

LEADING ECONOMIC IMPACT OF MAJOR PORT INVESTMENTS ON PORT DISTRICT URBANISATION IN INDIA

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Abstract *The historical study of Indian urbanisation reveals that ports had played an important role since colonial times in both trade and urbanisation. Ports and shipping in India still play an important role in international trade, despite the tremendous growth of other alternative major modes and means of transport, such as airways. This is because ports presently comprise almost 70 per cent of the total value of the world trade, even in the post-liberalisation period, despite the growth of air transport. However, in this era of globalisation, with a gradual shift to a more outward-oriented trade regime, there has been a massive expansion in the volume of India's sea-borne trade, together with a change in the composition of Indian port traffic, from break bulk to liquid bulk, dry bulk, and containerised cargo, with a decisive shift towards containerisation in the mode of cargo delivery post-1990s across both the Western and Eastern coasts of the country. To cope with the abovementioned challenge, coupled with the growth of world-class infrastructure in response to the emerging trend in global sea-trade and shipping trends, the growth of port urbanisation is highly affected, as a result of the corresponding port investments across both the coasts. This paper, therefore, assesses statistically the impact of port investments on port district urbanisation in India. While doing so, a comparative study between the ports on the Western and Eastern coasts has been attempted, to judge the performance of the coasts in this respect. The dominant leadership role of the Western coast is a major finding in this respect.*

Keywords *Indian Major Ports, Western Coast, Eastern Coast, Port Towns, Port District*

INTRODUCTION

Maritime transport has played a significant role in the history of overall trade and urbanisation of a country like India from pre-historic times till now (Mukherjee, 1968). In the post-independence period, according to the Constitution of India, the transport sector, and hence maritime transport, in particular, major ports are administered by the Central Government. India has a coastline of 7,600 kilometres, with a well-established port infrastructure comprising 13 major ports (12 government and one corporate), spreading across nine coastal states of the country, namely Andhra Pradesh, Odisha, West Bengal, Tamil Nadu, Kerala, Karnataka, Goa, Maharashtra, and Gujarat. These ports mainly handle sizeable volumes of physical cargo traffic, thus acting as major gateways to the country's international trade by sea. Thus, sea-trade made sea-ports on the coasts of India more important since the colonial period, which led to the growth of port towns even in this post-globalisation period (Ghosh & De, 2001).

LITERATURE REVIEW

In the relatively neglected branch of studies of Indian port literature, it has been found that history and developmental issues, cargo handling aspects, general role and functioning of Calcutta Port Trust, and a few other major ports in India, such as Haldia and Mumbai ports, had always been focused. In this connection, mention may be made of Banerjee (1975), Stutchey (1978), De (1991), Panda (1991), Ray (1993), Chakraborty (1995) (ed.), and Sau (1997), with the first major pioneer to write the history of Calcutta Port (CP) being Mukherjee (1968). Besides them, various discussion papers, such as those of Ghosh and De (1998) and (2001) had emphasised the different aspects of the CPT and Haldia Port, responsible for the decline of the CPT and the need for the Haldia Port.

Hence, it has been found that major attention in the existing port literature has been given only to the study of the ports and their developmental issues, with little importance

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to the study of the port towns. The first major attempt in this respect, to identify the port towns of India in the post-independence period, had been done by Mitra et al. (1980), on a definitional basis. According to them, because of their geographical location and function, the category of cities and towns with ports should deserve to be recognised and classified as port towns. Champakalakshmi (1996), however, had concentrated on the port towns of South India during the period 300 BC-1300 AD and considered the development of trade and commerce, together with the spread of religion, to be a major factor in the urbanisation of such port towns during the contemporary period. Apart from economics, transport is an urban issue and ports, being an important wing of transport, had been studied in other disciplines to some extent, particularly in Geography. The book edited by Banga (1992) contains several papers highlighting the relationship between hinterlands and the growth of the ports and port towns in India during the pre-independence period (1757-1957). This book relies more on European records rather than on indigenous sources like Indian Language sources or regional sources and so on. This is because a large corpus of records on port cities and port towns, from 16th to 18th century, available to them were European records. According to this book, the colonial ports were the symbols, as well as immediate instruments of colonial Asia. It shows how the ports of India had carved out their hinterlands, where the characteristic feature of the dominance-dependence relationship of colonialism was effectuated, which had led to the urbanisation of such port towns. However, this book had failed to study the dynamics of the urbanisation of those port towns during the said period. Tan (2007) made a comparative study on the evolution of the port towns of Singapore and Calcutta from colonial port cities to a post-colonial city state and a city within a state. In doing so, he had critically examined the comparative trajectories of these port cities, with a focus on their historical development, functioning of these cities, and the spatial consequences of those political and economic changes on these two cities.

OBJECTIVES

Against the above theoretical backdrop, the main objective of this paper is to compare the impact of investments in major ports on the urbanisation of those major port towns and their respective districts in the Western and Eastern coast of India, in terms of the study of the: i) impact of port investments on urbanisation of the respective districts of the port towns and ii) impact of port investments on urbanisation of the respective districts, excluding the urbanisation of the port towns in those districts for 2010.

DATA AND METHODOLOGY

Secondary data on the value of total investments (Rs.) on the ports of India are collected from the various publications of Basic Ports Statistics of India, Annual reports of the Indian Ports Association, and from the official website of the Ministry of Shipping, Government of India. Data on urban population has been collected from the official website of Census of India.

For both the above objectives, simple correlation coefficient is used between the above variables, namely port urbanisation and district urbanisation, and port investments. In addition, a comparative study between Western and Eastern coasts has been performed.

This paper includes 11 major port towns (MP) in India: in the Western coast (WC), five port towns are included, namely Greater Mumbai, Cochin, Mormugao, Kandla, and New Mangalore; in the Eastern coast (EC), six port towns are included, namely Kolkata, Haldia, Chennai, Vizag, Paradip, and Thoothukudi (previously known as Tuticorin). The districts of the abovementioned 11 major port towns (MP) in India are given below in parentheses: Western coast (WC) includes five port towns, namely Greater Mumbai (Greater Mumbai), Cochin (Ernakulam), Mormugao (South Goa), Kandla (Kachchh), and New Mangalore (South Kannad); Eastern coast (EC) includes six port towns, namely Kolkata (Kolkata), Haldia (Midnapore), Chennai (Chennai), Vizag (Visakhapatnam), Paradip (Cuttack), and Thoothukudi (Thoothukudi). However, for ii) only eight major port towns are studied, excluding Greater Mumbai (Greater Mumbai), Kolkata (Kolkata), and Chennai (Chennai).

RESULTS AND DISCUSSION

Impact of Port Investments on Urbanisation of the Respective Districts of the Port Towns

This section compares the impact of investments in major ports on the urbanisation of the districts on the Western and Eastern coasts in India, in which the major ports, together with their major port towns, are situated. This is done in terms of the significance and nature of correlation between: i) port investment and district urbanisation (urban population of the districts in which the port towns lie) for 2010 (Table 1(a)) and also that between ii) port urbanisation (the growth of urban population of the major port towns) and urbanisation of their respective districts (district population) in 2001 and 2010 (Table 1(d)).

Table 1(a): Correlation between Port Investments (PI) and Urbanisation of Respective Districts in 2010

| Coast (n) | Correlation Coefficient (r) |
|-----------|-----------------------------|
| WC (5) | 0.941* |
| EC (6) | 0.150 |
| MP (11) | 0.563** |

*Significant at 5% level.

**Significant at 1% level.

Source: www.census.gov.in

Table 1(a) reveals that in India, major ports on the Western coast have a very strong positive significant port investment multiplier effect on the urbanisation of the respective districts in which their port towns lie, in 2010, against a very weak, insignificant impact in the case of the Eastern coast, as is evident from values of the correlation coefficient (values of r) for the Western and Eastern coast, respectively. Not only that, major ports on the Western coast dominate the correlation impact of the 11 major port towns (MP) in India, thus reflecting, however, a positive slightly significant port investment multiplier effect on district urbanisation.

Table 1(b): Correlation between Port Urbanisation (PT) and Urbanisation of Respective Districts (DP) in 2001 and 2010

| Coast (n) | 2001 | 2010 |
|------------------|-----------------------------|-----------------------------|
| | Correlation Coefficient (r) | Correlation Coefficient (r) |
| WC (4) | 0.8770 | 0.9269** |
| EC (4) | 0.9091** | 0.9309** |
| MP (8) | 0.8518* | 0.8923* |
| Excluding Haldia | 1991 | 2001 |
| EC (3) | 0.9514 | 0.9006 |
| MP (7) | 0.8771* | 0.8988* |

*Significant at 5% level.

**Significant at 1% level.

Source: www.census.gov.in

Table 1(b) reveals that there is a strong positive correlation between port urbanisation (PT) and urbanisation of respective districts (DP) in 2001 and 2010 in the case of major port towns of both the coasts, and also in India. However, it is found that, in the case of eight major port towns, including Haldia, values of the correlation (values of r) coefficient have increased in the Eastern coast, from 2001 to 2010, against a much decreasing trend in it in the case of its exclusion during the said years. Not only that, inclusion of Haldia has intensified the value of r in the case of all major port towns, and also dampens it, in the case of its exclusion, to some extent. This is only because of Haldia, which has caused a greater non-port-based urbanisation in its town, and

also in its district, Midnapore, in the era of globalisation. So, it is found that only in the case of three port towns in the Eastern coast, port urbanisation has shown a lesser impact to induce district urbanisation, thereby reducing the values of correlation between the two in 2010, against the strong rising impact to induce district urbanisation in the case of the Western coast during the decade of globalisation.

Impact of Port Investments on Urbanisation of the Respective Districts, Excluding the Urbanisation of the Port Towns in those Districts

This section compares the impact of investments in major ports on the urbanisation of the districts on the Western and Eastern coasts in India, in which the major ports, together with their major port towns, are situated, after excluding the urbanisation of the port towns (population of the port towns) in those districts. This is done in terms of the significance and nature of correlation between: i) port investment and district urbanisation, excluding the urban population of the port towns from those districts in which they lie for 2010 (Table 1(c)) and also that between ii) port urbanisation (the growth of urban population of the major port towns) and urbanisation of the respective districts, excluding the port town population from the district population, (DP – PT = dp) in 2001 and 2010 (Table 1(d)). The districts of the abovementioned eight major port towns (MP) in India are given below in parentheses. Western coast (WC) includes four port towns, namely Cochin (Ernakulam), Mormugao (South Goa), Kandla (Kachchh), and New Mangalore (South Kannad), and the Eastern coast (EC) includes four port towns, namely Haldia (Midnapore), Vizag (Visakhapatnam), Paradip (Cuttack), and Thoothukudi (Thoothukudi). However, for both i) and ii), only eight major port towns are studied, excluding Greater Mumbai (Greater Mumbai), Kolkata (Kolkata), and Chennai (Chennai). Kolkata (Kolkata) because the population of both the districts and the towns are the same.

Table 1(c): Correlation between Port Investments (PI) and Urbanisation of those Districts (dp), Excluding Port Towns, in 2010

| Coast (n) | Correlation Coefficient (r) |
|------------------|-----------------------------|
| WC (4) | 0.8030 |
| EC (4) | -0.1260 |
| MP (8) | 0.3873 |
| Excluding Haldia | |
| EC (3) | 0.8419 |
| MP (7) | 0.5639 |

Source: www.census.gov.in

Table 1(c) reveals that, in India, major ports on the Western coast have a very strong positive port investment multiplier effect on the urbanisation of the respective districts in which their port towns lie, excluding the port town population, in 2010, against a very weak, negative impact in the case of the Eastern coast, when it includes Haldia as one of its major port towns, as is evident from the values of the correlation coefficient (values of r) for the Western and Eastern coast, respectively. However, exclusion of Haldia from the Eastern coast has reflected a much higher and stronger positive impact as that of the Western coast. As a result, seven major port towns (MP) in India reflected a positive port investment multiplier effect on district urbanisation, excluding the port town population. On the other hand, the inclusion of Haldia dampens the resultant correlation impact of the eight major port towns in India.

Table 1(d): Correlation between Port Urbanisation (PT) and Urbanisation of Respective Districts, Excluding the Urbanisation of the Port Towns in those Districts (dp) in 1991 and 2001

| | 2001 | 2010 |
|------------------|-----------------------------|-----------------------------|
| Coast (n) | Correlation Coefficient (r) | Correlation Coefficient (r) |
| WC (4) | -0.4255 | -0.6980 |
| EC (4) | -0.2030 | -0.2134 |
| MP (8) | -0.3545 | -0.50 |
| Excluding Haldia | 1991 | 2001 |
| EC (3) | 0.667 | 0.3082 |
| MP (7) | -0.3093 | -0.4360 |

Source: www.census.gov.in

Table 1(d) reveals that there is a negative correlation between port urbanisation (PT) and urbanisation of respective districts, excluding the port town population (dp) in 2001 and 2010, in the case of both the coasts, and also of eight major port towns in India, with the inclusion of Haldia as one of the major port towns in the Eastern coast, implying that there may be migration from the district to the port town. However, it is found that there is a much stronger correlation between the two in 2001 and 2010 in the case of the Western coast. Only in the case of three major port towns, excluding Haldia, positive values of the correlation (values of r) coefficient has decreased sharply in the Eastern coast, from 2001 to 2010, against a slightly rising trend in it in the case of its inclusion during the said years, thus implying a declining impact of port urbanisation on them; this signifies the importance of the ports. In addition, the inclusion of Haldia has intensified the value of r in the case of all eight major port towns, and also dampened it, in the case of its exclusion, to some extent. This is only because of Haldia, which has caused a greater non-port-based urbanisation in its town, and also in its

district, Midnapore, in the era of globalisation. So, it is found that only in the case of the three port towns in the Eastern coast, port urbanisation has shown a greater, although weak, impact to induce district urbanisation, excluding the port town population, thereby reducing the values of correlation between the two in 2010, against the strong negative impact to induce district urbanisation, thus signifying the higher growth of port-induced urbanisation in the district in the case of the Western coast during the decade of globalisation.

CONCLUSION AND POLICY IMPLICATION

From the above analysis regarding the comparative study of the impact of ports on port towns at major ports between Western and Eastern coasts in India, it has been found that in the case of all the 11 major port towns in India, there is a highly positive and significant impact of port investments on urbanisation of the major port towns in districts in which the major ports are situated, and also on urbanisation of the respective districts, excluding the urbanisation of the port towns in those districts in the Western coast compared to the most insignificant impact in the Eastern one, thereby inducing greater port urbanisation in the former coast. This implies that port investment brings almost no significant impact on the growth of the urbanisation of the major eastern coastal port towns, which may be because of the dominance in the growth of port activities or occupations in most of the port towns of the Western coast compared to those in the Eastern coast; thus, the Western coast emerges as the leader in coastal leadership in this respect. Therefore, as a policy implication, a similar impact of port investments on urbanisation of the respective districts of the non-port towns of the Eastern coast is suggested for future research, to differentiate the results across the coasts of the country.

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