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Gurpriya Sadana
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Relationship between FDI Inflows and Exports at Subnational / State Level: A Case Study on the Indian Economy

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Abstract

The study examines the relationship between exports and FDI inflows at the subnational /state level for the Indian economy from 2011-2020. The study employs panel random effect regression and found that GSDP, infrastructure index, financial development index and state policy variable representing distinct export promotion policies pursued by the states are significant determinants of exports at the state level. However, a substitutable relationship has been established between FDI inflows and exports at the state level, suggesting that FDI is market-seeking and does not contribute to improved export performance by the states.

JEL Codes: F10, O53

Keywords: Subnational Exports, Spatial factors, Panel Data, India

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1. Introduction

Greater attention has been paid to understanding the impact of FDI inflows, both directly and indirectly, on the exports of a country, taking the country as a unit of analysis (Mohanty and Sethi, 2021; Maza and Portilla, 2022; Sahoo and Dash, 2022). However, recent studies in the domain of "internalisation" reveal that such processes are increasingly dominated by subnational spatial heterogeneity, indicating that exporting is primarily concentrated in a few regions as they are found to be more outward-oriented than others (Beugelsdijk and Mudambi, 2013; Pradhan and Das, 2015; Tan et al.; 2019). This subnational variation in export performance is attributable to different export promotion policies adopted by some states and a host of spatial factors belonging to particular regions regarding market size, infrastructure, and financial conditions (Pradhan et al., 2013).

Recently, subnational localities, cities, and regions have emerged as spatial units for studying the competitiveness of firms and nations because of the increasing spatial proximity of interconnected businesses and organisations, which tends to shape the interactive ways in which learning, innovation, and knowledge exchanges take place (Asheim and Isaksen, 1997, 2002; Cooke, 2001; Isaksen, 2001). The new economic geography (Krugman, 1991a, b; Fujita and Krugman, 2004) emphasised the role of agglomeration and subnational regions in driving a nation's competitiveness. Henceforth, national export growth is believed to be significantly determined by the emergence of subnational regional competitive export advantages (Pradhan and Das, 2015).

As such, the policies regarding exports and FDI can be framed more accurately if the relationship is analysed at the sub-national or state level. Against this backdrop, the present study is motivated to examine the impact of FDI on export performance across sixteen Indian states along with various supply-side factors, namely GSDP, infrastructure, financial development and various export promotion policies undertaken by the states affecting the state-level exports for 2011-2020. As an emerging economy, Indian states reflect an enormous magnitude of subnational spatial heterogeneity in terms of differential export performance

because of demand factors, supply factors, different trading partners, specialisation at the state level and finally, due to differential capabilities to export.

However, fewer studies have examined the relationship between FDI and exports at subnational or state level. The study contributes to the literature in multiple ways. Firstly, minimal studies exist in the Indian context that have empirically explored the relationship between FDI and exports at the state level; the present study seeks to provide an empirical contribution to this gap in the literature. Second, this study uses a more recent period, i.e., 2011–2020, for doing analyses; as such, the results obtained are the latest and more relevant. The remainder of this article is as follows. Facts and figures about FDI and exports at the subnational level are presented in section 2. A literature review is presented in section 3, hypothesis development is presented in section 4, and variables, empirical model, and findings are presented in section 5. Section 6 presents the conclusions.

2. Stylised Facts about Exports and FDI-At Subnational Level

States are often affected by diverse socio-economic conditions; henceforth, adopting a single export promotion policy at a national level representative of exporting conditions prevailing in respective states would be inappropriate. Compared to this, to achieve sustainable growth of exports, the Export Preparedness Index (EPI) has been prepared by Niti Aayog, which highlights the contributions of each state to export and identifies the areas for the promotion of exports at the subnational level. According to EPI (2021), Gujarat is at the top, followed by Maharashtra, Karnataka, and Tamil Nadu (Niti Aayog, 2022). However, in EPI (2022), the top position was taken by Tamil Nadu, followed by Maharashtra, Karnataka and the last spot was taken by Gujarat (Niti Aayog, 2023). In terms of states receiving maximum FDI equity inflow during the period Oct 2019-Mar 2023, Maharashtra (29%) tops the list, followed by Karnataka (24%), Gujarat (17%), Delhi (13%) and Tamil Nadu (5%) (FDI Statistics, DPIIT, 2023).

Table 1: The Top Five States according to the Export Preparedness Index (EPI) in 2020, 2021, and 2022.

States	EPI Rank in 2020	EPI Rank in 2021	EPI Rank in 2022
Gujarat	1	1	4
Maharashtra	2	2	2
Karnataka	9	3	3
Tamil Nadu	3	4	1
Haryana	7	5	5

Source: Export Preparedness Index, Niti Aayog

From the above table, this index can serve as a roadmap for the states to provide critical policy insights on improving and enhancing regional export performance.

Table 2: Exports (in Rs Cr) of India at Subnational / State Level along with Share of Each State in Total Exports (in %)

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Delhi	35131.406 (3.42)	44577.775 (3.44)	54024.144 (3.46)	60684.92 (3.64)	60698.357 (4.09)	67487.09 (4.44)	19041.5 (3.46)	58395.04 (3.13)	77007.36 (3.99)	44751.496 (3.49)	52179.91 (3.66)
Andhra Pradesh	61073.717 (5.95)	76133.908 (5.88)	91194.099 (5.83)	99390.36 (5.97)	84067.153 (5.67)	70995.59 (4.67)	27198.11 (4.94)	85303.27 (4.57)	107854.9 (5.59)	87374.903 (6.81)	79058.6 (5.59)
Gujarat	175149.5 (17.05)	307544.41 (23.75)	439939.31 (28.14)	413971.3 (24.85)	328187.98 (22.12)	336929.7 (22.15)	104149.5 (18.90)	459756.1 (24.65)	454411.3 (23.55)	340291.7 (26.51)	336033.1 (23.17)
Punjab	26122.146 (2.54)	33704.073 (2.60)	41286.001 (2.64)	42516.35 (2.55)	38078.058 (2.57)	34878.74 (2.29)	9210.993 (1.67)	40038.56 (2.15)	40013.91 (2.07)	39989.258 (3.12)	34583.81 (2.42)
Maharashtra	280136.07 (27.28)	346076.8 (26.72)	412017.52 (26.36)	455089.2 (27.32)	435034.32 (29.32)	448214.7 (29.47)	119255.4 (21.64)	493324.3 (26.45)	484190.6 (25.09)	280529.51 (21.86)	375386.8 (26.15)
Kerala	67475.63 (6.57)	50311.422 (3.88)	33147.214 (2.12)	25283.37 (1.52)	25277.581 (1.70)	35342.84 (2.32)	7204.369 (1.31)	65631.08 (3.52)	72113.59 (3.74)	29574.192 (2.30)	41136.13 (2.90)
Tamil Nadu	139646.48 (13.60)	147164.18 (11.36)	154681.88 (9.89)	169834.7 (10.20)	165627.74 (11.16)	175322 (11.53)	45751.39 (8.30)	208104.2 (11.16)	217383.9 (11.27)	131087.5 (10.21)	155460.4 (10.87)
Uttar Pradesh	40841.537 (3.98)	57551.312 (4.44)	74261.087 (4.75)	87435.34 (5.25)	80056.672 (5.40)	84054.86 (5.53)	21036.66 (3.82)	106446.4 (5.71)	120784.4 (6.26)	78842.419 (6.14)	75131.07 (5.13)
Rajasthan	40059.92 (3.90)	38672.936 (2.99)	37285.952 (2.39)	37715.2 (2.26)	34253.083 (2.31)	36460.7 (2.40)	11559.34 (2.10)	48396.27 (2.59)	48100.17 (2.49)	32238.091 (2.51)	36474.16 (2.59)
Karnataka	84700.695 (8.25)	91271.819 (7.05)	97842.943 (6.26)	148351.1 (8.91)	126640.25 (8.53)	124520.9 (8.19)	125706.2 (22.81)	116906.8 (6.27)	124074.1 (6.43)	77720.258 (6.06)	111773.5 (8.87)
Madhya Pradesh	12829.046 (1.25)	19760.71 (1.53)	26692.374 (1.71)	25919.21 (1.56)	26084.605 (1.76)	28099.61 (1.85)	8512.446 (1.54)	42661.15 (2.29)	39751.68 (2.06)	30717.104 (2.39)	26102.79 (1.79)
West Bengal	35929.252 (3.50)	49084.208 (3.79)	62239.165 (3.98)	58794.08 (3.53)	49882.355 (3.36)	51723.43 (3.40)	14944.89 (2.71)	68292.01 (3.66)	68176.3 (3.53)	42244.304 (3.29)	50131 (3.48)

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Goa	20276.814 (1.97)	14597.953 (1.13)	8919.0921 (0.57)	9899.619 (0.59)	8881.5923 (0.60)	14804.02 (0.97)	14009.46 (2.54)	13877.41 (0.74)	15018.66 (0.78)	11230.111 (0.87)	13151.47 (1.08)
Odissa	7706.5053 (0.75)	15464.414 (1.19)	23222.323 (1.49)	21957.86 (1.32)	14394.42 (0.97)	4687.677 (0.31)	14953.44 (2.71)	44328.77 (2.38)	45941.27 (2.38)	47645.979 (3.71)	24030.27 (1.72)
Assam	602.15329 (0.06)	1413.8689 (0.11)	2225.5845 (0.14)	2197.66 (0.13)	2458.2262 (0.17)	2730.164 (0.18)	831.6626 (0.15)	2365.481 (0.13)	3136.553 (0.16)	2104.2256 (0.16)	2006.558 (0.14)
Bihar	-616.39613 (-0.06)	1859.8512 (0.14)	4336.0984 (0.28)	6589.729 (0.40)	4170.3828 (0.28)	4648.63 (0.31)	7723.677 (1.40)	11316.59 (0.61)	11662.59 (0.60)	7118.3232 (0.55)	5880.947 (0.45)

Source: DGCIS database.

From Table 2, Gujarat, Maharashtra, Tamil Nadu, Karnataka and Andhra Pradesh are the high-exporting states with higher average exports from 2011-2020, while Bihar and Assam have the lowest average exports. Further, from the same table, it can be inferred that Maharashtra (26.15%), Gujarat (23.17%), and Tamil Nadu (10.87%) account for more than fifty per cent of India's total export share. At the same time, Bihar and Assam have the lowest export shares. The same fact is depicted in the figure below.

Figure 1: Export share of States over the period 2011-2020 (% in total share)

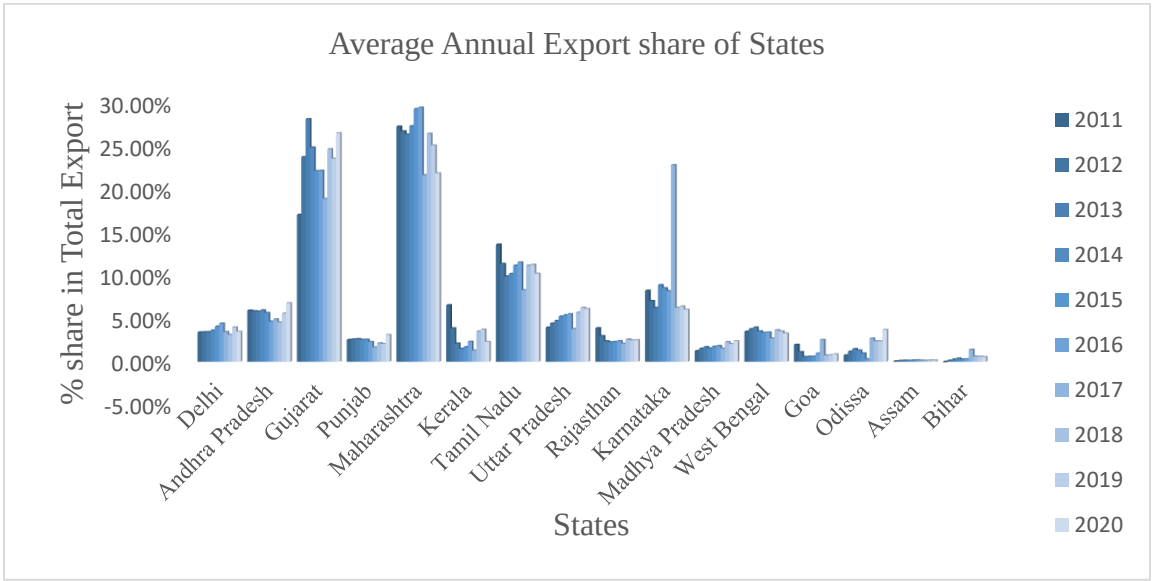

Table 3: Average Annual Growth Rate of Net State Domestic Product (NSDP) per capita of states over 2011-2020

States	Year (2011-2020) in %
Delhi	3.17
Andhra Pradesh	5.85
Gujarat	7.03
Punjab	3.10
Maharashtra	3.40
Kerala	3.76%
Tamil Nadu	4.96%
Uttar Pradesh	2.45%
Rajasthan	2.95%
Karnataka	6.19%
Madhya Pradesh	4.81%
West Bengal	3.84%
Goa	2.39%
Odissa	4.60%
Assam	3.86%
Bihar	2.97%

Source: Handbook of Statistics on Indian States, RBI

Further, from Table 3, states have divergent average annual NSDP growth rates over the same period, with Gujarat (7.03%) occupying the first place, followed by Karnataka (6.19%), Andhra Pradesh (5.85%), Tamil Nadu (4.96%) and Madhya Pradesh (4.81%). The lowest growth rate is for Goa (2.39%). Thus, there is a varying difference in states' growth rates, resulting in diversified export capabilities of states and thereby finally impacting the volume of exports they undertake (Please refer to Table 2).

Table 4: Top States with High Average Net State Domestic Product (NSDP) and Export Share from 2011 to 2020.

Top States w.r.t. Per Capita NSDP (%)	Top States w.r.t. Export share (%)
Gujarat (7.03%)	Maharashtra (26.15%)
Karnataka (6.19%)	Gujarat (23.17%)
Andhra Pradesh (5.85%)	Tamil Nadu (10.87%)
Tamil Nadu (4.96%)	Karnataka (8.87%)
Madhya Pradesh (4.81%)	Andhra Pradesh (5.59%)

Source: Handbook of statistics on Indian states and DGCI&S database.

It can also be concluded that the states with high average annual growth rates of NSDP (Table 3) are also the same states with high average annual export shares (Table 2). Therefore, states with high per capita NSDP export more (from their export share) and contribute more to exports than other states.

Table 5: Top States Attracting Highest FDI Equity Inflows and Export Share over 2011-2020

Top States w.r.t to Average FDI Equity Inflows (%)	Top States w.r.t to Average Export (%)
Maharashtra (33.14)	Maharashtra (26.15)
Delhi (24.38)	Gujarat (23.17)
Karnataka (12.52)	Tamil Nadu (10.87)
Tamil Nadu (9.65)	Karnataka (8.87)
Gujarat (9.12)	Andhra Pradesh (5.59)

Author's calculation is based on data extracted from FDI Statistics, DPIIT and DGCIS.

Table 5 shows that four states, namely Maharashtra, Gujarat, Karnataka, and Tamil Nadu, are both high exporting and high FDI receiving states. Delhi, which receives a good amount of FDI, however, has a low export share, implying that Delhi is receiving FDI, which is market-seeking in nature and intended to capture a more significant share of its market. On the other

hand, Andhra Pradesh has a high export share but receives less FDI, implying that the state can manage its exports with its own pool of resources.

3. Literature Review

Studies focusing on state-level exports are very few on account of the availability of reliable state-level data. Most studies on exporting activity or its determinants have focused on national, sectoral and firm-level analyses with inadequate focus on subnational regions and their determinants (Pradhan and Das, 2013). Some of the empirical studies that focused on export being a regional phenomenon are Zhang and Song (2000) for China, Matthee and Naude (2008) for South Africa, and Pradhan and Das (2012) for India. The recent phenomenon seen in a nation's export growth is subnational competitive advantages in terms of regional-specific factors like infrastructure, local policies pursued by states, financial development in the states, domestic investment and human capital formation that give rise to differences in the quantum of export by the states (Martin et al., 2012)

Studies have explicitly recognised the role of FDI in facilitating exports in developing countries (UNCTAD, 2002). FDI brings capital and tangible assets to boost the supply capacities of host economies or their regional markets. It provides access to two-thirds of world export markets characterised by the MNEs (UNCTAD, 1999). MNEs increase the exports of states through backward and forward linkages, competition effects, labour mobility effects, imitation effects and lastly, through information spillover effects (Markusen &Venables,1999)

Regional differences in export performance could arise due to interregional differences in the quality of physical infrastructure. Several empirical studies have confirmed the trade-enhancing effects of physical infrastructure (Fugazza, 2008; Sahoo et al., 2014; Davaakhuu et al., 2015). Differences can be due to telecommunications (telephone, internet), ports, availability of power, and transportation systems concerning railways, roadways, and airways. These are critical inputs in determining supply capacities, cost of production and transportation facilities among the states. (Reddings and Venables, 2004; Francois and Manchin, 2013).

The supply of credit, differences in building financial institutions, and adequate availability of finance for firms to meet their costs are the factors affecting firms' growth and internationalisation process and finally impacting their exports. So, to be export competitive, states must develop robust financial institutions to access industrial and trade finance and provide insurance to cover the risks involved in exporting. (Morris et al., 2001; Mbekeani, 2007).

State domestic product represents the state's capacity to produce goods and also represents the market size. A larger market entails diverse and critical minimum demand for specialised products, a skilled pool of labourers and suppliers of products, lower transportation and transaction costs, and a concentration of production with increasing returns of scale (Coughlin, 2012).

Studies concerning India are few. Bajpai and Sachs (1999) analysed the effect of state policy reform on fifteen Indian states. States' performance was also analysed in terms of FDI, software exports, industrial investment proposals, and state domestic product growth. Results from the study concluded that states like Andhra Pradesh, Gujarat, Karnataka, Maharashtra, and Tamil Nadu are high-growth states that attract maximum foreign direct investment and domestic investment and have robust software exports. By taking openness (calculated as exports plus imports deflated by gross state domestic product) as one of the determinants of exports, Marjit et al. (2007) created a regional openness index. They concluded that the export pattern varies across the states. Pradhan and Zohair (2015) analysed the exporting activity of two Indian states: Uttar Pradesh and Tamil Nadu. They concluded that differences in their export performance are linked to heterogeneity in terms of infrastructure, economic development, skilled labour force, technological knowledge and policies that respective states pursue to promote exports. Their study also highlighted the role of firm-level characteristics like firm age, size, foreign and business group affiliation and R&D intensity in determining exports from the state. Using ASI data, Veeramani et al. (2016) analysed manufactured exports and intermediate imports at the state level. They confirmed varied state export performance regarding export intensity and deficit in the trade balance for most states. Concerning state-level import determinants, the study highlighted the role of state size, the manufacturing share

of state GDP, geography-related variables and the stage of development of states in import intensities of states.

4. Hypothesis Development

Five hypotheses are formed to test how the supply side factors, namely FDI, GSDP, infrastructure index, financial development index and state policy variable, that affect exports at the subnational level.

a. Foreign Direct Investment: The role of FDI in augmenting exports provides inconclusive results as FDI can increase exports directly by providing the prerequisite capital necessary to expand production and indirectly through various spillover mechanisms. However, empirically, its effect depends upon the host economy characteristics, nature and motives of FDI, type of industries and sector taken for the analysis and data considered in the study (Harding &Javorcik, 2011; Rahmaddi & Ichihashi, 2013). In this study, it is proxied by the FDI equity inflows at the state level.

   Hypothesis 1: Exports are positively associated with foreign direct investment at the subnational level.

b. Gross State Domestic Product (GSDP): There is ample evidence in the literature that analyses the contribution of GSDP to a country's exports (Wilbur & Haqu, 1992). Most studies support the export-led growth hypothesis (Bahmani-Oskooee & Alse, 1993).

   Hypothesis 2: Exports are positively related to gross state domestic product at the subnational level.

c. Infrastructure Index: Infrastructure is a significant variable in promoting exports. It reduces transportation and transaction costs, creating a favourable environment for doing business and thus facilitating trade and growth (Sahoo et al., 2014). A study by Bougheas et al. (1999)

corroborated a similar result. The present paper proxies it by the infrastructure index, which includes social and physical infrastructure.

Hypothesis 3: Exports are positively related to the availability of infrastructure at the sub-national level.

d. Financial Development Index: The development of the financial sector plays a vital role in facilitating exports by making access to finance easier, which is necessary for financing exporting activities, investing in innovative technologies, and upgrading the existing technologies imperative for boosting exports (Sahoo & Dash, 2022)

Hypothesis 4: Exports are positively related to the financial development of states.

e. State Policy Variable: Policies pursued by the state also impact exports, as confirmed in a study by Wu (2007), where the development policies/programmes pursued by provincial governments positively impact exports apart from investment. In the present study, a dummy variable has proxied this variable.

Hypothesis 5: Exports are positively associated with various export promotion policies states undertake.

5. Methodology: Variables, Empirical Model and Findings

5.1 Variables and Data Source

The description of all the variables and their data sources used in the present paper are presented in Table 6.

Table 6: Description of Variables

Variable	Symbol	Definition	A priori Sign	Data Source
Dependent variable				
Exports	EXP	Exports at the state level according to state of origin.		DGCI&S
Independent variable				
Gross State Domestic Product	GSDP	GSDP at constant prices.	positive	Handbook of Statistics on Indian States, RBI.
FDI	FDI	FDI at the state level in Rs Cr.	positive	FDI Newsletter (erstwhile SIA Newsletter), DPIIT.
Infrastructure Index	IFD Index	Variables used in constructing the Index: State wise Installed capacity of power, length of the national highway, length of state highway, state-wise telephones per 100 population, social sector expenditure	positive	Handbook of Statistics on Indian States, RBI.

Variable	Symbol	Definition	A priori Sign	Data Source
Financial Development Index	FD Index	Variables used in constructing the index: state-wise distribution of offices of scheduled commercial banks (SCBs), deposits of SCBs per GSDP, credit by SCBs per GSDP, and the credit-deposit ratio of SCBs according to the place of utilisation.	positive	Handbook of Statistics on Indian States, RBI.
State policy variable	Dummy variable	It is defined as the dummy variable given a value of 1 if the state export growth is greater than the national average export growth and 0 otherwise.	positive	DGCI&S and Handbook of Statistics on Indian Economy, RBI.

Data for the exports at the state level is extracted from the Directorate General of Commercial Intelligence and Statistics (DGCI&S), Kolkata. Data on FDI equity inflows is sourced from the FDI newsletter (erstwhile SIA newsletter) of the Department for Promotion of Industry and Internal Trade under the Ministry of Commerce and Industry, Government of India. The rest of the variables under the study are extracted from the Handbook of Statistics on Indian States, RBI. The present study considers annual data for all variables from 2011-12 to 2019-2020. Due to the limited data availability, only 16 states are included in the study.

In this study, the composite infrastructure and financial development indices are developed using multiple indicators rather than single indicators for infrastructure and financial sector variables. The indices are constructed using Principal Component Analysis (PCA) by

assigning equal weight to variables used in constructing an index. The idea of the PCA is to reduce the number of variables of a data set while preserving as much information as possible.

5.2 Empirical Model

In line with the previous work on the subject (Roy et al., 2015; Cabral, 2021; Sahoo & Dash, 2022), the following model is used for the present study:

$$Exports_{it} = \beta_0 + \beta_1 FDI_{it} + \beta_2 GSDP_{it} + \beta_3 IFDIndex_{it} + \beta_4 FDIndex_{it} + \beta_5 DummyVariable_{it} + \alpha_i + \mu_{it} \quad (1)$$

The Hausman test is applied to analyse whether the fixed or random effect model is more suitable for equation (1). The test result suggested the use of a random effects model. In addition, to determine how these variables change across the states, the sample is divided into coastal and landlocked states.

5.3 Empirical Findings

Table 7: Static Model Estimations Employing Random Effects Model

	With Exports as a Dependent Variable		
Variables	**All States**	**Coastal States**	**Landlocked States**
GSDP	0.279***	0.297***	0.118***
FDI	-2.362***	-2.603***	-0.336
Infrastructure Index (IFD)	28488.41**	16974.23	5782.57*
Financial Development Index (FD)	23298.76*	20152.4	15057.27***
Dummy variable	26294.11***	41633.95***	10884.68**

Constant	-61547.1	-50645.06	-19603.13**
No of Observations	126	72	54
R^2	0.4557	0.5427	0.7689
Hausman p value	0.43	0.32	0.54

Note *, **,*** represent 10,5 and 1 % significance levels.

From Table 7, the first column incorporates all the states, while the other two columns give the results for coastal and landlocked states. Gross state domestic product (GSDP), measuring states' production capacity, is statistically significant at 1% across different states. Results corroborate with the study by Cabral and Alvarado (2021), which found that GDSP significantly explains variations in export performance across different states. Moreover, it implies that states have more capacity to export. FDI does not have any impact on landlocked states and is significantly negative at a 1% level of significance for coastal states, concluding that FDI coming into states is not contributing to increasing their export share but rather is market seeking in nature, intended to capture more significant market share in their domestic markets. The same result is corroborated by Pradhan and Das (2013). This result is contrary to the study by Sun (2001), where central and coastal regions received a huge and disproportionate amount of FDI compared to the other regions, thereby contributing maximum exports by these regions. The infrastructure development index positively impacts exports for the whole sample and landlocked states. The same result has been corroborated by Wu (2007) and Sahoo and Dash (2022) in their study. This result signifies that greater public and private investments in infrastructure boost economic activity and trade, leading to profitable opportunities (Rehman et al., 2020; Bensassi et al., 2015). The financial development index is significant at the national level and for the landlocked states, signifying its importance in making finance available for exports, investing in innovative activities, reducing export-related costs, and promoting exports (Beck et al., 2003). The dummy variable representing state initiatives concerning exports is highly significant across different states at 1% significance. These represent state measures to strengthen the exporting activities of the firms in their respective states. The benefits of such programmes are that they add to the resource pool base of firms, providing them with additional capital and

helping them reduce their cost of internationalisation (Fitzgerald and Monson, 1989; Pradhan and Sahu, 2008).

6. Conclusion and Policy Recommendations

This study is devoted to analysing the relationship between FDI and exports at the state level. Apart from FDI, other control variables which affect exports at the state level are also introduced. They include gross state domestic product, infrastructure index, financial development index, and state policy followed by the states to promote exports proxied by a dummy variable. The relationship is analysed through a static panel model employing random effects methodology. Further, the sample is divided into coastal and landlocked states to examine how the relationship varies.

The findings of the study conclude that GSDP, FDI (for national and coastal states), state policies dummy variable, IFD index (for national and landlocked states) and financial developmental index (for national and landlocked states) are significant variables. Differences in export performance at the state level can have important implications for growth at the subnational level and for trade and investment policies to be followed. Based on the study results, policy priority should be given to attracting more export-enhancing FDI rather than export-depressing FDI. For the FDI to positively impact exports, investments in developing human capital, physical infrastructure and financial sector should be undertaken (Tanna et al., 2018; Xiong and Sun, 2019). India should concentrate on each state's inherited uniqueness and then try to develop appropriate strategies to ensure a balanced contribution by each state in exports.

Some policy recommendations for improving state-level export performance include providing adequate finance to states lagging behind to develop appropriate export infrastructure and taking advantage of various government schemes available at the state level for developing export promotion zones, logistics facilities, and research hubs, thereby making the weaker states export competitive. Government export promotion schemes like One District One Product (ODOP) and Districts as Export Hubs Initiative (DEH) are steps

in the right direction, which facilitates more states to access the export markets and helps promote the export ecosystem at the district level. Lastly, for long-term sustainable export growth, states should invest in-house R&D and disembodied technology in the form of royalties, technical fees and designs, enabling exporters to export more complex and unique economic goods to the world.

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