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PERFORMANCE OF INDIAN SEZs: A DISAGGREGATED LEVEL ANALYSIS

Malini L Tantri[1]

Abstact

The performance of Indian SEZs at the disaggregate level is analyzed within the framework of the Zone-Trade Performance Index, taking seven conventional SEZs as reference for the period between 1986-87 and 2007-08. The analysis reveals variations in performance across zones as well as within the zones over the reference period. The variations in performance are found statistically significant as well. The zones specifically located in economically developed states performed better than the zones in other states. This reveals the pressing problem of regional disparities finding reflection in the SEZs and thereby demands policy attention on the same. Further zones are found equally sensitive to external economic fluctuations. On the positive side, the introduction of the SEZs policy in 2000-01 has had a favourable impact on the performance of these enclaves.

Introduction

Special Economic Zones (SEZs) concept and policy, *per se,* was introduced in India after one decade of economic reforms, which came about as a response to challenges that emerged as a fall out of liberalization initiated the worldwide. Nevertheless, much before that, India had embarked upon a plan to promote such development zones through the Free Trade Zones (FTZ)/Export Processing Zones (EPZs) in the early 1960s at Kandla, Gujarat. It came as a part of the government's strategy to have an alternative port on the western coast of India (IIFT, 1990). This was followed by the creation of other such zones in different parts of the country with different objectives. The present SEZs policy came into existence as a part of the recommendations of the Export Import (EXIM) Policy statement of 1997-2002. Thus, the current SEZs policy is being executed at two different levels (Tantri, 2010): initially all existing EPZs were brought under SEZs scheme and this was followed by approval of fresh SEZs in other parts of the country. Altogether, India has witnessed two major phases in the evolution of SEZs policy: The guidelines that evolved while framing the EPZs during 1960-2000 could be taken as the first phase, while the SEZs policy, as formulated by the Ministry of Commerce, Government of India, that has been in force since 2000 could be taken as the second phase. These two phases together helped build the SEZs network in the country. The basic differences between the two could be traced in terms of differences in policy priorities in import substitution v/s export promotion and priorities of economic reforms. The EPZs policy was largely affected by an era of uncertain support to export promotion measures and trade practices. On the other hand, the current SEZs policy enjoys various provisions under the ongoing wave of liberalization besides a special fiscal code exclusively applicable to these zones. At present, there are 105[i] SEZs functioning in India; eight are converted EPZs and the rest were approved after the introduction of the SEZs scheme in India.

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The introduction of SEZs policy over its predecessors, in the recent past though has received much policy revisit and attention as a whole, but has not succeeded in understanding its corresponding dimensions at the disaggregate level. The issue gains prominence given the quest of the Government to promote an inclusive approach and balanced development. In fact, addressing regional imbalance in development has remained one of the prime objectives of the planned development model of the Indian economy since independence. This is clearly reflected in the various five-year plan documents and successive industrial policies of the country. In this context, attempts to understand the variations in performance across zones gain special significance, as these are considered as engines of growth. This being so, then any variations in performance across zones may further aggravate the problem of regional disparities in development. Thus, in this paper we have attempted to answer some important questions:

1. Are there any variations in performance across zones?
2. If so, which zones are performing relatively better compared to the others?
3. Are there any changes in the relative position of zone performance ranking over the years?
4. Whether the introduction of the SEZs policy (2000-01) in the place of conventional EPZs had any impact on the performance of these enclaves?

The rest of the paper is spread over three major sections. The following section deals with methodology and offers a brief account of the SEZs under study. This is followed by a discussion on the empirical results of the study. The last section summaries the paper.

Methodology

The focus of the present study is to locate variations in trade performance across the zones and the impact of policy departure, i.e., from EPZs to SEZs, at the disaggregate level. Given this focus, only those SEZs that had been exporting at least five years prior to the introduction of SEZs policy (2000) in the country are covered in the present work. Needless to add, the inclusion of new SEZs in the study will not help to locate issue of SEZs effectiveness over EPZs. Thus, we have selected the following seven conventional SEZs[ii] viz., Kandla SEZ (KSEZ), Santacruz SEZ (SSEZ), Noida SEZ (NSEZ), Chennai SEZ (MSEZ), Cochin SEZ (CSEZ), Falta SEZ (FSEZ) and Vizag SEZ (VSEZ). A brief account of each SEZ is provided in Table 1.

Table 1: A Brief Profile of Study Area

Sl. No.	SEZ	State	Sector	Operational	Converted into SEZs	Area#	Units*	Jurisdiction	Remarks
1.	Kandla (KSEZ)	Gujarat	Multi-product	1965	2000	1000	169	Gujarat	First FTZ
2	Santa Cruz (SSEZ)	Maharashtra	Electronics and Gems & Jewels	1975	2000	104	290	Maharashtra, Goa	First EPZ
3.	Noida (NSEZ)	Uttar Pradesh	Multi-product	1986	2003	310	162	UP, Rajasthan, Haryana, Uttaranchal, Punjab, Delhi, J & K, HP, Chandighad	First EPZs located without ready availability of port and airport in the region
4.	Falta (FSEZ)	West Bengal	Multi-product	1986	2003	280	128	All eastern and north eastern States	First zone having proximity with DC office
5.	Chennai (MSEZ)	Tamil Nadu	Multi-product	1986	2003	103	111	Tamil Nadu & Lakshadweep	--
6.	Cochin (CSEZ)	Kerala	Multi-product	1986	2000	103	82	Kerala, Karnataka & Lakshadweep	First plastic free zone of the country
7.	Vizag (VSEZ)	Andhra Pradesh	Multi-product	1994	2003	360	43	Andhra Pradesh	The youngest EPZ of the country (Centrally owned)

Source: Author's Compilation

Note: # refers values are in acres; * refers values are in numbers and for the year 2007-08

In this context, it should be noted that of the seven SEZs considered for the present analysis, Santacruz, Noida and Chennai are situated in the developed regions of the developed States and Vizag, Falta, Kandla and Cochin are located either in backward or less developed States. Thus, it would be interesting to analyse whether zones located in the developed States are performing better than zones in the partly or less developed States or are there any noticeable reverse trends. Data has been collected from the Development Commissioner's (DC) Offices of the respective zones. The reference period of the study is from 1986-87 to 2007-08. In order to record the variations in trade performance across the zones and the changes over the years, we constructed the Zone-Trade Performance Index (Z-TPI). This, however, resembles the index developed by ITC (2004) known as Trade Performance Index (TPI)[iii].

The need to construct an index to record the variations in the performances of the zones arose after considering the limitations of the existing set of studies. For instance, earlier studies (Kundra, 2000, Aggarwal 2004 and 2005) analyzed the performance of SEZs at the disaggregate level through trends in exports, import value and its share in the total trade of SEZs. These studies, however, fail to analyse the issue within any particular framework encompassing different performance parametres like exporting units, sectoral concentration index, value addition, import intensity of exports and growth rate of exports and imports, which are equally important. Thus, there seems to be little basis for choosing performance parameters in their evaluation, which seems to have resulted in obtaining only a partial picture of the whole scenario. Further, the changes in performance before and after the enactment of the SEZs policy in the country has also not been explored by these studies.

Approach to Z-TPI

The Z-TPI is constructed based on 18 quantitative indicators (Table 2). In this, the first five indicators explain the general profile (GP) of the zones and the remaining 13 indicators reveal the trade performance (TP) and its changes over the years. The index is computed for each indicator separately and based on that, a composite index value for each zone is constructed for each period, which ranges from zero to one. If the index value is near one, then it indicates better performance or the opposite.

Table 2: Components of Zone - Trade Performance Index – A Brief

Indicator		Unit	Description and Rationale
Indicators of General Profile			
G1	Geographical Area	Acres	Total area of operation in each zone This provides the variation in size across zones
G2	Total Exporting Units	Numbers	Number of exporting units in each zone will be captured This shows the changing interest of investors in a particular zone.
G3	Concentration of Units	Ratio	It is ratio of exporting units to total geographical area. Against the exporting units, this captures the element of agglomeration/clustering of units.
G4	Employment	Person	Assess the effectiveness of SEZs towards generating employment opportunities
G5	Investment	Rs Crores*	Considers the total investment in the zone Investment is considered as a channel to meet expected benefits from these enclaves (Engman *et al*, 2007)
Indicators of Trade Performance			
TP1	Total Exports	Rs Crores*	Value of exports undertaken in each zone and its changes It captures the capability of a zone to meet the basic objective of its promotion
TP2	Total Imports	Rs Crores*	Value of imports of each zone and its changes
TP3	Net Foreign Exchange Earnings	Rs Crores*	This provides value of total net exports of each zone As against to value of exports, this show which zone adding maximum to country's total SEZs trade balance
TP4	Value Addition of SEZs	Ratio	It is a ratio of net foreign exchange earnings to total exports of a zone It gives an idea of value addition of respective zone
TP5	Per Capita Exports	Ratio	It is a ratio of exports to exporting units. This will assess the contribution of every additional exporting unit to total value of exports.
TP6 & 7	Share in total Exports and Imports of SEZs	Per cent	As against total exports and imports this records real contribution of each zone
TP8	Sectoral Concentration Index	Index	Computed based on Hirschman Sectoral Concentration Index. it takes value between zero to one It captures the diversification of exports
TP9	Geographical Concentration Index	Index	Computed based on Hirschman Geographical Concentration Index. It takes value between zero to one It captures capability of each zone to reach different international markets
TP10	Import Intensity of Exports	Ratio	It is captured through imports required for exports as a percentage share of exports (Sathe, 1997). It takes value between one and hundred It sketches imports content of exports
TP11 & 12	CAGR of Exports and Imports	Per cent	It locates rate at which performance parametres have changed in response to changes in policy
TP13	Growth Rate of Exporting Units	Per cent	This presents changing level of investors' preference across the zones in accordance with changes in policy

Source: Author's Contribution
Note: * values are in Rs crore and constant prices (1999-2000)

Further, indices are computed for five different periods (Table 3) in which data sets are arranged in blocks of five years for EPZs period and four years for SEZs period[iv]. The classification of time-period helps us to locate changes in zone performance in response to policy changes, in particular, scenario of EPZs period (1986-87 to 1999-2000) and current SEZs performance (2000-01 to 2007-08). Further, this classification introduces an element of dynamics to the analysis and provides three performance scenarios: one - general profile of each zone and the changes over the years; two - trade performance of each zone and the changes over the years; and three - the relative changes in the general profile and trade performance across zones and over the entire period.

Table 3: Zones Covered under Different Time-Period

Sl. No.	Time period	Zones Covered
1.	1986-87 to 1989-90	KSEZ, SSEZ, MSEZ, CSEZ, NSEZ, FSEZ
2.	1990-91 to 1994-95	KSEZ, SSEZ, MSEZ, CSEZ, NSEZ, FSEZ
3.	1995-96 to 1999-2000	KSEZ, SSEZ, MSEZ, CSEZ, NSEZ, FSEZ
4.	2000-01 to 2003-04	KSEZ, SSEZ, MSEZ, CSEZ, NSEZ, FSEZ, VSEZ
5.	2004-05 to 2007-08	KSEZ, SSEZ, MSEZ, CSEZ, NSEZ, FSEZ, VSEZ

Notes: Due to limitations in data set, we have included Vizag SEZ under consideration only during SEZs policy regime
Initial three time period classification capture scenario of EPZs; whereas third and fourth sketches the SEZs performance

The index is constructed following the Approach advocated by Iyengar and Sudharshan (1982)[v].

$$Y_{it} = \frac{\text{Actual Value in the Series - Minimum Value in the Series}}{\text{Maximum Value in the Series - Minimum Value in the Series}}$$

However, indicator in question if having negative relation with performance, for instance import intensity, then equation can be re-written as

$$Y_{it} = \frac{\text{Maximum Value in the Series - Actual Value in the Series}}{\text{Maximum Value in the Series - Minimum Value in the Series}}$$

As against the general approach of assigning equal weight for all indicators, Iyengar and Sudharshan (1982) assigned weight based on the variations in each indicator. In the present analysis, we follow the same procedure. Weights for each indicator and period are constructed separately (Table 4 and 5).

$$Wi = \left[\frac{K}{\sqrt{\text{var}(y_i)}} \right]$$

In this

$$K = \left[\sum_{i}^{m} \frac{\sum 1}{\sqrt{\text{var}(y_i)}} \right]^{-1}$$

General Profile Indicators and Weights under Different Reference Period

	1986-87 to 1989-90	*1990-91 to 1994-95*	*1995-96 to 1999-00*	*2000-01 to 2003-04*	*2004-05 to 2007-08*
Area of zone	*0.207*	*0.233*	*0.206*	*0.200*	*0.203*
Exporting units	*0.204*	*0.208*	*0.203*	*0.217*	*0.227*
Density of units	*0.210*	*0.245*	*0.213*	*0.198*	*0.198*
Employment	*0.180*	*0.207*	*0.207*	*0.203*	*0.198*
Investment	*0.199*	*0.108*	*0.171*	*0.182*	*0.175*

Table 5: Trade Performance Indicators and Weights under Different Reference Period

	1986-87 to 1989-90	*1990-91 to 1994-95*	*1995-96 to 1999-00*	*2000-01 to 2003-04*	*2004-05 to 2007-08*
Total Exports	0.079	0.081	0.076	0.078	0.076
Total Imports	0.074	0.080	0.074	0.077	0.063
Net Foreign Exchange Earnings	0.086	0.074	0.075	0.079	0.087
Value Addition of SEZs	0.089	0.064	0.081	0.076	0.082
Per Capita Exports	0.084	0.080	0.078	0.062	0.078
Share in total Exports of SEZs	0.080	0.079	0.076	0.078	0.075
Share in Imports	0.076	0.080	0.074	0.077	0.068
Sectoral Concentration Index	0.082	0.073	0.083	0.063	0.063
Geographical Concentration Index	NA	0.074	0.069	0.074	0.060
Import Intensity of Exports	0.094	0.064	0.081	0.076	0.082
CAGR of Exports	0.085	0.079	0.079	0.087	0.086
CAGR Imports	0.092	0.082	0.079	0.087	0.087
Growth Rate of Exporting Units	0.078	0.089	0.075	0.086	0.093

Further, in order to test the statistical significance of the variations in performance across zones, one-way ANOVA is conducted for the trade performance index of all seven zones for the entire reference period.

Variations in Zone level Performance: Results and Discussion

As stated above, based on the average value of each indicator and period under investigation (Appendix Table 1 & 2), we have computed two separate indices namely, general profile index and trade performance index, respectively. Table six presents the General Profile Index of the zones over the reference period and we have ranked zones based on the value of this index in Table 7. Tables 8 and 9 depict the Trade Performance Index and its ranking, respectively.

Table 6: General Profile Index of Zones over the Years

	KSEZ	SEEZ	MSEZ	CSEZ	NSEZ	FSEZ	VSEZ
1986-87 to 1989-90	0.80	0.37	0.18	0.11	0.36	0.27	NE
1990-91 to 1994-95	0.68	0.49	0.12	0.37	0.57	0.37	NA
1995-96 to 1999-00	0.62	0.46	0.27	0.13	0.55	0.36	NA
2000-01 to 2003-04	0.63	0.53	0.32	0.21	0.45	0.19	0.31
2004-05 to 2007-08	0.55	0.60	0.16	0.28	0.37	0.21	0.39

Source: Author's Estimation
Note: NE refers to Not Established; NA refers Not Available

Table 7: General Profile Ranking Position of Zones over the Years

Ranks	*1986-87 to 1989-90*	*1990-91 to 1994-95*	*1995-96 to 1999-00*	*2000-01 to 2003-04*	*2004-05 to 2007-08*
1	KSEZ	SSEZ	SSEZ	SSEZ	SSEZ
2	FSEZ	NSEZ	CSEZ	NSEZ	NSEZ
3	NSEZ	KSEZ	KSEZ	KSEZ	CSEZ
4	SSEZ	MSEZ	NSEZ	FSEZ	MSEZ
5	CSEZ	CSEZ	MSEZ	MSEZ	KSEZ
6	MSEZ	FSEZ	FSEZ	CSEZ	VSEZ
7	--	--	--	VSEZ	FSEZ

Source: Author's Compilation based on Table 6

Table 8: Trade Performance Index of Zones over the Years

Time period	KSEZ	SEEZ	MSEZ	CSEZ	NSEZ	FSEZ	VSEZ
1986-87 to 1989-90	0.52	0.36	0.16	0.29	0.38	0.41	NE
1990-91 to 1994-95	0.35	0.69	0.31	0.25	0.51	0.22	NA
1995-96 to 1999-00	0.32	0.67	0.26	0.23	0.42	0.28	NA
2000-01 to 2003-04	0.39	0.75	0.31	0.25	0.43	0.37	0.14
2004-05 to 2007-08	0.42	0.58	0.47	0.51	0.54	0.21	0.29

Source: Author's Estimation
Note: NE refers to Not Established; NA refers Not Available

Table 9: Trade Performance Ranking Position of Zone over the years

Ranks	*1986-87 to 1989-90*	*1990-91 to 1994-95*	*1995-96 to 1999-00*	*2000-01 to 2003-04*	*2004-05 to 2007-08*
1	KSEZ	SSEZ	SSEZ	SSEZ	SSEZ
2	NSEZ	NSEZ	NSEZ	FSEZ	NSEZ
3	SSEZ	KSEZ	KSEZ	KSEZ	CSEZ
4	FSEZ	CSEZ	MSEZ	NSEZ	KSEZ & MSEZ
5	CSEZ	FSEZ	FSEZ	MSEZ	FSEZ & VSEZ
6	MSEZ	MSEZ	CSEZ	CSEZ	
7				VSEZ	

Source: Author's Compilation based on Table 8

Instead of explaining the variations in performance across zones and over the years based on the absolute value of index (Tables 6 and 8) and subsequent ranking (Tables 7 and 9) in the present context, we have evaluated the performance of the zones in two different ways. Initially, zones are

categorized under a threefold classification based on the ranking of each zone for the latest available year (2004-05 to 2007-08) over the rankings of zones in the base year (1986-97 to 1989-90). In this, the first classification represents zones whose status remained same over the reference period. The second and third classifications comprise zones that have shown improvement and deterioration, respectively, in their performance. This demonstrates how each zone has responded over the years to policy changes and in relation to other zones.

Table 10: Performance Evaluation of Zones - I

Ranking	General Profile	Trade Performance
Performance Remained Same	---	---
Performance Improved/Gainer	SSEZ & CSEZ	SSEZ, NSEZ, CSEZ & MSEZ
Performance Deteriorated	NSEZ KSEZ and FSEZ & MSEZ	KSEZ & FSEZ

Source: Author's Calculation based Table 6, 7, 8 and 9

The above performance evaluation, however, fails to provide the position and ranking for each zone for the latest available year, i.e., 2004-05 to 2007-08, in comparison with other zones. Therefore, in Table 11, we have evaluated the performance of the zones under two sub-categories - better performing and poor performing zones. The following sub-section presents the discussion on these issues.

Table 11: Performance Evaluation of Zones – II

Ranking	General Profile	Trade Performance
Better Performing Zone (2007-08)	SSEZ and KSEZ	SSEZ and NSEZ
Poor Performing Zone (2007-08)	CSEZ, FSEZ and MSEZ	FSEZ and VSEZ

Source: Author's Calculation based Table 6, 7, 8 and 9

General Profile of Zones

With regard to the performance of the zones in general profile measured with the help of five indicators, it emerges from above evaluation that except for Santacruz and Cochin SEZs, all other zones have shown deterioration under the two different policy regimes (Tables 7 and 10). Among the seven zones, the Kandla SEZ benefited from the expansion of its geographical size from 700 acres to 1000 acres (Appendix Table 1 and 2). As a result, it attracted new units with a relatively larger area available for operation. Surprisingly, despite its improved position in terms of growth in the number of exporting units (among seven zones), it failed to attract the expected investment from the private sector, FDI and NRIs. Meanwhile, it also failed to generate adequate employment opportunities and slipped slightly in its ranking. The deterioration in the ranking of the Falta SEZ is due to its failure to improve its position in any of the general profile indicators and thereby indices except improvements in exporting units. The Santacruz SEZ, on the other hand, improved its position due to improvement in the number of total exporting units and thereby in total investment and employment generation. The improvements in the Cochin SEZ could be explained by the same reasoning.

Trade Performance of Zones

The performance of the zones in trade, measured through 13 independent indicators, reveals that there are slight changes in the position of all the zones under the two policy regimes of EPZ and SEZ (Table 9). For instance, the index value of NSEZ increased from 0.38 per cent (1986-87 to 1989-90) to 0.54 per cent (2003-04 to 20007-08). For the same period index value of the Santacruz, Cochin and Madras SEZs increased, respectively, from 0.36, 0.29 and 0.16 per cent to 0.58, 0.51 and 0.47 per cent. However, the performance of the Kandla and Falta SEZs deteriorated during the same period. For instance, the index value of the Kandla SEZ dropped from 0.52 per cent 0.42 per cent. The improvement in Noida SEZ's performance is because of improvements in its share in the total imports of the SEZs. The Santacruz SEZ, on the other hand, improved its position through higher growth rate of the exporting units, reduced import intensity of exports owing to improved export intensity of imports. The Cochin SEZ, on the other hand, pushed itself up with higher value of exports, imports, per capita exports and improved its position at the national level. This was achieved, in particular, by improving its contribution to the share of total exports and imports of SEZs, which eventually helped improve its aggregate growth rate of exports and imports. The Madras (Chennai) SEZ improved its performance by increased geographical diversification of exports, higher growth rate of exports, imports, and exporting units. The higher (lower) sectoral and geographical concentration (diversification) with reduced growth rate of exports and imports during SEZs period led to the deterioration in the position of the Falta SEZ in comparison with other zones. Even reduced geographical concentration were not quite effective in improving the overall position of the Falta SEZ. The deteriorating position of Kandla is due to the lower value of exports and imports in comparison with other zones and, therefore, lower growth rate in exports and imports. From the above discussion it is clear that there exists, variations in performance across zones and over the period. In order to locate the statistical significance of the variations in performance as identified in the above exercise, we have conducted a one-way ANOVA for the Trade Performance Index value. Results presented in table 12 tend to reject the null hypothesis, i.e., 'there is no significant variation in performance across the seven zones', and support alternative hypothesis.

Table 12: ANOVA for Trade Performance Index

Source of Variation	***SS***	***df***	***MS***	***F***
Between Groups	0.379	5	0.075	6.73
Within Groups	0.27	24	0.011	
Total	**0.65**	**29**		

Note: F Value is significant at 1 per cent level

Thus above discussion helps us argue that are significant variations in performance across the seven zones. Meanwhile, the introduction of the SEZs policy (2000-0)1 in place of the conventional EPZs structure had positive impacts on the performance of all the seven zones considered for the present study. Of the seven zones, Santacruz and Noida are performing relatively better, whereas the Vizag and Falta zones are at the bottom of performance ladder. This in turn implies that zones located in the better performing States (NSEZ, SSEZ) have recorded relatively better performance compared to the zones in other states (FSEZ, VSEZ). This indicates that problem of regional disparity is reflected in the

SEZs as well. However, one may challenge this view by claiming that SEZs are not promoted for the purpose of balanced development in the country, but to function as growth centers, which would in due course spread links to the rest of the economy. However, the global experience in this respect is inconclusive. For instance, despite the commanding performance of the Chinese SEZs in achieving the objectives of its promotion, they are often held responsible for creating regional disparities in development (Srinivas, 2002). This is specifically because of the fact that SEZs receive preferential treatment and privileges that are not available to the rest of the economy. Besides, these regions receive more than their natural share of government resources at the cost of the development of other regions. As a result, in the long run, it resulted in regional disparity in China not only between SEZ and non-SEZ areas but also between rural and urban areas. Huge gaps were observed in terms of income, social, physical and institutional infrastructure between SEZ and non-SEZ areas, especially coastal areas were relatively better developed than the eastern regions of China. It also resulted in social unrest in the SEZ region. For instance, social unrest, crime and women trafficking are relatively higher in the SEZs (Goswami, 2007).

Moreover, in the Indian context, most of the upcoming SEZs are located in the developed states. For instance, Maharashtra, Andhra Pradesh, Tamil Nadu and Karnataka have received more number of approvals for SEZs than other states. The share of all other states taken together is 33.39 per cent of the total number of SEZs approved in the country (Tantri, 2010). Within the developed states, SEZs are located in districts, which are much above the national average in terms of development parametres (Mukhopadhyay, 2009). This in turn is assumed to have adverse impacts on the urban infrastructure due to congestion and diseconomies of scale (Mitra, 2007); specifically, it is feared that these zones may ruin existing infrastructure without actually adding to the new infrastructure base in the country (Mukhopadhyay and Pradhan, 2009). Thus, SEZs may pose two types of threats in the promotion of balanced development. One, the developed states have received the lion's share of the SEZs approved in the country compared to other states. This in turn widens the existing gap between developed states and developing states because regions with SEZs receive more attention, which in terms deplete the resource base of the surrounding regions. Thus SEZs may promote more of the backwash effect rather than a corresponding spread effect. Second, concentration of zones in one region exhausts the resource base of that region and results in diseconomies of scale and congestion, which in turn throws up a completely different set of challenges. Thus, if proper attention is not paid, SEZs may aggravate the problems of regional disparity in India.

The analysis also helps us to argue that the size of the zone is not the sole criterion in determining its profile and performance. For instance, geographically larger zones (Kandla and Vizag) have failed in generating employment and investment. This may be due to its poor location, number of exporting units as well as type of industries promoted in these zones. The Santacruz SEZ, on the other hand, though geographically smaller, ranked first in terms of number of exporting units and employment and investment generation (Appendix Table 1 and 2). This is particularly due to the preponderance of the gems and jewellery sectors in the zone, which assures employment opportunities for both skilled and semi-skilled labour. In the trade sphere too, the Kandla and Vizag SEZs occupy the fifth and seventh positions, respectively. On the other hand, the Santacruz SEZ, followed by the Noida

SEZs is outperforming other SEZs, though functioning under the same policy regime. The Vizag SEZ experience revealed that though it remained as a least preferred destination for investors (exporting units), but in terms of volume it ranked second in the current SEZs period (2004-05 to 2007-08). This could be due to the stock of companies like Dr Reddy's Laboratory, LID Diamonds, etc., in this zone. The performance of the Noida SEZ, on the other hand, points to the fact that proximity to seaport or airport is neither a sufficient nor a necessary condition for the success of SEZs. However, the above inference cannot be generalised in the absence of other supportive conditions in the zone; and this needs further exploration.

Despite these facts, it is very interesting to note that the Kandla, Falta and Cochin zones have revealed a dip in performance from 1990-91 to 1995-96 compared to their performance in the previous period (Table 8). This is could be due to the disintegration of USSR, which was the major trading partner of these enclaves. For instance in the case of KSEZ, export value fell from Rs 400 crore in 1990-91 to Rs 90 crore in 1995-96. For the same period, there was also a dip in exports in KSEZ. A similar trend was noticed in the case of FSEZ. Further, with the exception of FSEZ, all other zones showed decline in performance during 1995-96 to 1999-00 due to the impact of the East Asian crisis on the working and performance of the SEZs. For instance, the value of MSEZ exports fell from Rs 1,020 crore in 1996-97 to Rs 268 crore in 1998-99. Moreover, as of January 6, 2010, the Board of Approvals has accepted the de-notification requests of 10 SEZs developers, who experienced the global downturn and contraction in demand for domestic goods and services. These, together, further substantiate the findings of Tantri (2010) that despite their status as separate economic entities with privileged benefits, these enclaves are equally susceptible to the changing fortunes of the world economy. Towards mitigating such challenges, the sectoral composition as well as geographical diversification of the SEZs seems to have played a decisive role in their success. For instance, the disintegration of USSR did not have any negative impact on the working of the Santacruz, Noida and Chennai SEZs, due to their well-diversified sectoral composition. This, in turn, also helped in determining their trading partner.

Summary

The seven conventional zones taken in the present study are located in different States and thus exposed to different institutional systems and industrial cultures. Moreover, a few of these conventional zones are located in developed States like Gujarat (KSEZ) and Maharashtra (SSEZ), whereas the other zones are either in the middle or at the bottom of the development ranking of the States[vi]. Therefore, an attempt is made in this paper to investigate whether there are also variations in performance across these seven conventional SEZs. Needless to add, detection of any variation in performance inevitably contributes further towards the understanding of regional disparity in development.

The analysis brings forth a few important findings: First, the introduction of the SEZs policy (2000-01) in place of conventional EPZs had a significant and positive impact on the performance of these enclaves. Second, variations were found in performance across the seven SEZs. In fact, it is observed that the zones performing relatively better than other zones are the one which are placed in developed states than zones located in backward regions. This indicates that regional disparity is not only reflected in SEZs' performance but also they could hardly address such imbalance. Further, the

intensity of problems seems to be magnifying considering the concentration of newly notified SEZs in a few regions within a few developed states. Third, the geographical size of a zone does not seem to play as important a role as the concentration of exporting units and sectoral composition in its performance. Fourth, despite their status as separate economic entities with privileged benefits, which are not available to rest of the economy, these enclaves were equally susceptible to the changing fortunes of the world economy. Specifically, the disintegration of USSR in the early 1990s and the East Asian economic crisis had an impact on the performance of these enclaves. However, the capacity to withstand such external economic crisis depended on the sectoral composition of these enclaves. The above discussion underlines the need for caution in promoting SEZs and to diversify rather than concentrate on a few sectors. We would like to conclude this discussion with the assertion that there is a pressing need to draw lessons from the varied performances across the zones as well as over time, and identify factors responsible for the success/failure of ventures and come up with policy prescriptions and guidelines for further improving the successful zones and also to boost the performance of zones that are lagging behind.

Notes

[i] By February 10, 2010 (www.sez.nic.in)

[ii] In the present analysis we are following the approach of Tantri (2010), in classifying the operational SEZs in the country under two major categories viz., conventional SEZs and modern SEZs. Conventional SEZs are those, which have their origin in the EPZs structure, and were operational even before the enactment of SEZs policy in the country. Modern SEZs, on the other hand, are those that were approved and became operational after the enactment of SEZs policy in the country.

[iii] Originally, TPI was developed to assess the multi-faced dimensions of export performances across countries to bring out gains and losses in the world market, and explore factors responsible for changes in relative positions. It is a quantitative approach consisting three types of indicators: a general profile, a country position for the latest available year, and changes in export performance in recent years. In this approach, 184 countries and 14 different exports sectors were covered.

However, in the present analysis, we are not following the approach of ITC (2004), though we have borrowed ideas from this approach

[iv] Average value of each reference period

[v] It should be noted that Iyengar and Sudharshan (1982) originally proposed this technique in the early 1980s. This in later day, however, became known as UNDP Maximum Minimum Approach in the computation of Human Development Indicators

[vi] Please refer Ahluwalia (2000)

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Appendix Table 1: Average Value of Z-TPI Indicators for EPZs Policy Regime

	KSEZ			SEEPZ			MSEZ			CSEZ			NSEZ			FSEZ		
	1986-87 to 1989-90	1990-91 to 1994-95	1995-96 to 1999-00	1986-87 to 1989-90	1990-91 to 1994-95	1995-96 to 1999-00	1986-87 to 1989-90	1990-91 to 1994-95	1995-96 to 1999-00	1986-87 to 1989-90	1990-91 to 1994-95	1995-96 to 1999-00	1986-87 to 1989-90	1990-91 to 1994-95	1995-96 to 1999-00	1986-87 to 1989-90	1990-91 to 1994-95	1995-96 to 1999-00
General Profile Indicators																		
G1. Area of zone																		
Values (in Acres)	700.00	700.00	700.00	104.00	104.00	104.00	103.00	103.00	103.00	103.00	103.00	103.00	310.00	310.00	310.00	280.00	280.00	280.00
G2. Exporting units																		
Values (in units)	130.50	126.20	131.60	80.25	127.20	155.40	29.50	75.00	89.20	4.25	21.80	41.00	20.75	85.40	119.60	2.25	15.20	49.20
G3. Density of units																		
Values (in units)	5.37	5.58	5.36	1.31	0.84	0.67	6.83	1.41	1.18	49.55	4.93	2.59	24.41	3.97	2.69	180.83	21.66	6.69
G4. Employment																		
Values (in units)	9187.50	9300.00	10126.80	8625.00	14200.00	26783.80	1560.00	8135.00	16223.40	727.00	3831.00	4889.20	2250.00	6164.80	15597.00	90.00	937.00	1940.20
G5. Investment																		
Values (Rs Crore)*	25.09	18.85	32.45	9.57	14.58	15.63	13.50	5.70	10.87	5.50	15.30	10.88	24.25	36.40	49.80	0.37	5.32	45.91
Trade Performance Indicators																		
TP1. Total Exports																		
Values (in Rs Corers)*	611.86	522.00	447.75	399.74	1279.56	2918.87	46.58	242.54	737.07	12.49	80.62	188.88	54.40	254.42	681.23	14.48	42.70	89.42
TP2. Total Imports																		
Values (in Rs Corers)*	357.87	238.23	128.21	302.41	899.26	1470.93	41.02	163.55	553.17	11.87	53.35	116.93	31.70	96.61	347.32	5.03	20.96	65.70
TP3. Net Foreign ExchangeEarnings																		
Values (in Rs Corers)*	253.99	283.77	319.54	97.33	380.30	1447.94	5.56	78.99	183.91	0.62	27.27	71.95	22.70	157.82	333.91	9.45	21.74	23.71
TP4. Value Addition of SEZs																		
Values (Ratio)	0.42	0.58	0.71	0.26	0.30	0.48	0.13	0.24	0.28	0.25	0.25	0.38	0.52	0.56	0.48	0.60	0.50	-0.43
TP5. Per Capita Exports																		
Values (in Rs Corers)*	4.69	4.06	3.41	4.88	9.75	18.85	2.81	2.73	5.85	3.60	3.44	4.63	2.34	3.14	8.66	5.41	3.36	1.52
TP6. Share in total Exports of SEZs																		
Values (Per cent)	54.42	24.05	8.81	33.96	51.51	56.03	4.05	9.84	14.68	1.02	3.12	3.66	4.43	9.73	13.29	1.08	1.85	1.54
TP7. Share in Imports of SEZs																		
Values (Per cent)	49.73	18.13	4.72	39.22	59.08	54.08	5.43	11.40	19.88	1.34	3.54	4.32	3.79	6.38	12.80	0.48	1.49	2.49

Contd...

TP8. Sectoral Concentration Index																	
	0.55	0.72	0.54	1.00	0.74	0.72	0.86	0.53	0.53	1.00	0.71	0.50	0.19	0.58	0.43	1.00	0.76	0.59
TP9. Geographical Concentration Index																		
	NA	0.94	0.67	NA	0.60	0.54	NA	0.58	0.60	NA	NA	NA	NA	0.61	0.52	NA	NA	0.78
TP10. Import Intensity of Exports																		
Values (Per cent)	58.40	42.27	28.81	74.36	69.87	52.03	87.20	76.04	72.32	74.95	74.53	62.31	48.17	43.93	51.33	14.63	50.17	64.12
TP11. CAGR of Exports																		
Values (Per cent)	5.97	1.00	1.00	32.05	0.02	0.25	31.78	0.05	0.00	100.97	0.00	0.06	71.94	0.96	0.23	NA	NA	0.26
TP12. CAGR Imports																		
Values (Per cent)	5.97	0.00	0.12	32.05	0.48	0.28	31.78	0.48	0.00	100.97	1.00	0.22	71.94	0.75	0.19	169.12	NA	1.00
TP13. Growth Rate of Exporting Units																		
Values (Per cent)	3.98	0.00	0.12	9.09	0.48	0.28	108.13	0.48	0.00	117.28	1.00	0.22	90.22	0.75	0.19	69.22	NA	1.00

Source: Author's Compilation based on data collected from DC offices of respective Zones

Note: NA refers Not available ; * values are in Rs Crore and at Constant Price (1999-2000)

Appendix Table 2: Average value of Z-TPI Indicators for SEZs policy Regime

	KSEZ		**SEEPZ**		**MSEZ**		**CSEZ**		**NSEZ**		**FSEZ**		**VSEZ**	
	2000-01 to 2003-04	*2004-05 to 2007-08*	*2000-01 to 2003-04*	*2004-05 to 2007-08*	*2000-01 to 2003-04*	*2004-05 to 2007-08*	*2000-01 to 2003-04*	*2004-05 to 2007-08*	*2000-01 to 2003-04*	*2004-05 to 2007-08*	*2000-01 to 2003-04*	*2004-05 to 2007-08*	*2000-01 to 2003-04*	*2004-05 to 2007-08*
General Profile Indicators														
G1. Area of zone														
Values (in Acres)	1000.00	1000.00	104.00	104.00	103.00	103.00	103.00	103.00	310.00	310.00	280.00	280.00	360.00	360.00
G2. Exporting units														
Values (in units)	127.75	158.50	192.00	284.00	85.00	108.50	55.50	79.00	124.25	157.75	126.50	117.50	18.00	34.50
G3. Density of units														
Values (in units)	7.96	6.36	0.60	0.37	1.22	0.95	1.92	1.31	2.53	1.97	2.23	2.52	20.25	10.67
G4. Employment														
Values (in units)	9750.00	14650.50	39500.00	44137.50	12997.25	20631.00	4966.00	7703.00	14383.75	28112.50	2821.75	3816.00	2837.00	3052.00
G5. Investment														

Values (in Rs Corers)*	30.88	24.62	21.20	35.21	29.91	18.25	24.30	37.19	31.17	24.47	5.83	22.91	13.27	30.96
Trade Performance Indicators														*Contd...*
TP1. Total Exports														
Values (in Rs Corers)*	641.15	1080.66	4855.45	6144.13	730.15	1669.32	285.73	1632.79	1005.32	4609.07	629.18	426.61	902.31	1229.09
TP2. Total Imports														
Values (in Rs Corers)*	251.34	403.63	2812.81	3706.24	557.46	1133.00	160.77	1175.88	424.73	3689.90	109.18	159.99	481.65	1270.03
TP3. Net Foreign Exchange Earnings														
Values (in Rs Corers)	389.81	677.03	2042.64	2437.89	172.69	536.32	124.97	456.91	580.59	919.17	520.00	266.61	420.66	-40.94
TP4. Value Addition of SEZs														
Values (Ratio)	0.62	0.63	0.42	0.40	0.25	0.31	0.43	0.37	0.58	0.20	0.82	0.62	0.23	-0.15
TP5. Per Capita Exports														
Values (in Rs Corers)*	4.96	6.79	28.20	21.62	8.14	29.12	5.24	20.29	8.58	15.31	4.97	3.80	25.40	35.19
TP6. Share in total Exports														
Values (Per cent)	7.10	6.47	53.88	37.73	8.13	9.85	3.16	8.96	11.11	27.66	7.08	2.66	9.73	7.24
TP7. Share in Imports														
Values (Per cent)	5.07	3.47	58.54	32.96	11.32	9.63	3.57	8.81	8.98	32.37	2.32	1.37	10.20	11.39
TP8. Sectoral Concentration Index														
Values (Per cent)	0.68	0.53	0.71	0.79	0.46	0.44	0.62	0.50	0.46	0.69	0.57	0.60	NA	NA
TP9. Geographical Concentration Index														
Values (Per cent)	0.65	0.62	0.60	0.74	0.63	0.57	NA	NA	0.54	0.53	0.77	0.74	NA	NA
TP10. Import Intensity of Exports														
Values (Per cent)	38.26	37.12	57.98	60.23	74.83	68.70	56.76	63.35	42.34	80.10	18.04	37.85	77.37	115.13
TP11. CAGR of Exports														
Values (Per cent)	23.99	19.96	3.25	6.08	9.75	28.15	6.08	81.12	8.22	18.41	6.61	-1.78	-37.50	32.98
TP12. CAGR Imports														
Values (Per cent)	23.99	19.96	3.25	6.08	9.75	28.15	6.08	81.12	8.22	18.41	6.61	-1.78	-37.50	23.99
TP13. Growth Rate of Exporting Units														
Values (Per cent)	10.52	6.82	28.02	1.92	1.71	1.92	14.11	3.15	-3.44	1.82	8.44	-6.29	9.31	13.88

Source: Author's Compilation based on data collected from DC offices of respective Zones

Note: NA refers not available; * values are in Rs Crore and at Constant Price (1999-2000)

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