturing	409	151	36.9	471	176	37.4
1. Food Products	8	2	25.0	13	3	23.1
2. Beverages	0	0	0.0	0	0	-
3. Textiles	3	1	33.3	2	0	0.0
4. Wearing Apparel	0	0	0.0	0	0	-
5. Leather and Related Products	2	1	50.0	2	1	50.0
6. Wood and Products Of Wood and Cork, Except Furniture	0	0	0.0	0	0	-
7. Printing & Reproduction Of Recorded Media	0	0	0.0	0	0	-
8. Coke and Refined Petroleum Products	0	0	0.0	4	0	0.0
9. Chemicals and Chemical Products	30	5	16.7	42	5	11.9
10. Pharmaceuticals, Medicinal Chemical and Botanical Products	19	14	73.7	27	18	66.7
11. Rubber and Plastics Products	11	4	36.4	11	3	27.3
12. Other Non-Metallic Mineral Products	0	0	0.0	1	0	0.0
13. Fabricated Metal Products, Except Machinery and Equipment	7	2	28.6	9	4	44.4
14. Computer, Electronic & Optical Products	3	0	0.0	6	1	16.7
15. Electrical Equipment	14	9	64.3	24	12	50.0
16 Machinery and Equipment n.e.c.	58	27	46.6	61	26	42.6
17. Motor Vehicles, Trailers & Semi-Trailers	59	33	55.9	69	19	27.5
18. Other Transport Equipment	47	15	31.9	49	28	57.1
19. Other manufacturing	148	38	25.7	151	56	37.1
D. Electricity, gas, steam and air conditioning supply	0	0	0.0	0	0	-
E. Water supply; sewerage, waste management & remediation activities	1	0	0.0	0	0	-
F. Construction	10	0	0.0	14	5	35.7
G. Services	90	8	8.9	82	7	8.5
1. Wholesale and retail trade; repair of motor vehicles and motorcycles	0	0	0.0	1	1	100.0
2. Repair and installation of machinery and equipment	11	2	18.2	6	1	16.7
3. Accommodation & Food service activities	6	0	0.0	5	0	0.0
4. Information and communication	14	2	14.3	19	1	5.3
5. Financial and insurance activities	2	0	0.0	5	1	20.0
6. Real estate activities	0	0	0.0	0	0	-
7. Other service activities	57	4	7.0	46	3	6.5
Total	528	160	30.3	590	189	32.0

Table 7: Country-wise Agreements with Export Restrictive Clauses of FTC Companies

Country	Tenth Round (2012-13 to 2013-14)			Eleventh Round (2014-15 to 2015-16)		
	Total no of agreements	No of agreements with export restrictive clauses	% of agreements with export restrictive clauses	Total no of agreements	No of agreements with export restrictive clauses	% of agreements with export restrictive clauses
Japan	133	64	48.1	200	89	44.5
USA	69	16	23.2	82	20	24.4
Germany	67	19	28.4	63	17	27.0
UK	31	10	32.3	30	9	30.0
Singapore	13	0	0.0	9	2	22.2
Italy	24	11	45.8	27	7	25.9
Republic of Korea	22	4	18.2	22	2	9.1
Switzerland	22	10	45.5	17	9	52.9
France	31	7	22.6	20	5	25.0
Others	116	19	15.8	120	29	24.2
Total	528	160	30.3	590	189	32.0

Table 8: Industry-wise Agreements with Provision of Exclusive Rights of FTC Companies

Industry	Tenth Round		Eleventh Round	
	(2012-13 to 2013-14)		(2014-15 to 2015-16)	
	Number of Agreements with Exclusive Rights	% to Total Number of Agreements	Number of Agreements with Exclusive Rights	% to Total Number of Agreements
A. Agriculture-related, Plantation and Allied activities	12	70.6	14	63.6
B. Mining & Quarrying	0	0.0	0	0.0
C. Manufacturing	162	39.6	173	36.7
1. Food Products	4	50.0	7	53.8
2. Beverages	0	-	0	-
3. Textiles	2	66.7	2	100.0
4. Wearing Apparel	0	-	0	-
5. Leather and Related Products	1	50.0	1	50.0
6. Wood and Products Of Wood and Cork, Except Furniture	0	-	0	-
7. Printing and Reproduction Of Recorded Media	0	-	0	-
8. Coke and Refined Petroleum Products	0	-	1	25.0
9. Chemicals and Chemical Products	16	53.3	12	28.6
10. Pharmaceuticals, Medicinal Chemical & Botanical Products	14	73.7	20	74.1
11. Rubber and Plastics Products	6	54.5	5	45.5
12. Other Non-Metallic Mineral Products	0	-	1	100.0
13. Fabricated Metal Products, ex.Machinery & Equipment	4	57.1	2	22.2
14. Computer, Electronic and Optical Products	0	0.0	2	33.3
15. Electrical Equipment	5	35.7	7	29.2
16 Machinery and Equipment N.E.C.	22	37.9	26	42.6
17. Motor Vehicles, Trailers and Semi-Trailers	14	23.7	25	36.2
18. Other Transport Equipment	13	27.7	13	26.5
19. Other manufacturing	61	41.2	49	32.5
D. Electricity, gas, steam and air conditioning supply	0	-	0	-
E. Water supply; sewerage, waste management and remediation activities	0	0.0	0	-
F. Construction	0	0.0	5	35.7
G. Services	29	32.2	20	24.4
1. Wholesale and retail trade; repair of motor vehicles & motorcycles	0	-	1	100.0
2. Repair and installation of machinery and equipment	6	54.5	2	33.3
3. Accommodation and Food service activities	1	16.7	0	0.0
4. Information and communication	5	35.7	8	42.1
5. Financial and insurance activities	0	0.0	0	0.0
6. Real estate activities	0	-	0	-
7. Other service activities	17	29.8	9	19.6
Total	203	38.4	212	35.9

Table 9: Industry-wise Share in Value of Production of FTC Companies

(₹billion)

Industry	Value of Production		Annual Growth (per cent)	Share in VoP (2015-16)
	2014-15	2015-16		
A. Agriculture-related, Plantation and Allied activities	40.3	43.4	7.7	1.0
B. Mining & Quarrying	0.0	0.0	-	0.0
C. Manufacturing	3157.2	3508.8	11.1	80.0
1. Food Products	47.9	46.9	-2.1	1.1
2. Beverages	0.0	0.0	-	0.0
3. Textiles	0.1	0.1	0.0	0.0
4. Wearing Apparel	0.0	0.0	-	0.0
5. Leather and Related Products	24.3	26.6	9.5	0.6
6. Wood and Products Of Wood and Cork, Except Furniture	0.0	0.0	-	0.0
7. Printing and Reproduction Of Recorded Media	0.0	0.0	-	0.0
8. Coke and Refined Petroleum Products	38.6	39.1	1.3	0.9
9. Chemicals and Chemical Products	407.5	425.0	4.3	9.7
10. Pharmaceuticals, Medicinal Chemical & Botanical Products	31.8	33.7	6.0	0.8
11. Rubber and Plastics Products	16.1	17.3	7.5	0.4
12. Other Non-Metallic Mineral Products	1.8	1.8	0.0	0.0
13. Fabricated Metal Products, Except Machinery & Equipment	246.3	279.3	13.4	6.4
14. Computer, Electronic and Optical Products	35.9	40.3	12.3	0.9
15. Electrical Equipment	115.7	147.3	27.3	3.4
16 Machinery and Equipment N.E.C.	236.4	267.2	13.0	6.1
17. Motor Vehicles, Trailers and Semi-Trailers	1237.6	1386.4	12.0	31.5
18. Other Transport Equipment	97.4	104.8	7.6	2.4
19. Other manufacturing	619.8	693.0	11.8	15.8
D. Electricity, gas, steam and air conditioning supply	0.0	0.0	-	0.0
E. Water supply; sewerage, waste management and remediation activities	0.0	0.0	-	0.0
F. Construction	593.0	626.6	5.7	14.3
G. Services	187.7	207.7	10.7	4.7
1. Wholesale and retail trade; repair of motor vehicles & motorcycles	8.9	11.0	23.6	0.3
2. Repair and installation of machinery and equipment	1.9	1.4	-26.3	0.0
3. Accommodation and Food service activities	2.2	2.4	9.1	0.1
4. Information and communication	12.0	13.7	14.2	0.3
5. Financial and insurance activities	2.8	3.0	7.1	0.1
6. Real estate activities	0.0	0.0	-	0.0
7. Other service activities	159.9	176.2	10.2	4.0
Total	3978.1	4386.6	10.3	100.0

Table 10: Industry-wise Exports of FTC Companies

Industry	Exports		Annual Growth (per cent)	Share in Export (2015-16)
	2014-15	2015-16		
A. Agriculture-related, Plantation and Allied activities	0.4	0.1	0.6	0.1
B. Mining & Quarrying	0.0	0.0	-	0.0
C. Manufacturing	544.9	570.6	4.7	72.3
1. Food Products	6.2	6.6	6.5	0.8
2. Beverages	0.0	0.0	-	0.0
3. Textiles	0.0	0.0	-	0.0
4. Wearing Apparel	0.0	0.0	-	0.0
5. Leather and Related Products	0.2	0.1	-50.0	0.0
6. Wood and Products Of Wood and Cork, Except Furniture	0.0	0.0	-	0.0
7. Printing and Reproduction Of Recorded Media	0.0	0.0	-	0.0
8. Coke and Refined Petroleum Products	0.3	0.3	0.0	0.0
9. Chemicals and Chemical Products	42.2	40.9	-3.1	5.2
10. Pharmaceuticals, Medicinal Chemical & Botanical Products	16.8	18.0	7.1	2.3
11. Rubber and Plastics Products	0.5	0.7	40.0	0.1
12. Other Non-Metallic Mineral Products	0.7	0.7	0.0	0.1
13. Fabricated Metal Products, Except Machinery & Equipment	2.0	5.1	155.0	0.6
14. Computer, Electronic and Optical Products	17.3	21.0	21.4	2.7
15. Electrical Equipment	16.7	18.9	13.2	2.4
16 Machinery and Equipment N.E.C.	76.6	98.5	28.6	12.5
17. Motor Vehicles, Trailers and Semi-Trailers	180.6	171.3	-5.1	21.7
18. Other Transport Equipment	11.1	11.6	4.5	1.5
19. Other manufacturing	173.6	176.8	1.8	22.4
D. Electricity, gas, steam and air conditioning supply	0.0	0.0	-	0.0
E. Water supply; sewerage, waste management and remediation activities	0.0	0.0	-	0.0
F. Construction	95.0	111.5	17.4	14.1
G. Services	98.9	106.1	7.3	13.5
1. Wholesale and retail trade; repair of motor vehicles & motorcycles	0.8	1.0	25.0	0.1
2. Repair and installation of machinery and equipment	0.1	0.1	0.0	0.0
3. Accommodation and Food service activities	0.5	0.5	0.0	0.1
4. Information and communication	3.4	4.7	38.2	0.6
5. Financial and insurance activities	0.0	0.0	-	0.0
6. Real estate activities	0.0	0.0	-	0.0
7. Other service activities	94.0	99.9	6.3	12.7
Total	739.2	788.8	6.7	100.0

Table 11: Industry-wise Imports of FTC Companies

Industry	Imports		Annual Growth (per cent)	Share in Import (2015-16)
	2014-15	2015-16		
A. Agriculture-related, Plantation and Allied activities	3.5	2.6	-25.7	0.3
B. Mining & Quarrying	0.0	0.0	-	0.0
C. Manufacturing	778.1	824.1	5.9	93.9
1. Food Products	3.5	3.5	0.0	0.4
2. Beverages	0.0	0.0	-	0.0
3. Textiles	0.0	0.0	-	0.0
4. Wearing Apparel	0.0	0.0	-	0.0
5. Leather and Related Products	1.7	2.0	17.6	0.2
6. Wood and Products Of Wood and Cork, Except Furniture	0.0	0.0	-	0.0
7. Printing and Reproduction Of Recorded Media	0.0	0.0	-	0.0
8. Coke and Refined Petroleum Products	1.6	8.8	450.0	1.0
9. Chemicals and Chemical Products	135.8	129.2	-4.9	14.7
10. Pharmaceuticals, Medicinal Chemical & Botanical Products	9.4	11.0	17.0	1.3
11. Rubber and Plastics Products	2.9	3.5	20.7	0.4
12. Other Non-Metallic Mineral Products	0.2	0.2	0.0	0.0
13. Fabricated Metal Products, Except Machinery & Equipment	217.0	244.4	12.6	27.9
14. Computer, Electronic and Optical Products	16.7	16.1	-3.6	1.8
15. Electrical Equipment	26.5	34.8	31.3	4.0
16 Machinery and Equipment N.E.C.	62.5	59.6	-4.6	6.8
17. Motor Vehicles, Trailers and Semi-Trailers	155.9	161.3	3.5	18.4
18. Other Transport Equipment	14.6	15.1	3.4	1.7
19. Other manufacturing	129.7	134.5	3.7	15.3
D. Electricity, gas, steam and air conditioning supply	0.0	0.0	-	0.0
E. Water supply; sewerage, waste management and remediation activities	0.0	0.0	-	0.0
F. Construction	27.1	30.5	12.5	3.5
G. Services	5.9	20.0	239.0	2.3
1. Wholesale and retail trade; repair of motor vehicles & motorcycles	0.0	0.0	-	0.0
2. Repair and installation of machinery and equipment	0.1	0.0	-100.0	0.0
3. Accommodation and Food service activities	0.1	0.1	0.0	0.0
4. Information and communication	0.5	0.5	0.0	0.1
5. Financial and insurance activities	0.0	0.0	-	0.0
6. Real estate activities	0.0	0.0	-	0.0
7. Other service activities	5.2	19.3	271.2	2.2
Total	814.6	877.3	7.7	100.0

Table 12: Profitability Ratio of FTC Companies

Survey Round	Year	Gross profit to Capital (per cent)	
		Financial Year	Survey Average
Ninth round of Survey (244 <i>FTC companies</i>)	2010-11	9.8	10.0
	2011-12	10.1	
Tenth round of Survey (303 <i>FTC companies</i>)	2012-13	17.0	14.8
	2013-14	12.6	
Eleventh round of Survey (306 <i>FTC companies</i>)	2014-15	17.3	18.0
	2015-16	18.5	