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Pattern of International Trade through West Bengal: Some Evidence from Port-Level Data

by

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I. Introduction

West Bengal has a long international border and it occupies an important strategic location in the eastern part of India. Locational advantages suggest that it should play a crucial role in India's pursuit for increased trade with other Asian countries. As West Bengal is close to Bangladesh, Myanmar, Thailand and a number of other East and South East Asian countries, it has the potential to become a gateway for India's 'Look East Policy'. State level export data published in the Economic Survey 2011-12 show that by total volume of exports, West Bengal rank 8th among the top 15 exporting states of India in 2010-11 (Table 1). Moreover, by Exports to State Domestic Product (SDP) ratio, West Bengal ranks 15th and 13th respectively in 2009-10 and 2010-11 among the top 15 exporting states of India. Port specific trade data show that relative importance of exports through the ports of West Bengal is declining in India's total exports. For example, in 2003-04 exports through the ports of West Bengal accounted for more than 6 percent of India's total exports. But the same share declined to around 3.4 percent in 2009-10 before recovering to just above 4 percent in 2012-13. It is a matter of concern that this decline took place in spite of India's growing trade with East and South East Asia during the same period.

The declining export performance of West Bengal may mirror the economic transformation of the state over the last few decades. There has been a strong shift away from manufacturing and towards services in West Bengal since the early 1980s. The share of 'Manufacturing' in the SDP has declined from more than 30 percent in 1980-81 to less than 10 percent in 2009-10 (Figure 1). The share of 'Agriculture and allied services' has also shown a relative decline in the SDP. Several studies like Papola et al (2011) and the Human Development Report (HDR) of India (Planning Commission 2011) have argued that West Bengal has experienced significant deindustrialization in the last two decades. According to Planning Commission (2011), West Bengal also suffers from infrastructure deficit in a number of areas and is an average to below-average performer in the various components of the Human Development Indicator (HDI). During the last decade the state has also faced political problems and witnessed rise of insurgencies. There are a number of studies which

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have dealt with these economic and political problems faced by this state (for example see Khasnabis 2008, Banerjee et al 2002 and 2007, Patnaik 2007, Government of West Bengal 2004 etc.). However, there seems to be a dearth of studies on involvement of West Bengal in international trade. Some studies (e.g. De 2006, De and Bhattacharyya 2007) have looked into trade through West Bengal but most of these studies were done in the context of Indo-Bangladesh trade. There are two possible reasons why such studies may not have been attempted before. First, state specific export data are not available from DGCIS. Though DGCIS collects the 'origin of export' data from exporters, such data are not in the public domain. Occasionally these data are published in government reports (like the data cited above from Economic Survey) but otherwise it is not easy to access. Secondly, port specific trade data were available from DGCIS but access to this data was difficult. Only recently access to such data has improved.

This study uses port level trade data from DGCIS to analyse patterns of trade through the different geographic areas of West Bengal. As state level trade data are not available from DGCIS, this study uses the port-specific data to understand the pattern of trade through West Bengal. A survey conducted by IIM Calcutta for this study revealed that some of the bigger ports of West Bengal, especially the Kolkata seaport, Kolkata airport and Petrapole land port are accessed by many other neighbouring states of West Bengal. However, the smaller ports of the state are mostly used by local producers. Therefore, export pattern of the smaller ports of West Bengal are expected to reflect the production structure of neighbouring districts.

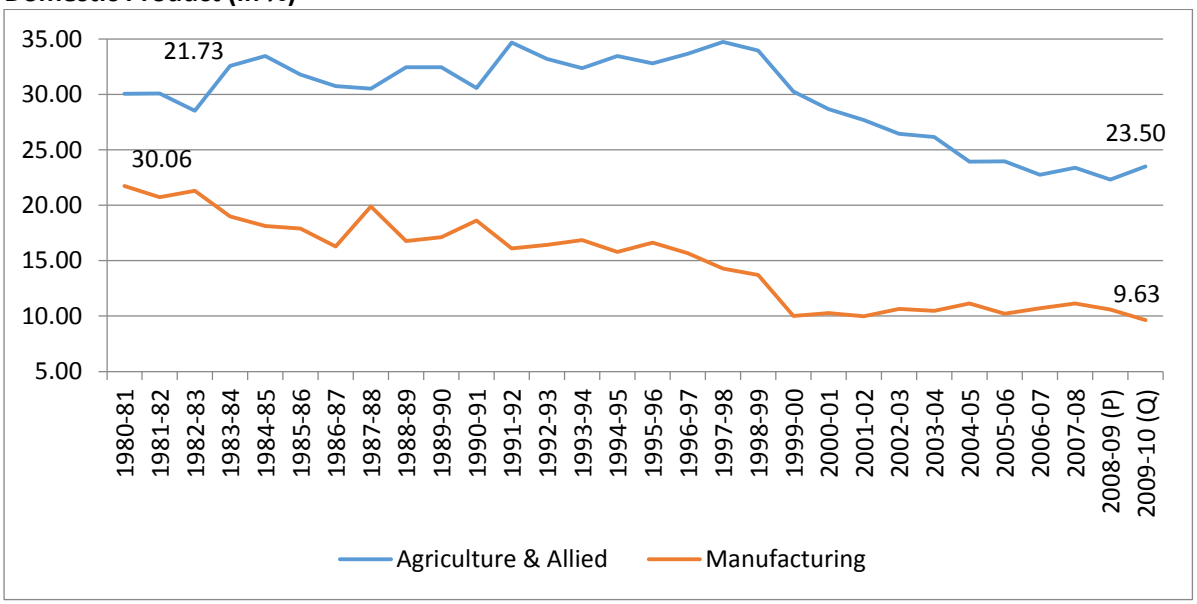
Against this backdrop, this study will also probe the skill and technology intensity of exports of different areas of this state using disaggregated trade data. As the ports of West Bengal are mostly longitudinally distributed along the eastern-border of the state, this analysis may reveal the spatial nature and distribution of economic activity across the state. This paper may serve two important purposes. First, post specific trade data may reveal how the pattern of trade and sectoral competitiveness differ among the ports of West Bengal. Secondly, this study is also likely to indicate how economic activity is spread across the state. These findings will not only have strong policy implications for improving West Bengal's participation in international trade but it may also throw some light on the spatial pattern of industrialization of the state.

Table 1. State Level Exports and State Domestic Products for Top 15 Exporting States of India

		Exports				State Domestic Product			
		in million USD		Share in India's total Exports (percentage)		in Rs Crores		Share in India's GDP (percentage)	
	State	**2009-10**	**2010-11**	**2009-10**	**2010-11**	**2009-10**	**2010-11**	**2009-10**	**2010-11**
1	Gujarat	38775	61694	21.69	24.57	368013	440942	6.77	6.89
2	Maharashtra	43356	53788	24.25	21.42	787761	982452	14.50	15.34
3	Tamil Nadu	16085	23378	9.00	9.31	429999	507571	7.91	7.93
4	Karnataka	9093	13603	5.09	5.42	300875	354872	5.54	5.54
5	Andhra Pradesh	8559	12567	4.79	5.00	441784	531139	8.13	8.29
6	Haryana	5679	8584	3.18	3.42	203822	238711	3.75	3.73
7	Uttar Pradesh	5524	8208	3.09	3.27	463382	536297	8.53	8.37
8	*West Bengal*	*4197*	*7111*	*2.35*	*2.83*	*362570*	*425625*	*6.67*	*6.65*
9	Odisha	3230	6990	1.81	2.78	141318	168403	2.60	2.63
10	Kerala	5843	6547	3.27	2.61	206200	246213	3.79	3.84
11	Delhi	5187	6051	2.90	2.41	211591	250416	3.89	3.91
12	Rajasthan	3339	5214	1.87	2.08	231963	286008	4.27	4.47
13	Punjab	2732	4099	1.53	1.63	176442	200329	3.25	3.13
14	Madhya Pradesh	2357	3112	1.32	1.24	202652	231355	3.73	3.61
15	Goa	2481	1642	1.39	0.65	25224	27852	0.46	0.43
	India	***178751***	***251136***	***100.00***	***100.00***	***5433588***	***6403939***	***100.00***	***100.00***

Source: State level export data from Economic Survey 2011-12, State Domestic Product from Economic Survey 2012-13

Figure 1. Share of 'Manufacturing' and 'Agriculture and Allied' sectors in West Bengal's State Domestic Product (in %)



Source: Bureau of Applied Economics and Statistics, Government of West Bengal (2011)

II. Mode-wise trade pattern through the ports of West Bengal

West Bengal has a combination of land, sea and airports. Presently it has ten active land ports[2]. Among them trade takes place by road in five ports. The other five ports are rail ports. West Bengal also has one international airport (Kolkata airport) and the Kolkata seaport. Apart from these, West Bengal has a few Special Economic Zones (SEZs) and one 'Inland Container Depot' (ICD). SEZs and ICDs are are considered as virtual ports and trade figures for these ports are reported separately[3]. Among the SEZs, there is a mix of Information Technology SEZs and manufacturing SEZs. As this study is focussed on merchandise trade, IT SEZs are not considered for this study. Table 2 shows the list of the ports of West Bengal that are involved in merchandise trade.

Table 2. Ports of West Bengal involved in merchandise trade (according to different modes)

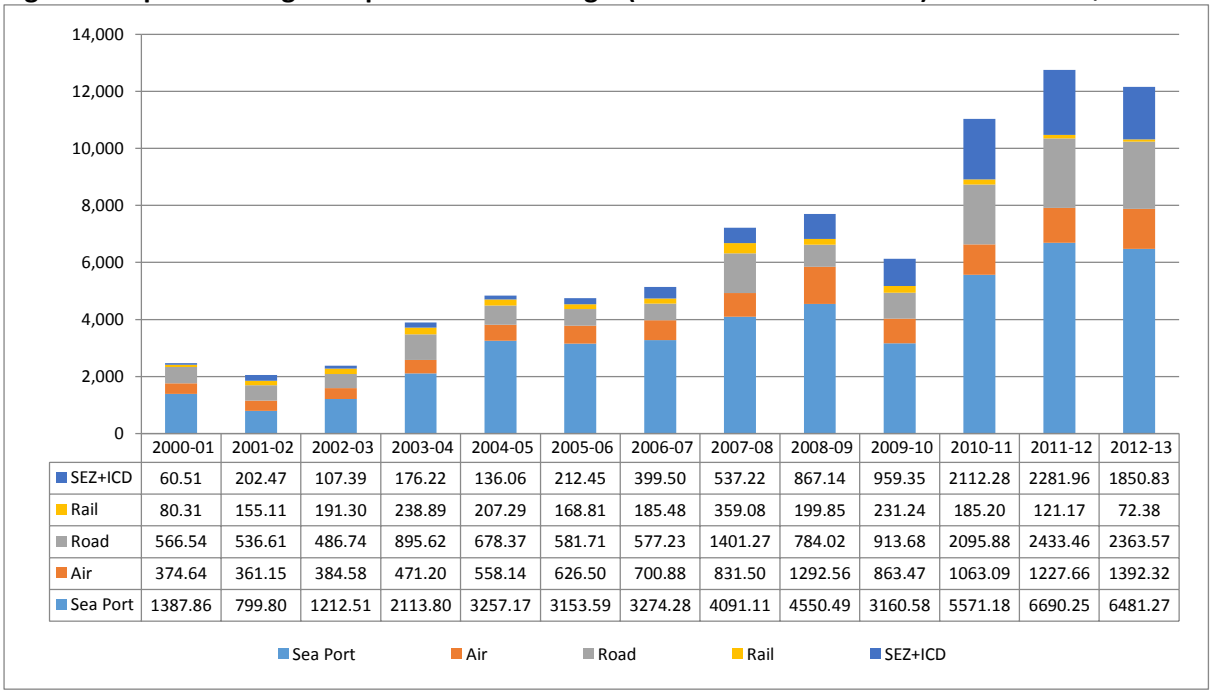
Road	Rail	Air	Sea	SEZ/ICD
Ghojadanga	Chengrabandha	Kolkata Air	Kolkata Sea	Falta
Hili	Ranaghat-Gede			Manikanchan
Mohedipur	Singabad			Durgapur ICD
Petrapole	TT Shed (Kidderpore)			
Phoolbari	Radhikapur			

Mode-wise decomposition of exports through the ports of West Bengal shows that Kolkata seaport alone accounts for more than 50 percent of total exports through this state. In some years, share of Kolkata sea port was more than 66 percent of total exports through West Bengal (Figure 2). In comparison, Kolkata airport has a much lower share. Depending on the year, Kolkata airport has a share of 9.5-15 percent of total exports through this state. Land ports, which include both land customs stations (LCS) and rail ports, account for about 18- 20 percent of the total exports. Exports through rail ports in West Bengal are low and declining. Over the past few years, it only accounted for about 1 percent of the total exports through this state. Among the rail ports, the Ranaghat-Gede rail network is the most dominant one. For the period 2002-03 to 2009-10, on average, exports worth more than US$ 200 million per year went through the Ranaghat-Gede rail port. But since then there has been a sharp decline in exports through this port. Apart from Ranaghat-Gede, there is very little trade through the other rail ports. The rest of the rail ports together account for less than 10 percent of the total exports that go through the rail network of West Bengal.

[2] For this paper, only the active ports are taken into consideration. Ministry of Commerce notifies a much larger number of ports as Land Customs Stations, but most of these ports are inactive ports, which do not report any data on exports or imports.

[3] SEZs are legally separate customs territories and these are treated as virtual ports. Therefore, though an SEZ can use a seaport or an airport to export or import its merchandise, the volumes of exports and imports by these SEZs will be reported against their name. It will not be counted as exports through the seaport or the airport, which was used for transportation of the product.

Figure 2. Exports through the ports of West Bengal (mode-wise distribution) in million US$



	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
SEZ+ICD	60.51	202.47	107.39	176.22	136.06	212.45	399.50	537.22	867.14	959.35	2112.28	2281.96	1850.83
Rail	80.31	155.11	191.30	238.89	207.29	168.81	185.48	359.08	199.85	231.24	185.20	121.17	72.38
Road	566.54	536.61	486.74	895.62	678.37	581.71	577.23	1401.27	784.02	913.68	2095.88	2433.46	2363.57
Air	374.64	361.15	384.58	471.20	558.14	626.50	700.88	831.50	1292.56	863.47	1063.09	1227.66	1392.32
Sea Port	1387.86	799.80	1212.51	2113.80	3257.17	3153.59	3274.28	4091.11	4550.49	3160.58	5571.18	6690.25	6481.27

Source: DGCIS data

Among the land ports, Petrapole, Mohedipur, Ghojadanga and Hili are the active ports. While Petrapole and Ghojadanga are in southern West Bengal (North 24 Parganas district), Hili and Mohedipur are at the northern part of the state. Petrapole is the largest land port in West Bengal. It accounted for about 14-15 percent of total exports through West Bengal (for the period 2010-11 to 2012-12). Petrapole also is the most important Indian port for trade with Bangladesh. For the period 2009 to 2012, Petrapole accounted for a little more than 16 percent of India's total exports to Bangladesh. Nhava Sheva port (also known as JNPT sea port, Maharashtra), Mohedipur and Ghojadanga (both in West Bengal) are the next three important Indian ports for trading with Bangladesh with export shares of 15 percent, 7 percent and 7 percent respectively for the same period. As a caveat, it must be pointed out here that there is some amount of informal trade that takes place between West Bengal and Bangladesh. The official figures obviously do not capture this trade.

The other category of ports in West Bengal is the virtual ports like Special Economic Zones (SEZs) and Inland Container Depots (ICDs). West Bengal presently has five SEZs and among them Falta and Manikanchan SEZs are involved in merchandise trade[4]. Exports through these two SEZs are on the rise and Manikanchan SEZ has shown significant growth in exports in the recent years. From about US$ 120 million in 2005-06, Manikanchan's average export for the period 2010-11 to 2012-13 has

[4] The other three functional SEZs are WIPRO (IT/ITES), Dalmiya and Co Ltd. (IT/ITES) and Unitech Hightech (IT/ITES). All these three SEZs trade in services.

grown to around US$ 1800 million. Falta has shown much more modest increase in exports. Average export from the Falta SEZ for the period 2006-7 to 20012-13 has varied between US$ 150 million and US$ 300 million. Since 2009-10, these virtual ports consistently account for more than 15 percent of total exports through West Bengal. However, it must be noted that both these SEZs are also highly import intensive. Data for the last three years (2010-11 to 2012-13) show that while Manikanchan's total exports for the period were around US$ 5,442 million, it also imported goods worth US$ 3,600 million. Similar data for Falta SEZ shows that Falta in fact has imported more than it exported during the last three years. For the period 2010-11 to 2012-13, total import by Falta SEZ was US$ 756 million while its total exports was around US$ 730 million. Export and import data for Falta and Manikanchan SEZ are shown in Figure 3 and 4 below.

Figure 3. Exports, Imports and Net Exports of Falta SEZ (in million US$)

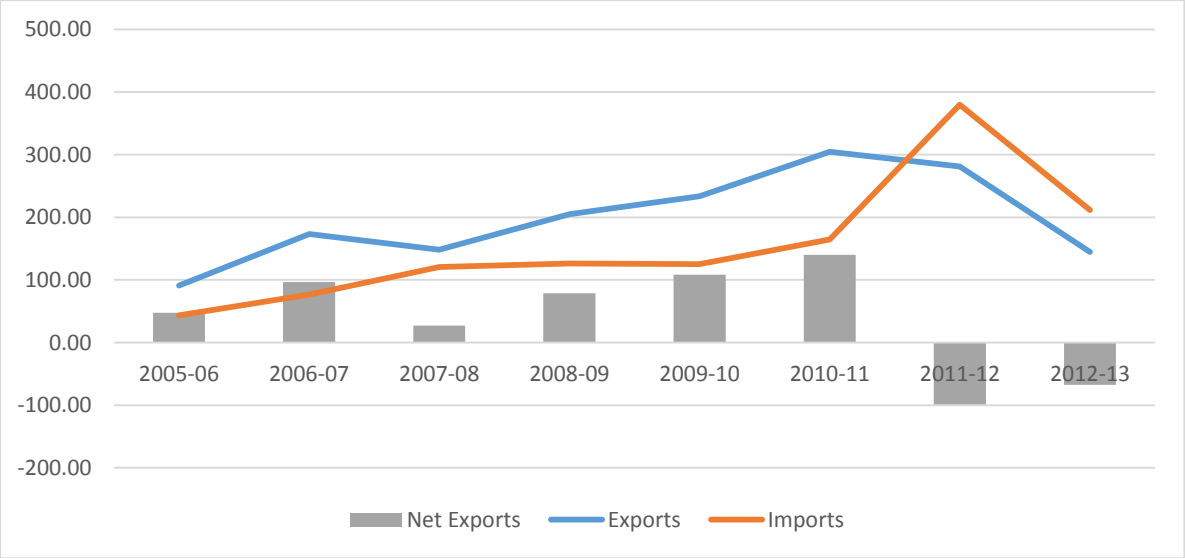
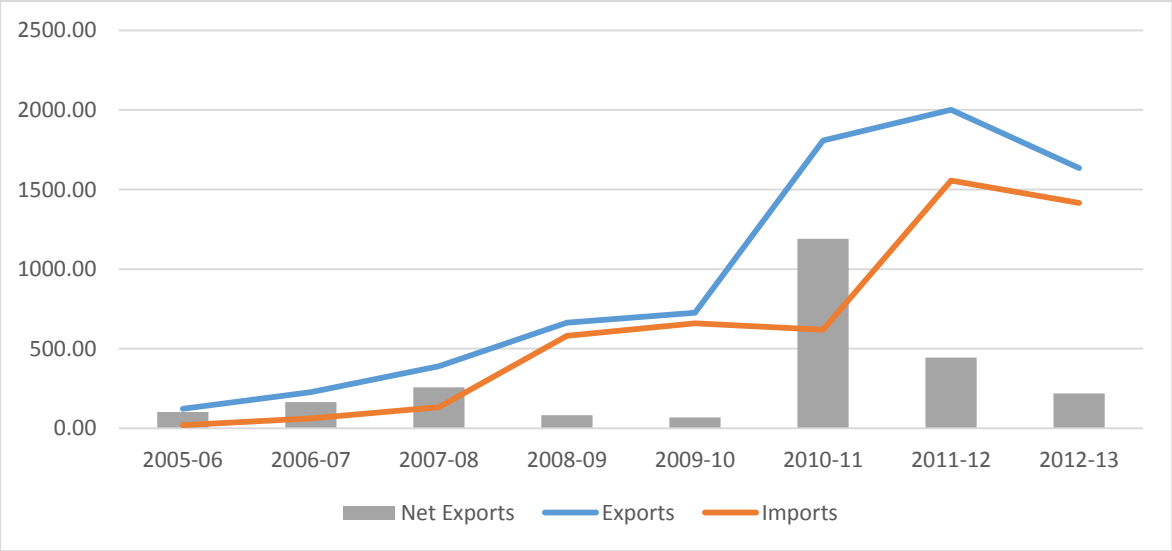


Figure 4. Exports, Imports and Net Exports of Manikanchan SEZ (in million US$)



Source: DGCIS data for figure 3 and 4

III. Direction and pattern of trade through the ports of West Bengal

A look at the export destinations served by the ports of West Bengal shows some distinct trends. All the land ports almost exclusively trade with Bangladesh. Although DGCIS data indicate that small amounts of exports destined for other countries also pass through these ports, for all practical purposes these ports are Bangladesh-specific. The other ports are more diversified in terms of their export destinations.

Among the ports that are not Bangladesh specific, Manikanchan SEZ is the least diversified port. Manikanchan SEZ is a 'gems and jewellery' SEZ and it is in operation since 2005. Over the years, Manikanchan has achieved high export growth rate and in 2011-12 it achieved exports of more than US$ 2 billion. But its trading pattern is skewed. Data for the last 4 years (2009-10 to 2012-13) show that more than 99 percent of exports from Manikanchan go to three countries, viz. United Arab Emirates (72.15%), Singapore (14.8%) and Hong Kong (12.2%). Imports by Manikanchan also show similar trends. For the period 2009-10 to 2012-13, most of Manikanchan's imports have come from UAE (70.6%), Switzerland (17.3 %), Hong Kong (6.8%) and Thailand (1.6%). Together these four countries account for more than 96 percent of total imports by this SEZ. Manikanchan is a sector-specific SEZ and while it may not be unusual to have a very skewed pattern of trade in such SEZs, such overwhelming dependence on a few countries does increase the risk of getting affected by country-specific shocks. However, it is also possible that some exports sent to UAE, Singapore and Hong Kong are destined for some other markets.

Falta, on the other hand, is a multi-sector manufacturing SEZ and its export markets are much more diversified. Data for the period 2009-10 to 2012-13 show that during this period Falta SEZ has exported to 121 countries and imported from 68 different countries. The top ten export destinations and import sources of Falta SEZ are given in Table 3. The table shows that Hong Kong, Singapore, USA, EU, UAE and Kazakhstan are the major export markets for the companies located in the Falta SEZ. As it can be seen from the table, export destinations of Falta SEZ are quite diversified and the top ten markets account for less than 80 percent of the total exports for the period 2009-10 to 20012-13. On the import side, China is a major source of import for Falta SEZ. China alone accounted for more than 28 percent of Falta's total import for the given period. Imports from China are mostly industrial inputs and it is evident from Table 3 that China plays a very important role as supplier of industrial inputs to this SEZ. This is also symptomatic of the larger national trend where China has emerged as the major source of industrial inputs for India.

Table 3. Direction of Trade of Falta SEZ for the period 20009-10 to 2012-13 (aggregate for the period)

Rank	Exports (in million US$)			Imports (in million US$)		
	Country	**Exports**	**Share (%)**	**Country**	**Imports**	**Share (%)**
1	Hong Kong	146.46	15.20	China	250.70	28.44
2	U S A	134.95	14.00	Singapore	115.52	13.11
3	Singapore	110.44	11.46	Germany	79.78	9.05
4	Germany	86.70	8.99	U S A	78.17	8.87
5	Kazakhstan	85.34	8.85	Japan	46.02	5.22
6	Netherland	60.08	6.23	UAE	40.84	4.63
7	Italy	51.79	5.37	Taiwan	34.46	3.91
8	UAE	33.33	3.46	Switzerland	30.38	3.45
9	France	26.72	2.77	Saudi Arab	29.53	3.35
10	Belgium	20.48	2.12	Malaysia	24.88	2.82
	Subtotal	***756.29***	***78.46***	***Subtotal***	***730.28***	***82.86***
	Total	***963.90***	***100.00***	***Total***	***881.30***	***100.00***

Source: DGCIS data

As mentioned before, Kolkata Sea port is the biggest trading port of West Bengal and it alone accounts for more than 50 percent of total exports through this state. Though Kolkata port it is called a sea-port, it is actually a riverine port on the bank of the river Hooghly. Kolkata port has two dock complexes-Kolkata and Haldia. Exports from the Kolkata sea port have been increasing steadily. But due to overall reduction in trade in 2001-02 and then again in 2009-10, there were two brief downturns in the volume of exports from this port. Apart from that, export growth has been fairly steady in nominal terms. However, in relative terms it is losing importance among Indian ports. The share of exports from Kolkata sea port in India's total exports declined from 3.89 percent in 2004-05 to 2.16 percent in 2012-13.

Direction of trade statistics show that exports from Kolkata port are quite diversified. For the period 2009-10 to 2012-13, exports went from Kolkata port to 200 different countries. During this period, China has been its biggest export destination. Exports worth more than US$ 2.15 billion have gone to China from this port during this period. A closer look at the export pattern show that more than 50 percent of exports from Kolkata sea port to China is made up by two products 'Iron Ores and Concentrates' (HS 2601) and 'Ferro Alloys' (HS 7202). Singapore, USA, UAE, Japan, Malaysia and EU countries are the other top destinations of exports from the Kolkata sea port (Table 4). It is notable here that though China is the top export destination for the period 2009-10 to 2012-13, data for the latest year show that exports to USA has increased in 2012-13. Exports to USA from Kolkata seaport declined due to the recession in that country during 2008-10 but have been gradually recovering. In 2012-13, USA emerged as the most important export market from Kolkata seaport accounting for

US$ 478 million of exports. It was followed by Singapore (US$ 419 million) and China (US$ 406 million).

Table 4. Top 10 destinations for exports from Kolkata Sea Port (aggregate for 2009-10 to 2012-13)

Rank	Country	Exports (in million US$)	Share in total (%)
1	China	2153.93	9.83
2	Singapore	1487.23	6.79
3	U S A	1421.83	6.49
4	UAE	1060.43	4.84
5	Japan	999.87	4.56
6	Italy	856.31	3.91
7	Malaysia	761.57	3.48
8	Germany	713.25	3.26
9	U K	690.64	3.15
10	South Korea	645.75	2.95
Subtotal		*10790.82*	*49.27*
Total		***21903.25***	***100***

Source: DGCIS data

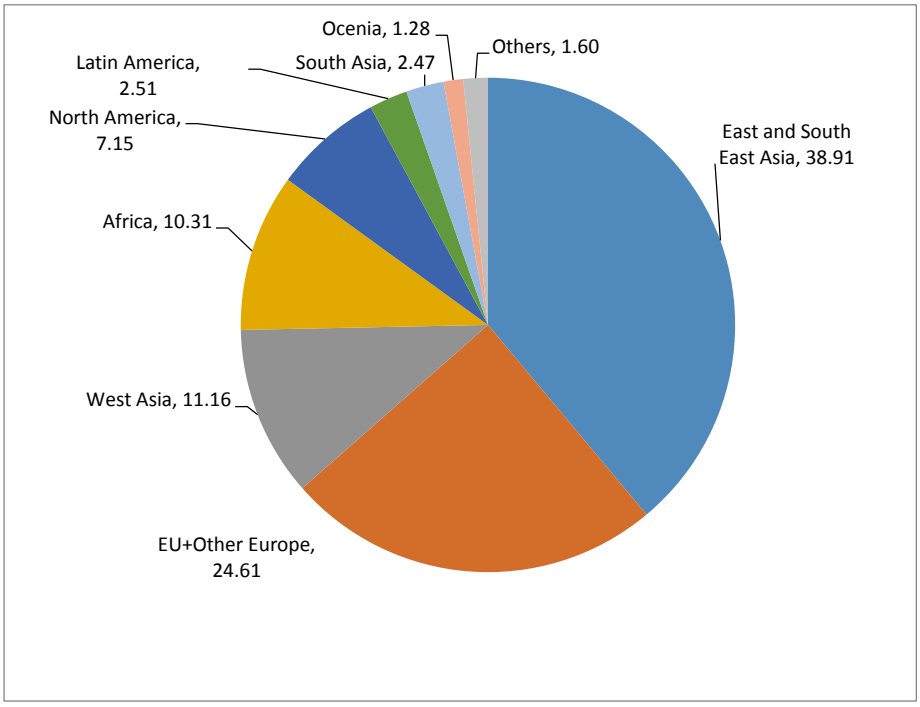
The regional distribution of exports from Kolkata sea port shows that more than 50 percent of total exports go to other Asian countries. Among these, East Asia[5] and ASEAN countries account for about 39 percent of total exports (Figure 3). This may not be surprising because relative proximity to some of the ports of these countries gives Kolkata a locational advantage. Moreover, as India is increasingly improving its trade relations with the countries in East and South East Asia, trade with these countries is growing rapidly. Trade with these countries are like to increase as India has already signed a number of free trade agreements (FTAs) with the countries of this region[6]. It is also negotiating some other FTAs including the formation of a mega trade block under the 'Regional Comprehensive Economic Cooperation' (RCEP) agreement.

Other notable features observable from Figure 5 are that Europe, West Asia and North America are the three other major export destinations from Kolkata sea port. Also, South Asian countries have very limited shares in the total export from this port. This is probably because most of India-Bangladesh trade takes place through the land ports and the Kolkata sea port does not have any locational advantage in trading with other South Asian countries like Sri Lanka and Pakistan.

[5] China, Japan, North and South Korea, Taiwan and Hong Kong

[6] India–Singapore [Comprehensive Economic Co-operation Agreement (CECA)], India-ASEAN FTA, India–Korea [Comprehensive Economic Partnership Agreement (CEPA)], India–Japan CEPA, BIMSTEC Free Trade Area, India–Malaysia CECA, India–Thailand Early Harvest Scheme etc.

Figure 5. Direction of Exports from Kolkata Sea Port (in %) for 2009-10 to 2012-13



Source: DGCIS data

Imports by Kolkata sea port are much more than exports. Over the same period (2009-10 to 2012-13) Kolkata port has imported merchandise worth about US$ 59 billion. This is about 2.8 times higher than the amount of exports that have gone through this port during the same period. The import pattern once again highlights the increased importance of China in India's trade. For Kolkata sea port, China is the most important source of import. Import from this country was around US$ 9.8 billion for the period 2009-10 to 2012-13. The share of China in total imports was more than 16.6 percent for this period. Other important sources of imports are Indonesia, Australia, Malaysia, USA and Kuwait (Table 5). The relative rise of China as the most important source of imports for India is evident from the fact that in 2000-2001, China had a share of around 9.8 percent in total imports by Kolkata port while USA had a share of 9.1 percent. In 2005-06, the shares of China and USA became 14.8 percent and 6.9 percent respectively. This trend has continued and China now has a share which is around three times higher than USA (Table 5). Similarly other South East Asian countries have also gained importance in trade through the Kolkata port, reflecting higher dependence of India on other Asian countries. Data show that East and South East Asian countries have a high share (more than 44 percent) in total imports of this port.

Table 5. Top 10 source of imports for Kolkata Sea Port (aggregate for 2009-10 to 2012-13)

Rank	Country	Imports (in million US$)	Share in total (%)
1	China	9794.57	16.63
2	Indonesia	5078.23	8.62
3	Australia	4653.71	7.90
4	Malaysia	3639.62	6.18
5	U S A	3153.71	5.35
6	Kuwait	3061.78	5.20
7	Saudi Arab	2359.69	4.01
8	Germany	2239.52	3.80
9	Japan	2154.68	3.66
10	UAE	1893.45	3.21
Subtotal		*38028.96*	*64.56*
Total		***58903.90***	***100***

Source: DGCIS data

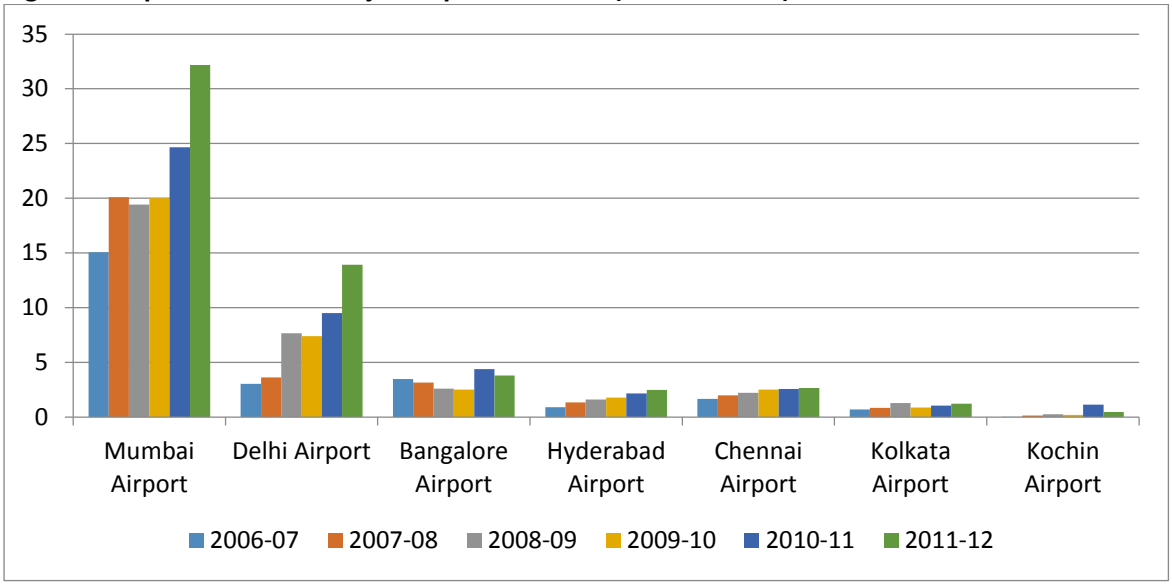
The other important port of West Bengal is the Kolkata Airport. It is one of the oldest airports in the country. But in terms of international trade, it is positioned well behind airports of Mumbai, Delhi, Bangalore, Chennai and Hyderabad (Figure 6). The performance of Kolkata airport has to be seen against the backdrop that it is biggest international airport in East and North-East India and physically it is closer to many of the East and South East Asian countries than any other major Indian international airports of India[7].

The direction of exports from the Kolkata airport shows that its trade pattern is different from Kolkata Sea port. This is not unusual because the type of cargo carried in international trade through sea and air routes can be very different. Air shipment is much more expensive and cargos sent by air are likely to be either high value items or express delivery products where speed of shipment is very important. For Kolkata airport, UAE is the most important export destination. For the period 2009-10 to 2012-13, UAE alone account for more than 33 percent of total exports from Kolkata airport. In 2012-13, about 36 percent of total exports from Kolkata airport went to UAE. Other major countries where export was made through Kolkata airport during the last four years were Germany, Bangladesh, Singapore, UK, USA and Thailand (Table 6). Major export items shipped through this airport include jewellery items (mostly HS 7113 and HS 7114). Products in the category HS 71 contributes to about 30 percent of total exports from this port. Leather bags and suitcases (HS 4202), Petroleum products (HS 2710), aircraft components (HS 8802 and 8803) and various types of

[7] For example, distance between Kolkata and Kunming is less than 1500 kilometres and it takes less than two hours to fly from one city to another.

textiles leather products are other major export items. The high share of UAE is largely due to the fact that majority of the jewellery exports from Kolkata airport are destined for this country.

Figure 6. Exports from the Major Airports of India (in US$ billion)



Source: DGCIS data

Table 6. Top 10 destinations for exports from Kolkata Airport (aggregate for 2009-10 to 2012-13)

Rank	Country	Exports (in million US$)	Share in total (%)
1	UAE	1519.48	33.32
2	Germany	372.53	8.17
3	Bangladesh	311.64	6.83
4	Singapore	273.90	6.01
5	UK	261.98	5.75
6	USA	258.46	5.67
7	Thailand	117.93	2.59
8	Italy	106.43	2.33
9	Spain	97.88	2.15
10	Hong Kong	97.64	2.14

Source: DGCIS data

Imports by Kolkata airport show some startling patterns. For the period 2009-10 to 2012-13, Switzerland is the most important source of imports accounting for about 41 percent of total imports through this port. Other major source countries for imports through this airport are South Africa, UAE, China, USA and Germany (Table 7). The importance of Switzerland, South Africa and UAE comes from the fact that a big proportion of imports through this port are of unwrought precious metals like gold and platinum (HS 7108). For the period 2009-10 to 2012-13, these goods accounted for about 70 percent of total imports by the Kolkata airport. Switzerland is the biggest source of imports of HS 7108 followed by South Africa, UAE, Australia and Hong Kong. It may not be common knowledge that Switzerland is the world's largest gold refiner country. According to a BBC report,

four of the world's biggest gold refineries are in Switzerland and it is estimated that two-thirds of the world's gold is refined in that country[8]. What is also interesting is that Switzerland's trade data do not reveal from where these gold are sourced. However, a recent Reuters report indicates that a significant volume of these gold come from the Exchange Trade Funds (ETFs) of London to the deposit accounts of the Swiss Banks. According an estimate published in this report, 797 tonnes of gold were exported from UK to Switzerland in the first half of 2013. Most of this gold is remelted into different size bars and coins and then sold to end consumers in various countries including India[9].

There is also substantial import of Diamonds (HS 7102) and computer related products (HS 8471). Major imports of HS 8471 are from China, Thailand, Singapore, Malaysia, Taiwan and USA. Like Kolkata seaport, imports through Kolkata airport are much higher than the corresponding export figures. For example, for the period 2009-10 to 2012-12, total exports from this port was around US$ 4.56 billion while it imported goods worth US$ 18.2 billion. In fact import of only HS 7108 (unwrought precious metals like gold and platinum) was worth US$ 12.5 billion which is about 2.7 times the total exports through this port.

Table 7. Top 10 sources of Imports for Kolkata Airport (aggregate for 2009-10 to 2012-13)

Rank	COUNTRY	Value in million US$	Share
1	Switzerland	7428.94	40.85
2	South Africa	2084.35	11.46
3	UAE	2010.07	11.05
4	China	1420.83	7.81
5	USA	866.27	4.76
6	Germany	605.77	3.33
7	Australia	557.46	3.07
8	Hong Kong	505.24	2.78
9	France	435.61	2.40
10	U K	244.02	1.34
Subtotal		***16158.56***	***88.85***
Total		***18186.60***	***100.00***

Source: DGCIS data

The road and rail ports of West Bengal are mostly involved in trading with Bangladesh and, to a much lesser extent, Nepal. Among these ports, Petrapole is the largest one. Trade pattern through Petrapole shows that the volume of exports through this port is much higher than volume of

[8] 'Gold refineries - another Swiss money-spinner' BBC, 26 December 2012, http://www.bbc.co.uk/news/world-europe-20813983

[9] 'Gold flows from Britain to Switzerland surge in first half of 2013 – Macquarie', Reuters, August 19, 2013, http://uk.reuters.com/article/2013/08/19/uk-gold-uk-exports-macquarie-idUKBRE97I0PQ20130819

imports. Over the period 2009-10 to 2012-13, value of exports through Petrapole was more than US$ 5.6 billion while value of imports was around US$ 1.2 billion. Ghojadanga is the other land port in the same district as Petrapole (North 24 Parganas). Infrastructure in Ghojadanga is much worse than Petrapole and it only has some rudimentary facilities. But in spite of these limitations, over the years, exports from Ghojadanga have increased quite steadily. While average annual exports for the period 2003-04 to 2006-07 were around US$ 66 million through this port, during the period 2009-10 to 2012-13, average annual exports have been around US$ 207 million. There is very little import through this port. This port also trades exclusively with Bangladesh.

The other two important land ports in West Bengal are in the northern part of the state. Mohedipur is the second largest land port of West Bengal in terms of volume of trade for the last four years. Mohedipur is predominantly an export oriented port and close to US$ 945 million worth of exports was sent through this port during 2009-10 to 2012-13. Only US$ 9 million worth of imports have come through this port. The other important LCS of West Bengal is Hili (West). Details of these LCSs of West Bengal are given in Table 8. A new Indo-Bangladesh port was inaugurated in 2011 at Phoolbari. Recently, an integrated LCS facility to boost trade has started operation in this port. But DGCIS so far has not reported any data for Phoolbari.

Table 8. Trade data for Land Custom Stations of West Bengal (aggregate for 2009-10 to 2012-13) in US$ million

PORT	District	Export	Import
Petrapole Land	North 24 Parganas	5656.52	1193.75
Kotwaligate (Mohedipur)	Malda	944.37	9.18
Ghojadanga	North 24 Parganas	829.10	5.02
Hili (West)	Dakshin Dinajpur	376.61	21.17
Total		**7806.60**	**1229.12**

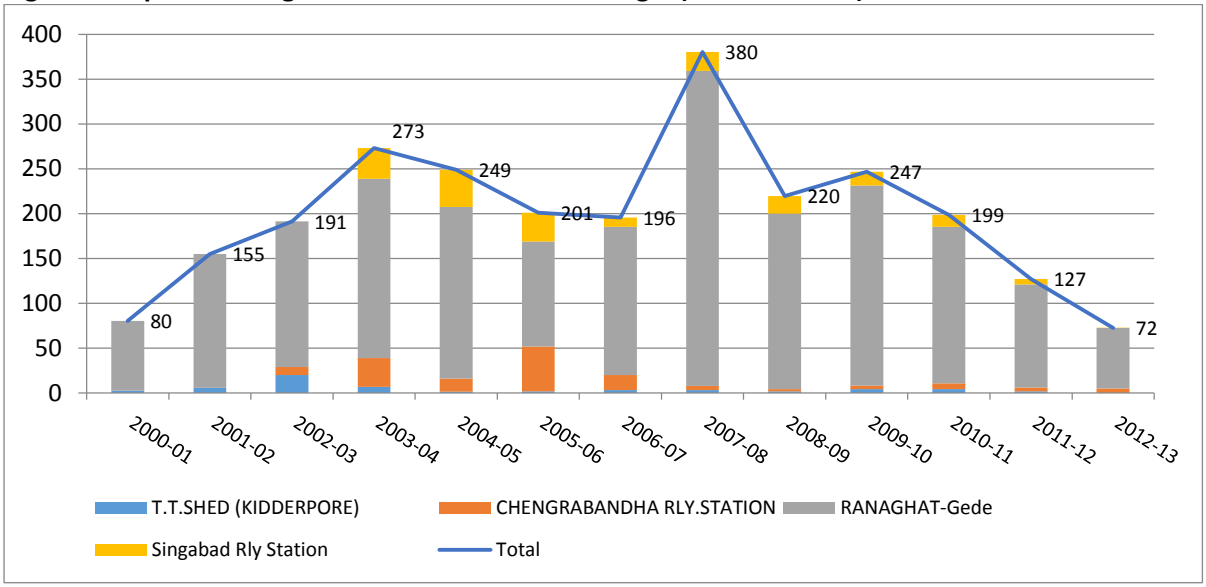
Source: DGCIS data

Apart from the land customs stations, West Bengal also has a few rail ports which trade with Bangladesh. Exports through the rail network between West Bengal and Bangladesh hold significant potential because there is existing rail connectivity between the two countries. Train services have become regular after transport agreements were signed by the two countries in the 1990s. Freight trains operate between West Bengal and Bangladesh through the four rail ports of West Bengal, viz. Ranaghat-Gede, TT Shed (Kidderpore), Chengrabandha Railway station and Singabad Railway station.

Trade through the rail network is generally faster, cost and energy efficient especially for bulk items like cereals, iron ore, petroleum products, fertilizers, sugar, cement, different chemicals and other metal products. However, exports through this mode have plummeted over the years. Data for the four rail ports of West Bengal show that exports through the rail network peaked during 2007-08

and since then there has been a sharp decline. Among the rail ports of West-Bengal, maximum amount of exports take place through the Ranaghat-Gede rail network. This port is in Nadia district and it accounts for about 90 percent of total exports through rail ports of West Bengal. Compared to the nearby LCSs like Petrapole, the customs clearance process is relatively smoother and hassle free in this route. Also as there are only a handful of trains each day in this route, there are no problems of congestion and long detention. Other rail ports of West Bengal are much smaller and over the years these ports also experienced a decline in exports. The government's decision to periodically ban exports of cereals and other bulk imports is cited as one of the main reasons behind this decline. Overall, the share of exports through the rail network has declined alarmingly (Figure 7 and Table 9).

Figure 7. Exports through the Rail Ports of West Bengal (in million US$)



Source: DGCIS data

Table 9. Share of exports through the different types of ports of West Bengal (mode-wise share)

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Sea Port	50.89	54.26	67.34	66.49	63.73	56.66	59.14	51.57	50.52	52.45	53.30
Airport	16.14	12.10	11.54	13.21	13.64	11.52	16.80	14.09	9.64	9.63	11.45
Road	20.43	22.99	14.02	12.26	11.24	19.41	10.19	14.91	19.01	19.08	19.44
Rail	8.03	6.13	4.29	3.56	3.61	4.97	2.60	3.77	1.68	0.95	0.60
SEZ+ICD	4.51	4.52	2.81	4.48	7.78	7.44	11.27	15.65	19.15	17.89	15.22

Source: DGCIS data

IV. Skill and Technology intensity of exports through different ports of West Bengal

This section looks at the skill and technology intensity of exports through the ports of West Bengal. In international trade literature, there is widespread recognition that the commodity composition of production and exports can have a significant bearing on the growth process of a country. From the Prebisch-Singer hypothesis of the 1950s to the works of Sanjaya Lall (see Lall 2000 and Lall et al. 2005) there is a set of strong argument which suggests that countries should strive to industrialize

and aim to move towards more value added exports. In recent years there are a number of papers that have emphasized the importance of skill and technology intensity of a country's exports. For example, a study by Hausmann et al (2007) highlights that not all goods are alike in terms of their consequences for economic performance. Specializing in some products is likely to bring higher growth than specializing in others. Moreover, their work shows that countries are not necessarily tied down to a predestined production structure determined by their relative factor abundance. Entrepreneurship, knowledge spill-over and proactive government policy can play important positive roles in pushing a country towards higher efficiency levels. Rodrik (2006) has shown that the rise of China as a major global exporter has been helped by its increased export sophistication. More recently, Anand et. al (2012) studied production and export sophistication and structural transformation of countries and concluded that export sophistication is likely to act as a catalyst for broad-based economic growth in low income countries. According to them, this may happen because some products may yield greater knowledge spill overs, have a greater potential for backward and forward linkages, or offer an easier pathway toward other products with such characteristics.

On the other hand, theories of economic geography suggest that the production structure within a country can vary considerably and the economy may get spatially divided into an industrial 'core' and an agricultural 'periphery'. Clustering, economies of scale and agglomeration effects create small geographic clusters within a country where industrial activities get concentrated (Harris 1954, Myrdal, 1957, Krugman 1991a, 1991b). Also, once transport costs, both in terms of freight charges and time delays, are brought into consideration then there are further incentives to concentrate production of industrial goods close to its largest market (Linder 1961, Krugman 1980, 1991a).

In this context, analysis of port specific disaggregated trade flow data of West Bengal can provide some important insights on production and export structure of the catchment area of the respective ports of this state. Such an analysis may indicate whether there is any significant difference in export structure and export sophistication among the ports of West Bengal. Also, as these ports are spread across the length of West Bengal, the analysis of export pattern may also reveal the extent of clustering of production in this state.

For purposes of analysis, a database developed by UNCTAD will be used to classify the exports according to their skill and technology intensity[10]. Following the UNCTAD database, products are

[10] Details of this database can be found in the study titled "Retooling Trade Policy in Developing Countries: Does Technology Intensity of Exports Matter for GDP Per Capita?" The study is one of Policy Issues in International Trade and Commodities studies published by the United Nations (UNCTAD/ITCD/TAB) and is available online at http://www.unctad.info/en/Trade-Analysis-Branch/Data-And-Statistics/Other-Databases/ .

classified into the following eight categories: Non-fuel primary commodities, Mineral fuels, Resource-intensive manufactures, Low skill- and technology-intensive manufactures, Medium skill- and technology intensive manufactures, High skill- and technology intensive manufactures, Other Manufactured and Unclassified products. Some modifications to the original UNCTAD classification were done in classifying the products. The original UNCTAD database left a number of commodities as 'unclassified products'. This includes about 66 products at HS4 digit level spread over HS 32 to HS 96. In addition there is another HS4 digit product 'laboratory chemicals' (HS 9802) which was also left unclassified. These are all manufactured products and for this study, these products have been clubbed under the 'Other Manufactured' category. From the point of view of West Bengal, this category also includes some important products from the category HS 71 (jewellery items). As these are major export items for West Bengal, these products under HS 71 will also be presented and discussed separately. Products which are left in the 'Unclassified items' are different art and sculpture objects, antiques and project goods. HS 4 digit port specific export data for the year 2011-12 have been used for this analysis. HS4 digit data have been used to classify the products in the aforementioned categories for all ports of West Bengal. The analysis is presented separately for the four general ports (ports which do not deal exclusively with Bangladesh) and the remaining Bangladesh specific ports of West Bengal.

Export compositions of these four general ports are shown in Table 10. The classification shows that among these ports, Manikanchan is a complete outlier. As it is an SEZ focussed exclusively on gems and jewellery, its major export items are various jewellery items including diamonds (not set or mounted)[11]. It is notable that in the present classification, diamonds, when they are polished but not set or mounted, are classified under 'Resource-intensive manufacturing'. These products account for about 3.3 percent of Manikanchan's total exports. The rest of the export items from Manikanchan are all jewellery items under HS 71. These are classified under the category 'Other Manufacturing'. Falta, the other SEZ of West Bengal, has a more diversified export basket and about 55.5 percent of Falta's exports are manufactured commodities of different skill and technology intensities. A significant share of exports from Falta is Medium and High skill category. The high percentage of 'Other Manufactured' goods from Falta is due to the substantial exports of HS 8523 (unrecorded media for sound recording) and HS 9608 (ballpoint pens) which are also value added manufactured goods. Falta also records high volume of exports of Non-fuel primary commodities.

During our analysis, some small anomalies were found at the four digit and six digit HS data in the UNCTAD database but most of them could be resolved.

[11] Most exports from Manikanchan have very high import contents. Most of the diamonds exported from this port are imported from various sources and exported after some amount of value addition. The value addition essentially means cutting and polishing of these diamonds.

This is due to high exports of tea, jute products, mica products, processed vegetables and marine products. Resource intensive manufacturers from Falta are various textile garments and leather products.

For Kolkata airport, most of the exports are of the category 'Resource-intensive manufactures'. This category is mostly made up of textiles, garments and leather products. Apart from these, more than 29 percent of all exports from Kolkata airport are jewellery items (various items in the category HS 71) which are part of the 'Other Manufactured' category mentioned in Table 10. High-skill and technology intensive products exported from Kolkata airport consist of various chemical products and electrical apparatus and instruments. Kolkata airport also records a significant amount of mineral fuel exports. More disaggregated data show that these exports are of refined petroleum oil (essentially aviation turbine fuel-HS 27101920) to other countries. Major export markets for refined petroleum products are Bangladesh, UAE, Thailand and Singapore.

Table 10. Composition of Exports through some major ports of West Bengal.

	Kolkata Air	Kolkata Sea	Manikanchan	Falta
Non-fuel primary commodities	2.85	21.72	0.00	16.90
Mineral fuels	17.03	9.66	0.00	5.46
Resource-intensive manufactures	35.30	17.30	3.30	22.10
Low skill- and technology-intensive manufactures	1.05	29.59	0.00	11.04
Medium skill- and technology intensive manufactures	3.36	7.81	0.00	5.35
High skill- and technology intensive manufactures	10.16	11.96	0.00	11.90
Other Manufactured	30.23	1.91	96.70	27.22
Unclassified products	0.02	0.05	0.00	0.02

Source: DGCIS data

Kolkata sea port also exports a wide variety of products across different skill and technology levels. Among the non-fuel primary commodities, the most important export items are tea (HS 0902), marine products (HS 0306) and iron ores (HS 2601). These 3 products account for about 14 percent of total exports through Kolkata sea port. There is also major export of mineral fuel through Kolkata sea port. Breakup of these export items at 8-digit HS level shows that refined fuel oils, lubricants and other refined petroleum products are the main export items in this category[12]. From the product mix in this category, it is evident that petrochemical refineries in East and North-East India are using the Kolkata sea port for their exports. The other two important categories of exports through the Kolkata sea port are Resource intensive manufactures and Low-skill and technology intensive manufactures. Resource intensive manufacturers exported through this port are various types of

[12] In terms of HS 8 digit products, the main export items are HS 27101950, HS 27101119 and HS 27101990

apparels and clothing, leather products and jute manufacturers. The low-skill-and-technology-intensive manufacturers exported through the Kolkata sea port are mostly low value added engineering products in the HS categories HS 72 and HS 73 and aluminium products in HS 76. Among High skill and technology intensive products exported from Kolkata sea port, organic chemicals (HS 3901, HS 3907), hydrocarbons (HS 2901, HS 2902) and various engineering and electronic products are notable.

The composition of exports through these four ports show that exports from Falta, Kolkata seaport and Kolkata airport are quite diversified. However, their export pattern is somewhat skewed towards low value added items. Non-fuel primary goods, Mineral fuels and Resource intensive manufactures have high share in the export composition of each of these three ports. High technology and skill intensive products are exported through these ports but these categories are mostly dominated by the outputs of petrochemical firms operating in West Bengal and neighbouring states. The export pattern of these ports also reflects the existence of small engineering firms and industrial clusters of leather, textile and garments and chemicals around these ports.

The export pattern of the eight other ports of West Bengal shows a completely different picture. These ports have three major features which differentiate them from the four ports discussed above. First, these ports trade almost exclusively with Bangladesh. Secondly, all these ports are land ports and they connect to Bangladesh either through road or rail network. Finally, unlike the four ports discussed above, most these ports are not located around Kolkata. Apart from TT Shed (Kidderpore) which is a rail port in Kolkata, other ports are close to the Bangladesh border and are located at a fair distance from the city. Distance between Kolkata and these ports vary between 70 kilometres for Petrapole and more than 630 kilometres for Chengrabandha.

Table 11 shows the export pattern of these eight ports of West Bengal. This table shows that apart from Petrapole LCS and Chengrabandha rail port, the other land ports of West Bengal are highly dependent on exports of primary commodities. Non-fuel primary commodities account for more than 95 percent of exports for Ghojadanga, Mohedipur, Hili, Kidderpore TT Shed, Ranaghat and Singabad. Table 12 shows the top export products through these eight ports of West Bengal. From Table 11 and Table 12 it is apparent that Mohedipur, Ghojadanga, Hili, Ranaghat and Singabad mostly export agricultural goods. The most important export items through these ports are cotton, cereals, sugar, fruits and vegetables and oil cakes. Some of the ports in the northern part of West Bengal, Hili and especially Chengrabandha export pebbles and stones collected from the river beds of that region. Exports of some amount of granites and cement products also take place through Changrabandha. Some of these ports, including TT Shed and Mohedipur also export fly ash and slag which are residual products of thermal power plants and metal smelting plans respectively. It is

notable that primary products and these low value added items account for almost the entire exports through these ports of West Bengal. To check the robustness of these figures, export structure of these ports for the period 2009-10 to 2012-13 were also studied and it also showed very similar trends.

The two ports which show maximum diversity of exports are Petrapole and, to a much lesser extent, Chengrabandha. Petrapole is the biggest land port in West Bengal and is much better connected to the national highways and is accessed by exporters from different states. Composition of exports through Petrapole shows that Cotton (HS 52), Road vehicles and parts (HS 87), Machinery and mechanical appliances (HS 84), Iron & steel (HS 72), cereals (HS 10) and Man-made staple fibres (HS 55) are the main export items through this port. Such range of exports makes Petrapole the most diversified land port of West Bengal. The Chengrabandha port also exhibits some diversity in its exports. Its major export items are seeds, granite and stones, cement, textile and garments and wood products. But as the volume of trade through Chengrabandha is very less, it does not make much impact on the total export pattern of the eight ports discussed here.

Table 11. Composition of Exports through the eight land ports of West Bengal (in percent)

	Road				Rail			
	Petrapole	Ghojadanga	Mohedipur	Hili	TT Shed	Ranaghat	Chengrabandha	Singabad
Non-fuel primary commodities	26.81	98.77	99.12	95.63	100.00	95.79	53.18	100.00
Mineral fuels	0.94	0.09	0.18	0.02	0.00	1.71	2.26	0.00
Resource-intensive manufactures	21.87	0.76	0.01	0.06	0.00	1.59	40.88	0.00
Low skill- and technology-intensive manufactures	10.01	0.03	0.02	0.04	0.00	0.90	0.00	0.00
Medium skill- and technology intensive manufactures	26.61	0.02	0.01	4.25	0.00	0.00	0.58	0.00
High skill- and technology intensive manufactures	11.39	0.25	0.58	0.00	0.00	0.00	2.74	0.00
Other Manufactured	2.36	0.08	0.08	0.00	0.00	0.00	0.35	0.00
Unclassified products	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source: DGCIS data

Table 12. Major items Exported through the eight land ports of West Bengal

Petrapole	Cotton, cotton yarns, woven fabrics, motor vehicles including motorcycles and tractors, wheat, rice, chemicals and tyres.
Mohedipur	Oil cakes, maize (corn), onions and garlic, spices, pepper, lac, pebbles and gravels, aromatic plants, fruits and slags
Ghojadanga	Cotton, Onion and garlics, pepper, grapes, apples, other fruits, spices, dates and tomato
Hili	Maize (corn), wheat and meslin, onions and garlic, tractors, grapes, fish, ball bearing, spices, fruits and rice
Ranaghat	Oil cakes, sugar and maize (corn)
Singabad	Maize, oil cakes, pebbles
Chengrabandha	Seeds, granite and stones, cement, textile and garments and wood products
TT Shed	Ashes and slags

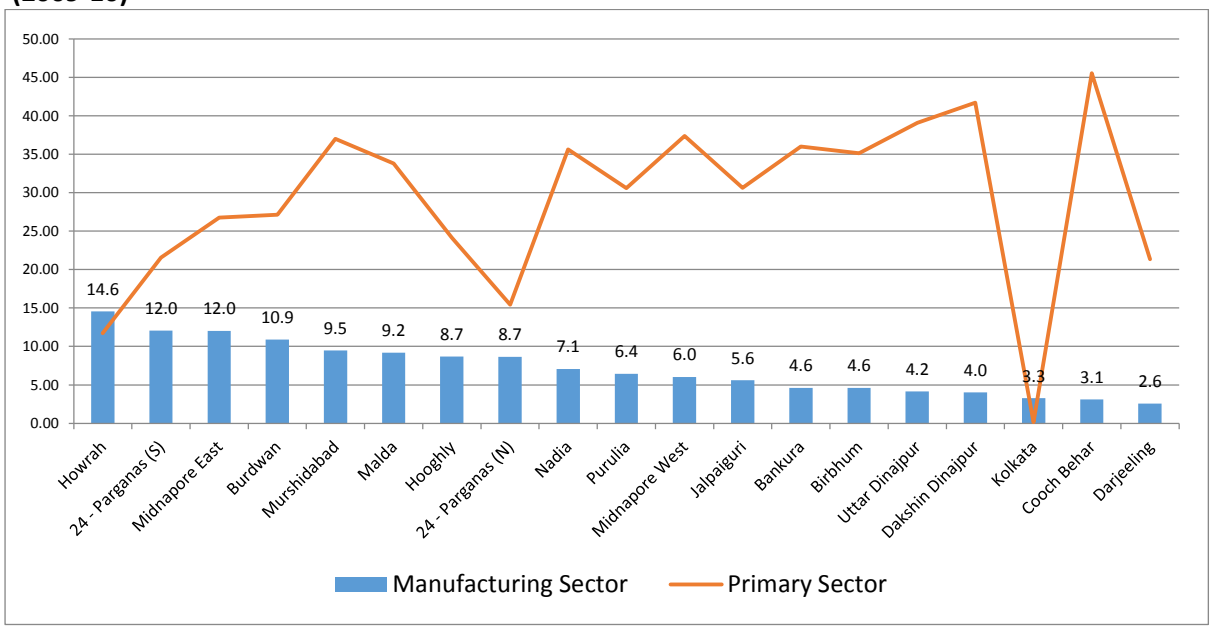
Source: DGCIS data

For these eight ports on aggregate, non-fuel primary commodities account for about 61 percent of total exports. But if exports through Petrapole are excluded from the list, then more than 98 percent of exports through the remaining seven ports are of non-fuel primary commodities. This finding has several important implications. On an operational level, this result may imply that creation and development of infrastructure related to exports of perishable goods should be a priority for these ports. However, from a policy perspective this raises some more serious questions. First, most of the seven ports which only export agricultural and primary products are located away from Kolkata. This points towards a core-periphery type of industrialization in West Bengal where the industrial concentration is skewed towards Kolkata and its adjoining districts. This evidence is further corroborated by the district level data for 2009-10 which show that the share of manufacturing in district domestic product (DDP) is less than 10 percent in 15 out of 19 districts of West Bengal (Figure 8). These districts are Murshidabad, Malda, Hooghly, 24 - Parganas (N), Nadia, Purulia, Midnapore West, Jalpaiguri, Bankura, Birbhum, Uttar Dinajpur, Dakshin Dinajpur, Kolkata, Cooch Behar and Darjeeling. It is fair to exclude Kolkata from this list as manufacturing activities are often not allowed inside a city. For the remaining 14 districts of West Bengal, average share of manufacturing in the DDP is less than 6 percent. Average share of the primary sector (agriculture, fishery, forestry and mining) in these 14 districts is 31 percent. To put these numbers in perspective, in 2012, manufacturing sector accounted for about 16 percent of GDP in India. This number is considerably lower than other countries at a similar level of development and at the policy level this is a major cause for concern. It is apparent West Bengal is much below the national average and none of the districts, apart from Howrah, are even close to the national average. Therefore, it will

not be unfair to say that manufacturing in West Bengal is not only weak but it is also concentrated in a limited area in the southern part of the state. And it is possible that this is reflecting in the export pattern through the ports of West Bengal.

It may also be argued that the demand pattern of Bangladesh may be dictating the composition of exports from the ports of West Bengal. If import demand from Bangladesh is only for primary products then the ports of West Bengal will only be exporting those types of commodities to Bangladesh. However, this hypothesis is not supported by the export pattern of the top two ports of India in terms of their exports to Bangladesh. These two ports are Petrapole and Nhava Sheva sea port. As mentioned before, Petrapole is the Indian port with maximum amount exports to Bangladesh. For the period 2009-10 to 2011-12, Petrapole exported 16.4 percent of India's total exports to Bangladesh. The Nhava Sheva sea port is the second most important port and it exported 15.1 percent of India's total exports to Bangladesh during the same period. Export composition of Nhava Sheva sea port shows that at HS 2 digit level, among the top 10 export items from this port, only two are primary products and rest are all manufactured products of various skill intensity (Table 13). It has already been shown in Table 12 that exports from Petrapole are quite diversified. Therefore, it will be difficult to argue that the import demand pattern of Bangladesh is forcing the ports of West Bengal to export primary commodities. Rather the available evidence reinforces the earleir hypothesis that low level of manufacturing activity around the smaller ports of West Bengal are reflected in the export pattern through these ports.

Figure 8. Share of the Primary Sector and Manufacturing in the District Domestic Product (2009-10)



Source: Government of West Bengal (2011), Primary sector includes Agriculture & allied, and Mining & Quarrying

Table 13. Top 10 Export Items at HS2 digit level from Nhava Sheva Sea to Bangladesh (aggregate for 2009-10 to 2011-12

HS CODE	DESCRIPTION	EXPORTS (in million US$)	Share (%)
52	Cotton	14260.90	27.74
87	Road vehicles and parts	11566.17	22.50
84	Machinery and mechanical appliances	3523.83	6.86
39	Plastics and articles thereof	3504.16	6.82
17	Sugars and sugar confectionery	2184.10	4.25
55	Man-made staple fibres	2118.27	4.12
85	Electrical machinery & equipments	2072.52	4.03
38	Miscellaneous chemical products	1537.98	2.99
30	Pharmaceutical products	1333.76	2.59
32	Dyeing, tanning colouring matter	1319.07	2.57

Source: DGCIS data

The second important implication of these results is that the smaller ports of West Bengal are exporting the types of products which are not the most conducive for economic growth and development. As the literature on trade sophistication points out, exporting low-value added primary commodities do not generate very strong backward and forward linkages and the knowledge spillover benefits of such trade are also extremely limited. By locking into a production and export pattern with low share of manufacturing and high dependence on agriculture, many districts of West Bengal are possibly not following optimum development trajectories.

V. Some conclusions and possible future research questions

With the changing pattern of the world economy, most developing countries are rebalancing their focus towards major foreign markets. UNCTAD's latest Trade and Development Report 2013 (UNCTAD 2013) has noted that economic slowdown in developed countries has resulted in a decline in consumer demand. Consequently, the report suggests that developing countries will find it increasingly difficult to depend only on exports to developed nations. India has recognized this changing pattern and over the last few years it has adopted policies to help export diversification and expansion in new markets. A major policy initiative adopted by India towards this goal is the "Look East policy" which aimed to improve India's economic, political and strategic relationship with East and South East Asian countries. India's initiative to improve economic ties with its Eastern trade partners have resulted in increased volume of trade with these countries. India's trade pattern has also been affected by the phenomenal rise of China as the new economic growth center. As India's Look East Policy is becoming important, the states of Eastern and North-eastern India are expected to gain from this reorientation of trade. Especially the role of Kolkata airport and seaport can become important. But from the findings of this paper it is evident that these states have not yet managed to benefit much from this new opportunity. Though there has been a shift in trade pattern

towards East and South East Asian countries, in relative terms Kolkata seaport is losing it share among top Indian ports. It is to be noted that Kolkata seaport is the largest port in Eastern India but it is ranked 10th or lower among the top Indian ports during the last five years. No other port from Eastern India figures in the top 20 ports of India during the same period. It will be worth investigating why the states in East and North-East India have not been able to benefit more from their locational advantage. It will be important to check whether the poor performance of these ports can be attributable to general slack economic activity of these regions or there are port-specific issues like high turnover time and general inefficiency of these ports.

As far as West Bengal is concerned, findings of this study indicate that there is a dichotomy in export pattern between the ports that are closer to Kolkata versus the rest. The pattern of exports shows that most of the semi-urban ports of West Bengal are exporting very high percentage of primary products. Some ports also export low value added resource intensive goods. Overall, exports from these ports are almost entirely low value added items to Bangladesh. If one assumes that export pattern of ports reflect local economic activity then these findings are disconcerting because it indicates very low level of manufacturing activity in the state. It will be difficult to attribute it to the demand pattern in Bangladesh because exports from Nhava Sheva seaport to Bangladesh show that there is sufficient demand for manufactured goods from India in that country. Also, a look at the level of manufacturing activity in different districts of West Bengal show very low share of manufacturing in the district domestic products. Taken together, these two facts indicate that the problem of low share of high or medium value added items in the exports from the semi-urban ports of West Bengal is largely attributable to the supply side problems of the state. If this hypothesis is correct then it will imply that West Bengal's ability to participate in international trade will be limited and the benefits of the "Look East Policy" will be limited for the state. However, this is a preliminary observation based on port level trade data and a more comprehensive analysis of the state of manufacturing in the state of West Bengal is required to address this issue in a conclusive manner.

If these preliminary findings are correct then it is of concern for the state because there is a considerable convergence of opinion among economists that the quality of exports matters for a developing country. This is because the linkage effects from higher value added exports create stronger beneficial multipliers within the economy. In this context, the findings of this paper are doubly worrying because not only West Bengal is exporting lower than most other large Indian states but most ports of the state are also exporting commodities which are low value added and hence generate minimum linkage benefits.

The ports that are larger and closer to Kolkata show a more diversified pattern of exports. This may be due to the core-periphery pattern of industrialization in West Bengal with higher concentration of

manufacturing activity around Kolkata. However, as the larger ports, especially the Kolkata seaport and Kolkata airport, are used frequently by exporters from other Eastern and Northeastern states, it will be difficult to attribute the reasons behind the higher export diversity of these ports on state-specific issues. It is also notable that articles made up of gold and other precious materials and refined petroleum products are two of the most dominant exports from the urban ports. Both these exports are highly import intensive and it needs to be investigated how strong the linkage effects of these two types of exports are on the domestic economy.

Overall, from the level and nature of trade orientation of West Bengal, it does not appear that the state is ready to take full advantage of the opportunity that is presented by the gradual reorientation of India's trade pattern. Especially, exports from the semi-urban ports of West Bengal almost show characteristics of low-income primary product exporting countries. Multiplier and spillover effects of such exports are expected to be limited. Policymakers at the center and the state should adopt policies to improve capability and develop intent for a more productive engagement in international trade by West Bengal. While developing industrial capability, a study of the import pattern of the neighbouring countries will be important. Moreover, it will also be important to investigate in more detail the strong regional inequality of manufacturing activity within West Bengal as indicated by this study. If these results are validated then it would suggest that development of production and export competitiveness in moderately value added manufacturing goods across the state may be considered as a first step towards a more broad-based economic development of West Bengal. This paper is a part of a larger study that will try to address some of the important research questions highlighted here.

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