Chapter 3
India in the International Production Network: The Role of Outward FDI

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Abstract Outward FDI from India has expanded manifold since the liberalization of policy regime. The phenomenon is expected to improve India's involvement in international production network. The paper examines the role of outward FDI in the manufacturing sector on production-network-related trade over the period 2008–2014. The impact of bilateral outward FDI on exports of parts and components to FDI-host countries is investigated using within-transformed fixed effects, and fixed-effects Poisson quasi-maximum likelihood method. The results reveal a positive and significant impact of outward FDI on production-network-related trade, suggesting to the crucial role that manufacturing outward FDI can play in expanding the outreach of Indian manufacturing in the global economy. Towards this end, promotion of outward FDI in the manufacturing sector needs to be accompanied by policy coordination with respect to inward FDI and trade facilitation in order to integrate manufacturing facilities in India with production hubs in the international production network for deriving benefits of global value chains.

Keywords Parts and components · Production network · Global value chain · Outward FDI · India

3.1 Introduction

Developing countries have started contributing significantly to outward FDI especially after the global financial crisis. The volume of outward FDI has doubled from 234.52 billion USD in 2009 to 468.15 billion USD in 2014 (UNCTAD 2015).

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In terms of share in world outward FDI, the figure has gone up from 21% in 2009 to 35% in 2014. The phenomenon is spearheaded by a number of developing countries from Asia and Latin America.

The rising volume of outward FDI from developing countries has been attributed to several factors. These include macroeconomic and institutional (Tolentino 2010; Buckley et al. 2007; Goh and Wong 2011; Kolstad and Wiig 2012; Das 2013; Stoian 2013), financial (Gubbi et al. 2010; Sasidharan and Padmaja 2016), home and host country-specific (Sethi 2009; Buckley et al. 2012; Anwar and Mughal 2013; Duanmu 2014), industry and firm-specific factors (Nayyar 2008; Kumar and Chadha 2009; Wang et al. 2012; Amighini and Franco 2013). The firm-specific factors contributing to outward FDI of developing country firms have been looked at from multiple perspectives. While economic factors such as the firm heterogeneity in terms of productivity differences[1] are found to be important in explaining internationalization (Demirbas et al. 2013; Wei et al. 2014; Goldar 2016; Thomas and Narayanan 2016; Hsu 2016), there are alternative factors providing firms the strength to undertake outward FDI. For instance, the prediction provided by firm heterogeneity literature can be reversed due to low-cost foreign production (Head and Ries 2003) and service quality risk (Bhattacharya et al. 2012). Further, in the environment of globalization, resource availability (Tan and Meyer 2010; Gaur et al. 2014; Wei et al. 2014; Jain et al. 2015; Tan and Mathews 2015; Buckley et al. 2016) as well as the internationalization strategy adopted by developing country firms can result in outward FDI decisions (Wang et al. 2012; Tan and Mathews 2015).

However, the literature examining the impact of outward FDI on home developing country has been sparse. In particular, in the context of outward FDI from emerging economies, an examination of production-network-related trade generated by outward FDI has been missing to a large extent. There are related studies that examine the impact of outward FDI on trade linkages (Kim and Kang 1996; Kim 2000; Pradhan 2007; Goh et al. 2013; Das 2015). Nevertheless, specific treatment of production-network-related trade is limited. Therefore, the impact of outward FDI on production-network-related exports to FDI-host countries warrants attention.

India has nimbly begun to encourage outward foreign direct investment (FDI), along with inward FDI, with the expectation of strengthening Indian industry and firm competitiveness. As a result, India is one of the leading contributors to the phenomenon of outward FDI from developing countries. The investments are primarily led by private sector firms. The rise in outward FDI from India has been studied from several vantage points. These include internationalization of Indian firms (Nayyar 2008; Kumar 2008; Athukorala 2009; Hansen 2010; Verma and Brennan 2011; Paul and Gupta 2014), determinants and motivations behind

[1]Greenaway and Kneller (2007) provide a review of literature on firm heterogeneity and the globalization strategies. The literature has grown rapidly following Melitz (2003), Helpman et al. (2004), Tomiura (2007).

overseas investment (Pradhan 2004, 2010; Kumar 2007; Balasubramanyam and Forsans 2010; Hattari and Rajan 2010; Tiwari and Herstatt 2010; Narayanan and Bhat 2011; Buckley et al. 2012; Nunnenkamp et al. 2012; Das and Banik 2015; Amann and Virmani 2015), and to a limited extent the choice of entry mode (Kathuria 2010; Nunnenkamp and Andres 2014), and the impact of outward FDI (Pradhan 2007; Pradhan and Singh 2009; Das 2015).

The current study is undertaken to contribute to the latter issue as regards the impact of outward FDI. Whereas previous studies examined impact on exports in a limited way, this study examines the impact of Indian outward FDI on production-network-related exports in the manufacturing sector. This way the study contributes to the limited body of literature on the impact of outward FDI on production-network-related exports to FDI-host countries.

Outward FDI in the manufacturing sector forms a significant portion of total outward FDI made by Indian firms albeit it is lesser than the services sector. Given that the contribution of manufacturing sector to India's GDP is on a downward trend,[2] the integration of Indian firms into international production network can play a key role in strengthening the sector. It may be noted that India's participation in international production network has remained lower than developing Asia (Athukorala 2011). The phenomenon of outward FDI in the manufacturing sector is expected to raise the level of India's participation in international production network.

Therefore, it is important to examine the role of outward FDI and other factors that may promote India's participation in international production network. This paper thus examines the impact of India's manufacturing outward FDI on production-network-related manufacturing exports by India to the FDI-host countries. The role of bilateral trade costs has also been examined as it tends to obstruct participation in international production network.

There are various ways of representing production-network-related trade. The lack of uniformity in its measurement in empirical studies could be attributed not only to different trade classification and the level of disaggregation used but also to the nature of production-network-related trade that has been measured. Nevertheless, such trade is predominant in a few manufacturing industries (and countries) including machinery and electronics than the rest. In crude terms, production-network-related exports can be represented by the exports of parts and components (Ando and Kimura 2005; Athukorala 2010). However, more advanced measures are available and capable of capturing the nature and intensity of production-network-related and intra-industry trade in a finer way. For instance, it is possible to measure the nature of specialization (horizontal or vertical) of countries involved in production network (Ando 2006) and the inward and outward processing activities (Amighini 2012). In this chapter, the production-network-related export has been measured using the classification developed by Athukorala (2010). Though the measure is crude, in the sense that it deals with mere parts and components and not

[2]The manufacturing sector contributed 15% to India's GDP in the year 2013–14.

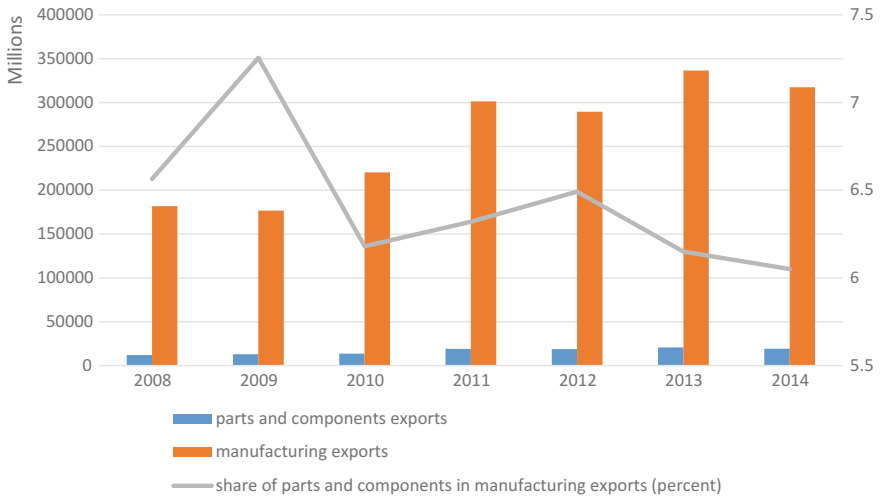

Fig. 3.1 India's exports of parts and components (US dollar million). *Source* Author's compilation from UN Comtrade (using SITC Rev. 3 data)

with the nature of such exports, but it goes beyond the machinery parts and components. In other words, the classification can capture production-network-related exports in a wide spectrum of manufacturing industries.

It may be observed that the pace of increase in exports of parts and components from India has been slower than the total manufacturing exports. **This has resulted in relatively dismal** share of parts and components in the overall manufacturing exports (Fig. 3.1).

With the development of world input–output table, the quantification of international fragmentation of production in terms of domestic and foreign value-added content of the product has become possible (see Dietzenbacher et al. 2013; Timmer et al. 2014, 2015). The foreign value-added content of a product is an indicator of the international fragmentation of production (Timmer et al. 2014). Figure 3.2 presents an example of the transport equipment manufacturing industry. It may be noted that there is an increase in the foreign value-added content of transport equipment manufacturing in India compared to 1990s. The foreign value-added share of the transport equipment manufacturing in India has been around 14% in 2010s, which is lower compared to countries with higher involvement in global value chains (e.g. in 2008 foreign value-added share of the same industry in Germany was 34%, see Timmer et al. 2014). However, India is in a position to catch up with comparable developing countries (see Fig. 3.2 for comparison with Indonesia).

Similar to the exports of parts of components, the manufacturing outward FDI has grown at a slower pace in comparison to the aggregate volume. Nevertheless, the manufacturing outward FDI constitutes a significant proportion of the total outward FDI (Fig. 3.3), and its level has remained steady.

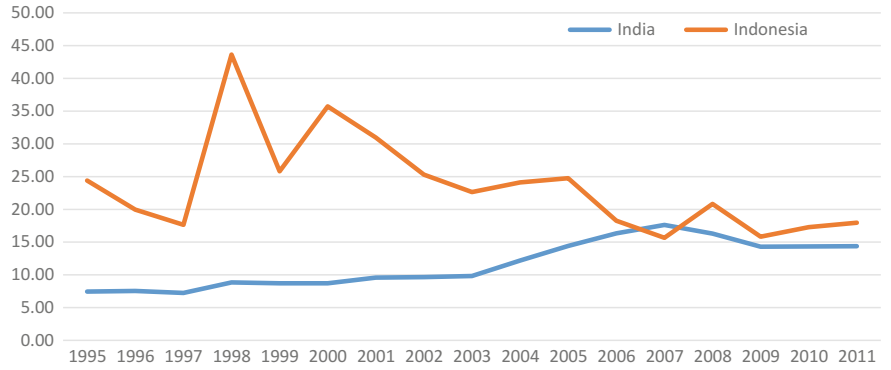

Fig. 3.2 Foreign value-added of transport equipment manufacturing (% of final output value). *Source* Author's calculation based on world input–output database (November 2013 release)

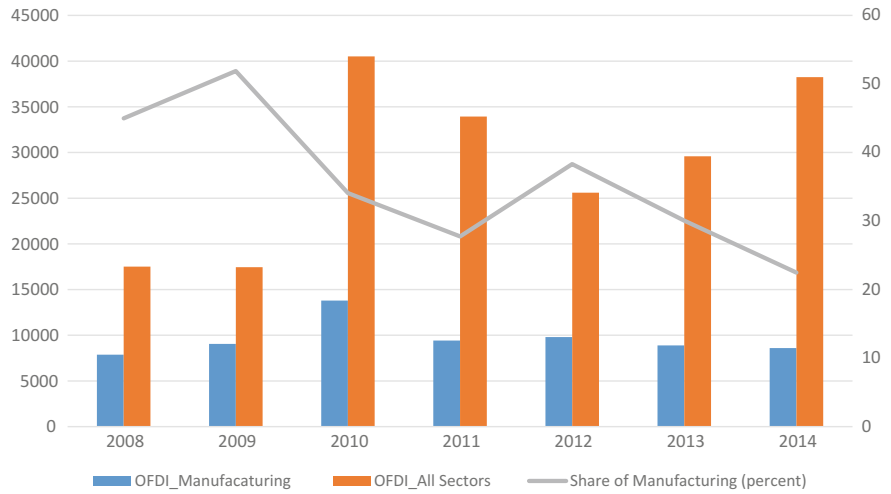

Fig. 3.3 Outward FDI by Indian firms (US dollar million). *Source* Author's compilation from RBI (using firm-level outward FDI data)

Another noteworthy feature of India's outward FDI, especially after the liberalization of policy regime,[3] has been the diversification of investment to several destinations both in developed and developing countries (Table 3.1). The manufacturing outward FDI was not adversely affected despite the global financial crisis of 2008–09 (Table 3.1). However, manufacturing exports became sluggish especially during 2009 (Fig. 3.1).

[3]The ceiling of investment by Indian entities (under the automatic route for overseas investment) was raised to 400% of the net worth of the investing company in 2007–08 (RBI 2010).

Table 3.1 Direction of India's outward FDI in manufacturing sector by destination (US $ millions)

A. Developed countries							
	2008	2009	2010	2011	2012	2013	2014
Cyprus	313.87	2110.2	180.20	182.55	180.09	236.67	193.18
Netherlands	440.47	656.06	1317.93	964.00	1316.28	1346.10	794.96
USA	492.32	423.98	903.48	704.88	2299.39	1621.97	839.55
UK	50.80	198.16	161.42	195.70	138.91	373.22	142.36
Switzerland	223.38	172.67	211.06	797.66	372.90	676.15	694.02
Denmark	281.88	77.00	148.71	92.08	117.10	1.54	–
Australia	6.45	58.45	32.16	35.04	29.01	56.43	19.26
Italy	47.55	38.10	33.45	13.97	16.75	17.69	10.87
Germany	44.67	20.72	50.88	70.13	57.20	110.88	53.33
Canada	44.25	20.02	6.05	1.02	0.56	7.04	5.86
Spain	31.87	17.41	22.33	44.48	42.64	35.47	34.51
France	11.72	9.25	32.68	20.37	12.05	43.31	77.74
B. Developing countries							
	2008	2009	2010	2011	2012	2013	2014
Singapore	1881.75	3311.07	726.63	819.76	755.91	1105.64	710.06
Mauritius	1109.31	533.71	7931.72	2616.20	2900.78	955.42	3447.78
Russia	545.70	470.99	186.62	117.64	18.57	19.62	27.02
UAE	538.73	428.55	954.83	533.50	702.96	802.82	820.95
South Africa	12.54	82.51	2.96	18.13	58.49	7.11	6.71
Thailand	118.25	53.64	4.40	34.03	4.64	53.71	4.08
China	23.30	27.99	16.87	22.80	16.05	23.70	31.29
Panama	30.09	25.61	42.88	8.03	4.27	33.36	23.41
Tanzania	0.11	20.85	1.38	12.96	0.38	6.66	2.80
Chile	–	16.71	41.91	15.30	8.58	5.20	6.46
Sri Lanka	150.69	5.04	174.30	42.68	19.11	7.37	9.87
Indonesia	23.12	4.73	5.41	23.46	20.35	16.30	82.26
Malaysia	51.14	0.62	64.78	376.73	102.73	1.94	58.95
Total manufacturing	7878.45	9055.58	13,803.74	9420.46	9808.67	8894.08	8600.83

Source Author's compilation from RBI

With this background, and given the importance of integration into international production network for boosting Indian manufacturing sector, this paper examines India's production-network-related trade of manufactured goods in relation to outward FDI and trade cost. The empirical analysis pertains to the period 2008–2014, chosen primarily based on data availability, using panel data models (within-transformed fixed effects, and fixed-effects Poisson quasi-maximum likelihood that accounts for zero trade values). The data sources include UN Comtrade, UN ESCAP, Reserve Bank of India (RBI), Ministry of Commerce and Industry (Government of India), UN Service Trade and World Trade Organization.

The findings of the analysis suggest **to the significant positive impact of** manufacturing outward FDI on exports of parts and components to FDI-host countries. The results hold after controlling for inward FDI in India from the partner country, services exports to partner country and preferential trade agreements (PTA). On the other hand, the results indicate to a negative impact of bilateral trade costs on the production-network-related exports.

The results can have pertinent policy implication. In particular, to improve India's participation in international production network significantly, there is need to further encourage outward FDI in the manufacturing sector in selected countries and regions having such potential. On the other hand, in line with the existing wisdom, trade facilitation to reduce trade costs could also strengthen India's participation in international production network. Policy coordination with respect to FDI, both inward and outward, and trade facilitation shall be important in shaping India's integration with international production network.

3.2 Empirical Examination

Empirical analysis has been carried out using panel data model[4] of the following form[5]

$$PC_{jt} = g\left(\pi_t + \chi_{jt} + \mu_j + \eta_1 \mathrm{OFDI}_{jt} + \eta_2 TC_{jt} + \eta_3 X_{jt}\right) + \varepsilon_{jt} \tag{3.1}$$

The estimation has been done using (a) within-transformed (linear) fixed effects and (b) fixed-effects Poisson (quasi-maximum likelihood) regression that accounts for zero trade values.

In the model, PC_{jt} stands for exports of parts and components from India to host country j at time t. OFDI_{jt} is India's outward FDI in the host country j, TC_{jt} is bilateral trade cost and X_{jt} stands for additional control variables that include inward FDI, services exports. Further, the role of PTA is also examined in view of the prevalence of regionalism along with multilateral trading system. In fact, the complementary nature of PTAs to the multilateral trading system has been recognized (Low 2014).

[4]The specification uses dummy variables to account for multilateral resistance terms and gravity forces. This approach has strong links with the gold standard gravity model (Anderson and Yotov 2012; Cheng and Wall 2005).

[5]The subscript for exporter (i) is suppressed as the analysis pertains to exports from one country (India).

3.3 Data Sources and Variables

The exports of parts and components have been collected from UN Comtrade database. In order t**o arrive at a measure of production-network-related exports from India**, the values of various parts and components' exports of 5-digit SITC Rev. 3 commodities are aggregated at the country-level following Athukorala (2010) classification (**see Appendix** for the list of parts and components). The trade costs have been obtained from the ESCAP-World Bank Trade Cost Database and the bilateral outward FDI from RBI (i.e. compiled by aggregating firm-level data).

It is worth mentioning that the analysis uses a comprehensive measure of bilateral trade costs. The measure is based on Novy (2013) and captures costs associated with both exporting and importing goods between trading partners. Trade costs (ESCAP-World Bank Trade Cost Database) are provided in *ad valorem* equivalent form (see Arvis et al. 2012 for further methodological details). For instance, a country's trade costs value of (say) 142.87 with a partner country suggests that, on average, trading goods with the concerned partner country involves additional costs of approximately 143% of the value of the goods as compared to trading goods within borders of the two trading countries.

The variables used in the analysis are (a) natural log of exports of parts and components from India to partner country *j* (lpc), (b) exports of parts and components from India to partner country *j* (pc), (c) trade costs in the manufacturing sector (tc), India's manufacturing outward FDI through equity mode in destination country *j* (eq), India's manufacturing outward FDI (equity plus loan mode) in host country *j* (eq_loan), India's manufacturing outward FDI (equity, loan and guarantee mode) in destination country *j* (total). Additional control variables include inward FDI received in India from partner country *j* (ifdi), role of services proxied by India's exports of services to partner country *j* (ser_exp) and PTA with the partner country as beneficiary (pta_b).[6] Data sources for inward FDI and services exports are the Ministry of Commerce and Industry (Government of India) and UN Service Trade database, respectively. The pta_b dummy is constructed using information from PTA database, WTO. Production-network-related exports of parts and components (pc) are measured in millions of US dollar. Similarly, outward FDI (eq, eq_loan, total), inward FDI (ifdi) and service exports are measured in millions of US dollar. The descriptive statistics of the variables are provided in Table 3.2.

[6]India has been beneficiary of PTAs provided by Australia, European Union, Japan, New Zealand, Norway, Belarus, Kazakhstan, Russian Federation, Switzerland, Turkey, and the USA. Historically, India did not use PTAs as a trade policy instrument until the early 2000s (Mikic 2011).

Table 3.2 Descriptive statistics

	Mean	SD	Max	Min	Observations
pc	226.35	367.17	3087.67	0.074	402
lpc	4.42	1.64	8.04	0.071	402
tc	139.47	63.10	657.66	37.231	402
eq	44.99	188.68	2031.15	0	402
eqloan	65.88	216.77	2067.73	0	402
total	141.60	556.27	7931.72	0.0003	402
ifdi	478.37	1564.24	11,207.90	0	313
ser_exp	1471.78	3480.74	19,343.00	1.891	123
pta_b	0.34	0.48	1.00	0	402

Source Author's calculation

3.4 Results and Discussion

The baseline results of empirical analysis are reported in Table 3.3. Results presented in panel A are based on within-transformed fixed effects and provide estimate of semi-elasticities, whereas those in panel B pertain to fixed-effects Poisson quasi-maximum likelihood (that account for zero trade values within country pairs) and give the direction of impact. As expected, the trade cost variable has negative impact on India's production-network-related exports of parts and components. The coefficient is significant in all the regression models. Higher the trade costs, lesser the exports of parts and components. The most interesting part of the results is the positive and significant impact of India's outward FDI on exports of parts and components to FDI-host countries, especially for total outward FDI.

Further, robustness check exercise was carried out to control for inward FDI (ifdi) from partner countries, bilateral services exports and PTA. These results, which are in consonance with the baseline, confirm a positive impact of outward FDI on India's exports of parts and components to FDI-host countries. As shown in Table 3.4, under both the estimation techniques, all the three measures of outward FDI yield positive and significant impact on production-network-related exports to FDI-host countries. It may also be noted that trade cost remains significant, with the negative sign associated with it, despite reduction in country coverage in the sample due to inclusion of additional control variables.

The inward FDI turned out to be significant as well in the maximum likelihood estimation. Further, PTAs are found to have exerted positive impact on production-network-related exports from India. However, services exports did not exert significant impact on exports of parts and components in most of the estimations. The variable (ser_exp) suffers from non-availability of data for a number of countries, which reduces the country coverage and number of data points in the analysis. Overall, the robustness check confirms the findings of baseline analysis and brings an improvement to the results qualitatively.

Table 3.3 Baseline results

	A. Within-transformed fixed effects			B. Fixed-effects Poisson (quasi-ML)		
	lpc	lpc	lpc	pc	pc	pc
tc	−0.005** (0.002)	−0.005** (0.002)	−0.005** (0.002)	−0.015*** (0.004)	−0.015*** (0.004)	−0.015*** (0.004)
eq	−0.0001 (0.0001)			0.0001 (0.0001)		
eq_loan		−0.0001 (0.0001)			0.0002 (0.0002)	
total			0.00005* (0.00002)			0.0002*** (0.00005)
Constant	5.09*** (0.318)	5.09*** (0.318)	5.08*** (0.317)	–	–	–
Observations	402	402	402	385	385	385
No. of countries	89	89	89	72	72	72
F test	2.32*	2.31*	3.05**			
Wald test				1276.05***	1351.56***	1570.31***
R square	0.49	0.49	0.49			
Log likelihood				−4557.81	−4520.08	−4414.92

Robust standard errors are in the parentheses. Coefficients of dummies are not reported. Results are similar with the inclusion of zero trade values in the estimation, in which case the log values of the dependent variable in the within-transformed model are generated after adding 1 to parts and components exports to overcome zero trade values

Country coverage: Algeria, Argentina, Australia, Austria, Bahamas, Bahrain, Bangladesh, Belgium, Benin, Bhutan, Botswana, Brazil, Cambodia, Canada, Central African Republic, Chad, Chile, China, Colombia, Congo Dem. Rep., Cyprus, Czech Republic, Denmark, Dominican Republic, Egypt, Ethiopia, Finland, France, Gabon, Georgia, Germany, Ghana, Guatemala, Honduras, Hong Kong SAR, Hungary, Indonesia, Iran, Ireland, Israel, Italy, Japan, Jordan, Kazakhstan, Kenya, Korea, Kyrgyz Republic, Luxembourg, Malaysia, Mauritius, Mexico, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Nigeria, Oman, Panama, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russian Federation, Rwanda, Saudi Arabia, Senegal, Singapore, Slovak Republic, Slovenia, South Africa, Spain, Sri Lanka, Switzerland, Syria, Tanzania, Thailand, Turkey, Ukraine, UAE, UK, USA, Uzbekistan, Venezuela, Viet Nam, Yemen

***<0.01, **<0.05, *<0.10

Although positive impact of outward FDI on India's exports is documented elsewhere (Pradhan 2007; Das 2015), there has been dearth of evidence as regards the impact of outward FDI on production-network-related exports of parts and components. The results of this analysis therefore provide fresh evidence as regards the impact of India's outward FDI on production-network-related exports.

Table 3.4 Robustness check: control for additional explanatory variables

	A. Within-transformed fixed effects			B. Fixed effects Poisson (quasi-ML)		
	lpc	lpc	lpc	pc	pc	pc
tc	−0.009***	−0.009***	−0.009***	−0.006*	−0.006*	−0.006*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
eq	0.0002**			0.0004***		
	(0.0001)			(0.00003)		
eq_loan		0.0002*			0.0004***	
		(0.0001)			(0.00003)	
total			0.0002**			0.0002***
			(0.0001)			(0.00003)
ifdi	4.92e−06	0.00001	0.00001	0.00001*	0.00002***	0.00005***
	(0.00002)	(0.00001)	(0.00002)	(8.66e−06)	(7.18e−06)	(9.14e−06)
ser_exp	0.00002	0.00001	−3.15e−06	8.76e−06	−8.54e−06	−0.00002*
	(0.00002)	(0.00002)	(0.00003)	(0.00001)	(0.00001)	(0.00001)
pta_b	0.891***	0.8767***	0.858***	0.954***	0.950***	0.898***
	(0.076)	(0.080)	(0.086)	(0.042)	(0.042)	(0.050)
Constant	4.952***	4.974***	5.08***	–	–	–
	(0.409)	(0.419)	(0.391)			
Time dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	121	121	121	116	116	116
No. of countries	27	27	27	22	22	22
F test	–	–	–			
Wald test				1881.20***	1884.88***	1872.58***
R square	0.41	0.41	0.42			
Log likelihood				−595.58	−593.31	−602.81

Robust standard errors are in the parentheses. Coefficients of dummies are not reported. Results are similar with the inclusion of zero trade values in the estimation, in which case the log values of the dependent variable in the within-transformed model are generated after adding 1 to parts and components exports to overcome zero trade values

Country coverage: Australia, Austria, Belgium, Canada, Chile, Cyprus, Czech Republic, Denmark, Finland, France, Hong Kong SAR, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Poland, Portugal, Romania, Russian Federation, Singapore, Slovak Republic, Spain, UK, USA

***<0.01, **<0.05, *<0.10

3.5 Conclusion

The expansion of outward FDI is an interesting development despite India being a net importer of capital. Although there are grounds for apprehension on many counts due to outward FDI, the phenomenon is expected to enhance India's participation in the international production network and global value chains. The complementary impact of outward FDI on exports of parts and components is evident from the empirical analysis. The results suggest that outward FDI in the manufacturing sector is crucial for expanding the outreach of Indian manufacturing

in the global economy. Since international production network requires lesser border costs, in terms of time and money, trade facilitation to reduce trade costs may crucially aid in deriving the complementary benefits from manufacturing outward FDI. Policy initiative towards this end is expected to produce encouraging outcome both in the context of outward FDI and inward FDI.

It may be worth noting that the 'Make in India' initiative offers several avenues, especially for foreign firms, to invest in Indian manufacturing sector. However, without enhanced integration of Indian manufacturing facilities with the global value chain, the initiative may not produce desired results. Therefore, additional focus needs to be given towards integrating manufacturing facilities in India with production hubs in the international production network. Towards this end, steps must be taken to ensure free movement of parts and components and emphasis be given on value addition in the Indian production facilities and exports. This way the initiative shall be more meaningful and appealing for domestic as well as the multinational firms. Policy coordination with respect to outward FDI, inward FDI and trade facilitation shall be crucial in enhancing the integration of India's industrial sector with international production network.

Indian firms have an important role to play in enhancing integration of Indian manufacturing with global value chains. Firms will need to capitalize on both 'Make in India' and the liberal outward FDI regime. The former can help in improving domestic manufacturing activities, whereas the latter can establish the linkages, through outward FDI, with production hubs in the global value chain.

Appendix

List of Parts and Components (SITC—Rev. 3)

58291, 59850, 61210, 62142, 62143, 62144, 62145, 62921, 62929, 62999, 65621, 65720, 65751, 65771, 65773, 65791, 65792, 66382, 66471, 66472, 66481, 66591, 66599, 69551, 69552, 69553, 69554, 69555, 69559, 69561, 69562, 69563, 69564, 69680, 69915, 69933, 69941, 71191, 71192, 71280, 71311, 71319, 71321, 71322, 71323, 71332, 71333, 71381, 71391, 71392, 71441, 71449, 71481, 71489, 71491, 71499, 71610, 71620, 71631, 71651, 71690, 71819, 71878, 71899, 72119, 72129, 72139, 72198, 72199, 72391, 72392, 72393, 72399, 72439, 72449, 72461, 72467, 72468, 72488, 72491, 72492, 72591, 72599, 72635, 72689, 72691, 72699, 72719, 72729, 72819, 72839, 72851, 72852, 72853, 72855, 73511, 73513, 73515, 73591, 73595, 73719, 73729, 73739, 73749, 74128, 74135, 74139, 74149, 74155, 74159, 74172, 74190, 74220, 74291, 74295, 74363, 74364, 74380, 74391, 74395, 74419, 74443, 74491, 74492, 74493, 74494, 74519, 74529, 74539, 74568, 74593, 74597, 74610, 74620, 74630, 74640, 74650, 75680, 74691, 74699, 74710, 74720, 74730, 74740, 74780, 74790, 74810, 74821, 74822, 74839, 74840, 74850, 74860, 74890, 74920, 74991, 74999, 75230, 75260, 75270, 75290, 75910, 75990, 75991, 75993, 75995, 75997, 76211, 76212, 76281, 76282, 76289, 76432, 76481, 76491, 76492, 76493, 76499, 77111, 77119, 77125, 77129, 77220, 77231, 77232, 77233, 77235,

77238, 77241, 77242, 77243, 77244, 77245, 77249, 77251, 77252, 77253, 77254, 77255, 77257, 77258, 77259, 77261, 77262, 77281, 77282, 77311, 77312, 77313, 77314, 77315, 77317, 77318, 77322, 77323, 77324, 77326, 77328, 77329, 77423, 77429, 77549, 77579, 77589, 77611, 77612, 77621, 77623, 77625, 77627, 77629, 77631, 77632, 77633, 77635, 77637, 77639, 77641, 77643, 77645, 77649, 77681, 77688, 77689, 77812, 77817, 77819, 77821, 77822, 77823, 77824, 77829, 77831, 77833, 77834, 77835, 77848, 77861, 77862, 77863, 77864, 77865, 77866, 77867, 77868, 77869, 77871, 77879, 77881, 77882, 77883, 77885, 77886, 77889, 78410, 78421, 78425, 78431, 78432, 78433, 78434, 78435, 78436, 78439, 78535, 78536, 78537, 78689, 79199, 79291, 79293, 79295, 79297, 81211, 81215, 81219, 81380, 81391, 81392, 81399, 82111, 82112, 82119, 82180, 84552, 84841, 84842, 84848, 87119, 87139, 87149, 87199, 87319, 87325, 87329, 87412, 87414, 87424, 87426, 87439, 87454, 87456, 87461, 87463, 87469, 87479, 87490, 88112, 88113, 88114, 88115, 88123, 88124, 88134, 88136, 88422, 88431, 88432, 88433, 88439, 88571, 88591, 88597, 88598, 88599, 89121, 89195, 89281, 89395, 89423, 89860, 89865, 89867, 89879, 89890, 89935, 89949, 89983, 89985, 89986, 89992

Note: The classification, which was developed after converting HS 6-digit level to SITC 5-digit classification using the UN HS-SITC concordance, is sourced from Athukorala (2010).

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