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October 31, 2023

Survey on Foreign Collaboration in Indian Industry: 2021–2023 – Data Release

Today, the Reserve Bank released the [results](#)¹ of fourteenth round of its biennial survey on foreign collaboration in Indian industry (FCS) covering the financial years 2021-22 and 2022-23. This survey captures information on financial parameters and operations of the Indian companies having technical collaboration with foreign companies during the reference period, as per the attached [schedule](#).

Out of the 709 Indian entities that participated in the latest survey round, 674 foreign technical collaboration (FTC) agreements were reported by 356 entities, of which, 221 had also responded in the previous survey round.

Highlights:

- Foreign direct investment (FDI) companies accounted for an overwhelming majority of the FTCs: foreign subsidiaries (*i.e.*, single foreign investor holding over 50 per cent of total equity) and foreign associate companies (*i.e.*, foreign investors' equity holding ranging between 10-50 per cent) reported 71 per cent and 18 per cent of the FTC agreements, respectively ([Table 1](#)).
- Among economic sectors, manufacturing and services sectors accounted for 78 per cent and 17 per cent of the total reported FTCs, respectively; machinery, transport equipments, chemicals and chemical products together accounted for over 40 per cent share in the manufacturing sector ([Table 2](#)).
- Japan, the United States of America (USA) and Germany remained the top three source country for technology transfer, as per the survey respondents ([Table 3](#)).
- Over two-third of the FTC agreements involved technology know-how transfer or use of trademarks / brand names by foreign collaborators ([Table 4](#)).
- Royalty payments was payment mode for over 70 per cent of the FTCs, with some having additional clauses for lump-sum technical fees ([Table 5](#)).
- Of the 674 reported FTC agreements, 198 had export restriction clauses and 217 had provision for exclusive rights on assets transferred under the pacts ([Tables 6](#) and [8](#)).
- In terms of partner countries, technical collaborations with Japan continued to have the maximum export restriction clauses built into them, followed by the USA and Germany among the source countries for technology transfer ([Table 7](#)).

¹ The results of the thirteenth round of the Survey on Foreign Collaboration in Indian Industry for the period 2019-2021 were released on the RBI website on [October 8, 2021](#).

- Companies with FTC agreements for motor vehicles sectors had the highest share in total production of FTC companies; motor vehicles sector recorded 28.4 per cent production growth during 2022-23 as against 24.3 per cent growth registered by all FTC companies ([Table 9](#)).
- Exports and imports of FTC reporting companies grew by 19.8 per cent and 26.5 per cent, respectively, in 2022-23 - they had 13.6 per cent and 24.0 per cent shares, respectively, in the total value of production ([Tables 10](#) and [11](#)).
- Average profitability of FTC reporting companies, measured by the ratio of gross profit to capital employed, stood at 10.5 per cent in the current survey round ([Table 12](#)).

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Ajit Prasad
Director (Communications)

Table 1: Company Group-wise Number of Companies having Foreign Technical Collaboration: 2021-23

Company Group	No of Companies
Foreign Subsidiary	254
Foreign Associate	63
Pure Technical Collaboration	8
Others (Foreign Equity less than 10 per cent or only outward investment)	31
Total	356

Table 2: Industry-wise Distribution of Agreements of Foreign Technical Collaboration (FTC) Companies

Industry	Thirteenth Round (2019-20 to 2020-21)		Fourteenth Round (2021-22 to 2022-23)	
	Number	% in Total	Number	% in Total
A. Agriculture-related, Plantation and Allied activities	5	0.5	6	0.9
B. Mining & Quarrying	-	-	-	-
C. Manufacturing	718	77.3	529	78.4
Food Products	11	1.2	2	0.3
Beverages and Tobacco products	2	0.2	1	0.2
Textiles	5	0.5	1	0.2
Wearing Apparel	2	0.2	2	0.3
Leather & related products	3	0.3	1	0.1
Wood & products of wood and cork, except furniture	-	-	-	-
Printing and reproduction of recorded media	1	0.1	-	-
Coke and refined petroleum products	4	0.4	4	0.6
Chemicals and chemical products	56	6.0	46	6.8
Pharmaceuticals, medicinal chemical and botanical products	35	3.8	6	0.9
Rubber and plastics products	37	4.0	25	3.7
Other Non-metallic mineral products	9	1.0	10	1.5
Fabricated metal products; except machinery and equipment	27	2.9	11	1.6
Computer, electronic and optical products	15	1.6	5	0.7
Electrical equipment	29	3.1	21	3.1
Machinery and equipment not elsewhere classified	137	14.8	93	13.8
Motor vehicles, trailers and semi-trailers	83	8.9	76	11.3
Other transport equipment	57	6.2	29	4.3
Other manufacturing	205	22.1	196	29.0
D. Electricity, gas, steam and air conditioning supply	1	0.1	3	0.4
E. Water supply; sewerage, waste management and remediation activities	4	0.4	1	0.2
F. Construction	24	2.6	21	3.1
G. Services	177	19.1	114	17.0
Wholesale and retail trade; repair of motor vehicles and motorcycles	6	0.6	8	1.2
Repair and installation of machinery and equipment	8	0.9	14	2.1
Accommodation and Food service activities	8	0.9	-	-
Information and communication	27	2.9	7	1.0
Financial and insurance activities	22	2.4	14	2.1
Real estate activities	-	-	1	0.2
Scientific research and development	2	0.2	1	0.2
Other service activities	104	11.2	69	10.2
Total	929	100.0	674	100.0
Note: 1. Components may not add up to the total due to rounding off. 2. - : Nil / negligible. (These are applicable for all tables)				

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

Country	Thirteenth Round (2019-20 to 2020-21)		Fourteenth Round (2021-22 to 2022-23)	
	Number	% in Total	Number	% in Total
Japan	287	30.9	236	35.0
United States of America	124	13.4	87	12.9
Germany	128	13.8	73	10.8
South Korea	44	4.7	41	6.1
Italy	47	5.1	29	4.3
France	57	6.1	29	4.3
United Kingdom	40	4.3	20	3.0
Switzerland	28	3.0	18	2.7
Singapore	16	1.7	9	1.3
Others*	158	17.0	132	19.6
Total	929	100.0	674	100.0

* 'Others' include countries with less than nine FTC agreements reported in the survey round.

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

Asset transferred	Thirteenth Round (2019-20 to 2020-21)		Fourteenth Round (2021-22 to 2022-23)	
	Number	% in Total	Number	% in Total
Know-how	525	56.5	377	55.9
Trademark/ Brand Name	98	10.5	76	11.3
Patent	7	0.8	8	1.2
Others (Including combination of above)	299	32.2	213	31.6
Total	929	100.0	674	100.0

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

Mode of Payment	Thirteenth Round (2019-20 to 2020-21)		Fourteenth Round (2021-22 to 2022-23)	
	Number	% in Total	Number	% in Total
Royalty	426	45.9	299	44.4
Lump sum technical fees	89	9.6	68	10.0
Both Royalty and Lump-sum technical fees	190	20.5	177	26.3
Others *	224	24.0	130	19.3
Total	929	100.0	674	100.0

* Others include other modes of payment (other than royalty and lump-sum technical fees) for dividend; import of machinery and raw materials; technical support fees; training, communication and advertising and other similar remittances.

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

Industry	Thirteenth Round (2019-20 to 2020-21)			Fourteenth Round (2021-22 to 2022-23)		
	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
A. Agriculture-related, Plantation and Allied activities	5	1	20.0	6	1	16.7
B. Mining & Quarrying	-	-	-	-	-	-
C. Manufacturing	718	203	28.3	529	180	34.0
Food Products	11	4	36.4	2	1	50.0
Beverages and Tobacco products	2	-	-	1	-	-
Textiles	5	-	-	1	-	-
Wearing Apparel	2	-	-	2	-	-
Leather & related products	3	-	-	1	-	-
Wood & products of wood and cork, except furniture	-	-	-	-	-	-
Printing and reproduction of recorded media	1	-	-	-	-	-
Coke and refined petroleum products	4	2	50.0	4	2	50.0
Chemicals and chemical products	56	12	21.4	46	8	17.4
Pharmaceuticals, medicinal chemical and botanical products	35	16	45.7	6	3	50.0
Rubber and plastics products	37	6	16.2	25	5	20.0
Other Non-metallic mineral products	9	3	33.3	10	8	80.0
Fabricated metal products; except machinery and equipment	27	6	22.2	11	1	9.1
Computer, electronic and optical products	15	1	6.7	5	1	20.0
Electrical equipment	29	9	31.0	21	-	-
Machinery and equipment not elsewhere classified	137	28	20.4	93	35	37.6
Motor vehicles, trailers and semi-trailers	83	27	32.5	76	27	35.5
Other transport equipment	57	25	43.9	29	12	41.4
Other manufacturing	205	64	31.2	196	77	39.3
D. Electricity, gas, steam and air conditioning supply	1	-	-	3	-	-
E. Water supply; sewerage, waste management and remediation activities	4	-	-	1	-	-
F. Construction	24	13	54.2	21	11	52.4
G. Services	177	17	9.6	114	6	5.3
Wholesale and retail trade; repair of motor vehicles and motorcycles	6	-	-	8	-	-
Repair and installation of machinery and equipment	8	-	-	14	1	7.1
Accommodation and Food service activities	8	3	37.5	-	-	-
Information and communication	27	1	3.7	7	-	-
Financial and insurance activities	22	1	4.5	14	1	7.1
Real estate activities	-	-	-	1	-	-
Scientific research and development	2	-	-	1	-	-
Other service activities	104	12	11.5	69	4	5.8
Total	929	234	25.2	674	198	29.4

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

Country	Thirteenth Round (2019-20 to 2020-21)			Fourteenth Round (2021-22 to 2022-23)		
	Total no. of Agreements	No. of Agreements with Export restrictive clauses	% of Agreement with Export Restrictive Clauses	Total no. of Agreements	No. of Agreements with Export restrictive clauses	% of Agreement with Export Restrictive Clauses
Japan	287	107	37.3	236	99	41.9
United States of America	124	27	21.8	87	25	28.7
Germany	128	18	14.1	73	16	21.9
South Korea	44	5	11.4	41	8	19.5
Italy	47	13	27.7	29	7	24.1
France	57	14	24.6	29	3	10.3
United Kingdom	40	8	20.0	20	5	25.0
Switzerland	28	9	32.1	18	5	27.8
Singapore	16	3	18.8	9	1	11.1
Others	158	30	19.0	132	29	22.0
Total	929	234	25.2	674	198	29.4

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

Industry	Thirteenth Round (2019-20 to 2020-21)			Fourteenth Round (2021-22 to 2022-23)		
	Total no. of Agreements	No. of Agreements with Exclusive Rights	% in Total No of Agreements	Total Number of Agreements	No. of Agreements with Exclusive Rights	% in Total no. of Agreements
A. Agriculture-related, Plantation and Allied activities	5	4	80.0	6	5	83.3
B. Mining & Quarrying	-	-	-	-	-	-
C. Manufacturing	718	245	34.1	529	178	33.6
Food Products	11	5	45.5	2	2	100.0
Beverages and Tobacco products	2	-	-	1	-	-
Textiles	5	4	80.0	1	1	100.0
Wearing Apparel	2	-	-	2	-	-
Leather & related products	3	1	33.3	1	-	-
Wood & products of wood and cork, except furniture	-	-	-	-	-	-
Printing and reproduction of recorded media	1	1	100.0	-	-	-
Coke and refined petroleum products	4	2	50.0	4	2	50.0
Chemicals and chemical products	56	23	41.1	46	19	41.3
Pharmaceuticals, medicinal chemical and botanical products	35	18	51.4	6	2	33.3
Rubber and plastics products	37	18	48.6	25	12	48.0
Other Non-metallic mineral products	9	7	77.8	10	7	70.0
Fabricated metal products; except machinery and equipment	27	10	37.0	11	2	18.2
Computer, electronic and optical products	15	4	26.7	5	3	60.0
Electrical equipment	29	17	58.6	21	7	33.3
Machinery and equipment not elsewhere classified	137	51	37.2	93	31	33.3
Motor vehicles, trailers and semi-trailers	83	30	36.1	76	28	36.8
Other transport equipment	57	13	22.8	29	16	55.2
Other manufacturing	205	41	20.0	196	46	23.5
D. Electricity, gas, steam and air conditioning supply	1	-	-	3	1	33.3
E. Water supply; sewerage, waste management and remediation activities	4	1	25.0	1	-	-
F. Construction	24	16	66.7	21	12	57.1
G. Services	177	33	18.6	114	21	18.4
Wholesale and retail trade; repair of motor vehicles and motorcycles	6	4	66.7	8	3	37.5
Repair and installation of machinery and equipment	8	1	12.5	14	6	42.9
Accommodation and Food service activities	8	5	62.5	-	-	-
Information and communication	27	5	18.5	7	4	57.1
Financial and insurance activities	22	-	-	14	2	14.3
Real estate activities	-	-	-	1	1	100.0
Scientific research and development	2	1	50.0	1	-	-
Other service activities	104	17	16.3	69	5	7.2
Total	929	299	32.2	674	217	32.2

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

(amount in ₹ crore)

Industry	Value of Production		Annual Growth (per cent)	Share in VoP (2022-23)
	2021-22	2022-23		
A. Agriculture-related, Plantation and Allied activities	3,064	3,661	19.5	0.5
B. Mining & Quarrying	-	-	-	-
C. Manufacturing	3,61,862	4,46,386	23.4	54.6
Food Products	893	984	10.2	0.1
Beverages and Tobacco products	3,186	4,228	32.7	0.5
Textiles	124	158	27.4	-
Wearing Apparel	281	328	16.7	-
Leather & related products	130	154	18.5	-
Wood & products of wood and cork, except furniture	-	-	-	-
Printing and reproduction of recorded media	-	-	-	-
Coke and refined petroleum products	3,502	4,712	34.6	0.6
Chemicals and chemical products	45,424	54,648	20.3	6.7
Pharmaceuticals, medicinal chemical and botanical products	603	680	12.8	0.1
Rubber and plastics products	4,673	5,623	20.3	0.7
Other Non-metallic mineral products	2,541	3,051	20.1	0.4
Fabricated metal products; except machinery and equipment	1,696	2,692	58.7	0.3
Computer, electronic and optical products	919	1,172	27.5	0.1
Electrical equipment	23,626	28,921	22.4	3.5
Machinery and equipment not elsewhere classified	45,005	51,406	14.2	6.3
Motor vehicles, trailers and semi-trailers	1,31,463	1,68,735	28.4	20.7
Other transport equipment	12,077	16,204	34.2	2.0
Other manufacturing	85,719	1,02,690	19.8	12.6
D. Electricity, gas, steam and air conditioning supply	550	1,045	90.0	0.1
E. Water supply; sewerage, waste management and remediation activities	2	1	-	-
F. Construction	1,04,649	1,14,566	9.5	14.0
G. Services	1,87,015	2,51,385	34.4	30.8
Wholesale and retail trade; repair of motor vehicles and motorcycles	244	305	25.0	-
Repair and installation of machinery and equipment	1,062	1,313	23.6	0.2
Accommodation and Food service activities	-	-	-	-
Information and communication	19,344	33,287	72.1	4.1
Financial and insurance activities	12,923	13,892	7.5	1.7
Real estate activities	46	36	-21.7	-
Scientific research and development	156	184	17.9	-
Other service activities	1,53,240	2,02,368	32.1	24.8
Total	6,57,142	8,17,044	24.3	100.0

Table 10: Industry-wise Export of FTC Companies

(amount in ₹ crore)

Industry	Exports		Annual Growth (per cent)	% Share in Exports (2022-23)
	2021-22	2022-23		
A. Agriculture-related, Plantation and Allied activities	176	105	-40.3	0.1
B. Mining & Quarrying	-	-	-	-
C. Manufacturing	50,562	62,717	24.0	56.4
Food Products	50	73	46.0	0.1
Beverages and Tobacco products	562	955	69.9	0.9
Textiles	116	144	24.1	0.1
Wearing Apparel	128	120	-6.3	0.1
Leather & related products	130	154	18.5	0.1
Wood & products of wood and cork, except furniture	-	-	-	-
Printing and reproduction of recorded media	-	-	-	-
Coke and refined petroleum products	231	241	4.3	0.2
Chemicals and chemical products	2,390	2,790	16.7	2.5
Pharmaceuticals, medicinal chemical and botanical products	101	133	31.7	0.1
Rubber and plastics products	605	635	5.0	0.6
Other Non-metallic mineral products	345	362	4.9	0.3
Fabricated metal products; except machinery and equipment	276	250	-9.4	0.2
Computer, electronic and optical products	106	215	102.8	0.2
Electrical equipment	3,049	3,981	30.6	3.6
Machinery and equipment not elsewhere classified	11,490	13,611	18.5	12.2
Motor vehicles, trailers and semi-trailers	20,664	26,980	30.6	24.3
Other transport equipment	1,065	1,429	34.2	1.3
Other manufacturing	9,254	10,644	15.0	9.6
D. Electricity, gas, steam and air conditioning supply	-	-	-	-
E. Water supply; sewerage, waste management and remediation activities	2	1	-50.0	-
F. Construction	20,332	18,880	-7.1	17.0
G. Services	21,813	29,545	35.4	26.5
Wholesale and retail trade; repair of motor vehicles and motorcycles	6	7	16.7	-
Repair and installation of machinery and equipment	90	32	-64.4	-
Accommodation and Food service activities	-	-	-	-
Information and communication	7,590	9,043	19.1	8.1
Financial and insurance activities	4	14	250.0	-
Real estate activities	-	-	-	-
Scientific research and development	-	-	-	-
Other service activities	14,123	20,449	44.8	18.4
Total	92,885	1,11,248	19.8	100.0

Table 11: Industry-wise Imports of FTC Companies

(amount in ₹ crore)

Industry	Imports		Annual Growth (per cent)	Share in Imports (2022-23)
	2021-22	2022-23		
A. Agriculture-related, Plantation and Allied activities	169	188	11.2	0.1
B. Mining & Quarrying	-	-	-	-
C. Manufacturing	87,185	1,01,163	16.0	51.7
Food Products	23	7	-69.6	-
Beverages and Tobacco products	220	312	41.8	0.2
Textiles	22	36	63.6	-
Wearing Apparel	118	160	35.6	0.1
Leather & related products	48	49	2.1	-
Wood & products of wood and cork, except furniture	-	-	-	-
Printing and reproduction of recorded media	-	-	-	-
Coke and refined petroleum products	1,143	1,302	13.9	0.7
Chemicals and chemical products	10,745	12,586	17.1	6.4
Pharmaceuticals, medicinal chemical and botanical products	169	226	33.7	0.1
Rubber and plastics products	1,167	1,251	7.2	0.6
Other Non-metallic mineral products	697	792	13.6	0.4
Fabricated metal products; except machinery and equipment	158	125	-20.9	0.1
Computer, electronic and optical products	484	603	24.6	0.3
Electrical equipment	5,232	6,598	26.1	3.4
Machinery and equipment not elsewhere classified	6,738	6,974	3.5	3.6
Motor vehicles, trailers and semi-trailers	15,856	20,116	26.9	10.3
Other transport equipment	2,530	3,569	41.1	1.8
Other manufacturing	41,835	46,457	11.0	23.7
D. Electricity, gas, steam and air conditioning supply	-	-	-	-
E. Water supply; sewerage, waste management and remediation activities	-	-	-	-
F. Construction	6,667	6,304	-5.4	3.2
G. Services	60,789	88,169	45.0	45.0
Wholesale and retail trade; repair of motor vehicles and motorcycles	55	94	70.9	-
Repair and installation of machinery and equipment	309	527	70.6	0.3
Accommodation and Food service activities	-	-	-	-
Information and communication	558	890	59.5	0.5
Financial and insurance activities	4	10	150.0	-
Real estate activities	-	-	-	-
Scientific research and development	1	1	-	-
Other service activities	59,862	86,647	44.7	44.2
Total	1,54,810	1,95,824	26.5	100.0

Table 12: Profitability Ratio of FTC Companies

Survey Round	Year	Gross Profit to Capital ratio (per cent)	
		Financial Year	Survey Average
Ninth round (244)	2010-11	9.8	10.0
	2011-12	10.1	
Tenth Round (303)	2012-13	17.0	14.8
	2013-14	12.6	
Eleventh Round (306)	2014-15	17.3	17.9
	2015-16	18.5	
Twelfth Round (334)	2016-17	14.6	16.0
	2017-18	17.4	
Thirteenth Round (481)	2019-20	14.6	11.5
	2020-21	8.4	
Fourteenth Round (356)	2021-22	10.5	10.5
	2022-23	10.4	

Note: Figures in parentheses indicate the number of reporting FTC companies.