Abstract: For fostering economic growth and development through export earnings and increased employment opportunities, Government of India initiated the Special Economic Zones (SEZs) scheme in 2000. In order to give a boost to export zones, the SEZs have emerged as a widespread strategy for attracting foreign direct investment (FDI). The receipt of export proceeds also represents an inflow of funds into the country, which stimulates consumer spending and contributes to economic growth. This paper intends to review the location of Special Economic Zones (SEZs) and will explore whether the distribution of SEZs conforms to the existing pattern of economic intensity as measured by some economic indicators relevant to Indian context. Overall, the distribution of SEZs will be examined to study existence of any uneven regional development compared to their performances at national level and whether there exists a probability for a greater wisdom in locating SEZs so as to be at par with the best in the world.

Keywords: Economic indicators, Special Economic Zones; uneven regional development.

SEZs have come to constitute an important aspect of the industrialization strategy of the developing economies for increasing their competitiveness and trade flows in international market. They are meant to serve a nation through export earnings and increased employment opportunities. Further, SEZs are also expected to contribute to the economic indicators showing overall development of domestic economy by activating backward and forward linkages and facilitating diversification of the export basket of the country.

Balanced regional development has consistently been listed as an objective of India’s five year plans. However, states in India are characterized by a high degree of disparity in terms of macro-variables including income.
2. Literature Review

Empirical research regarding setting up of special economic zones has been attempted to find out various factors which make a zone successful as compared to other established zones in the region. Many authors have studied to determine important factors, for successful operation of SEZ.

Studies by Aggarwal [1] have aimed at examining the economic impacts of SEZs in the Indian context. She has established that a strategic approach is required to reap the opportunities offered by SEZs. An attempt has been made by Pandurangrao and Deogirikar [4] to throw light on the export performance of SEZs to achieve objectives like export promotion, employment generation, earning foreign exchange etc. in the Indian perspective.

Mukherji [3] has studied recent developments and future prospects of economic zones in India. He has shown that the tax concessions for developers and commercial units in the SEZ Act (2005) have played a vital role in attracting export oriented foreign investment in areas such as hardware, apparel and shoes, which would have normally headed for other Asian destinations in the absence of these benefits.

Laxamanan [2] calls for a balancing strategy, which is needed to be adopted to safeguard the interest of all the stake-holders without hindering the basic objectives of SEZ proposition.

Shaik, Vijaya and Rao [5] have studied the overall performance of Indian SEZs in terms of exports, investment and employment, and assess their contribution to the country’s total exports during 2001-2010.

Policies, Performance and Problems of SEZ in India have also been studied by Singala, Atmavilas and Singh [6]. They have highlighted the issue of acquisition of private land, particularly farmland, for the purpose of establishing SEZs which has now become one of the important public policy issues in India.

3. Data Preparation and Methodology

The three economic indicators, for the present study in this paper, are limited to the following:

- a) Investment Attracted
- b) Employment generated, and
- c) Export growth percentage

The Performance Study being considered in this paper has considered Intra-region study for all the economic indicators to compare relationship between all possible pairs of variables in Noida region.

Data origin will be various data sources from Indian Census data as published in Census reports, the Indian census website, and the India Stat website, for the general socio-economic indicators for each region.

Analysis of Data, i.e. numerical values associated with the above three economic indicators, will be done statistically. Two types of hypotheses are considered as follows:

i. The research hypothesis which assumes that there is a statistically significant difference/relationship among the variables.

ii. And the null hypothesis which assumes that there is NO statistically significant difference / relationship among the variables.

The statistical tests indicate as to whether, based on evidence provided by the data, which of the above two hypotheses are to be accepted. Based up on these findings conclusion will be inferred.

The Statistical Data Analysis Tool available in EXCEL has been used. The 2 set of studies have the following data set.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Investments (Rs Crore)</th>
<th>Total Export (Rs Crore)</th>
<th>Total Employment (number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative Figure</td>
<td>1597.63</td>
<td>4811.5</td>
<td>36625</td>
</tr>
<tr>
<td>for Govt. SEZs ending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31.08.2010</td>
<td>8311.94</td>
<td>289.5</td>
<td>28339</td>
</tr>
<tr>
<td>Cumulative Figure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for Pvt. SEZs ending</td>
<td>8311.94</td>
<td>289.5</td>
<td>28339</td>
</tr>
</tbody>
</table>
Table 2. Investments, Export & Employment in India SEZs during 2000-2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Investments (Rs Crore)</th>
<th>Total Export (Rs Crore)</th>
<th>Total Employment (number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative investments made in Central Govt. SEZs established during 1965-1990</td>
<td>2194.00</td>
<td>6709</td>
<td>84545</td>
</tr>
<tr>
<td>Cumulative investments made in State Govt. &amp; Pvt. SEZs established during 2000-2005</td>
<td>4036.00</td>
<td>22840</td>
<td>134704</td>
</tr>
<tr>
<td>Cumulative investments made in Private SEZs notified after Feb, 2006</td>
<td>148488.60</td>
<td>220711</td>
<td>503611</td>
</tr>
</tbody>
</table>

Source: http://www.sezindia.nic.in

For the two cases above in this Category, Total Investment, Total Export and Total Employment Generation are the three economic indicators which act as variable 1, variable 2 and variable 3 assuming values for the two regions being considered in the two separate case studies.

The relationship between two quantitative variables may be measured by Pearson’s product moment correlation coefficient, which is symbolized by the letter “r.” The correlation coefficient, r, may range from 1.00 (indicating a perfect, positive, linear relationship) to -1.00 (indicating a perfect, negative, linear relationship), and any value between the two. The magnitude of the correlation coefficient determines the strength of the correlation. Greater the correlation, correlation is “statistically significant” and research hypothesis is accepted and null hypothesis is rejected. Although there are no hard and fast rules for describing correlation strength, these guidelines can be accepted:

- \(0 < |r| < 0.3\) weak correlation
- \(0.3 < |r| < 0.7\) moderate correlation
- \(|r| > 0.7\) strong correlation

Solving the 2 data set in Table-1 and Table-2 for the Noida and All India region respectively, we get the output(s) as shown in the 2 separate correlation matrix below:
Table 3. Output for Data Set-1

<table>
<thead>
<tr>
<th></th>
<th>Investments</th>
<th>Export</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investments</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Export</td>
<td>-0.791</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td>-0.901</td>
<td>0.978</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 4. Output for Data Set-2

<table>
<thead>
<tr>
<th></th>
<th>Investments</th>
<th>Export</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investments</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Export</td>
<td>0.998</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td>0.995</td>
<td>0.999</td>
<td>1</td>
</tr>
</tbody>
</table>

As tabulated earlier, Column 1, Column 2 and Column 3 represent total Investment, Total Export and Total Employment respectively. The PAIRS for our study here are:-

(i) Investment-Export
(ii) Investment-Employment
(iii) Export-Employment

In any of the matrices above, value in any cell represent the correlation co-efficient \( r \) for the corresponding row and column variables. Needless to say that correlation between same variable is 1 as shown above.

4. Conclusion

- For the All India region the performance is very much encouraging as the correlation between various pairs of variables is very much near to 1 meaning rejection of null hypothesis, but
- For the Noida region a good correlation of 0.978, meaning acceptance of research hypothesis is obtained only for the pair (Column 2 and Column 3) i.e. for the pair (Total Export-Total Employment) and attention is needed to improve the other 2

correlations for attaining more Export and Employment with respect to the Investment.

Thus, this study reflects that whereas performance under 3 economic indicators is commendable in case of Indian SEZs, it is not so in case of Noida region where Export growth and Employment generated is very poor with respect to the Investment made. This study can be further expanded to include other economic criteria so as to arrive at a more judicious decision related to performance, location/relocation of SEZ for a balance growth of the country.

5. References

[2] Laxamanan, L (2009); Evolution of Special Economic Zones And Some Issues : The Indian Experience; Deptt of Economic Analysis and Policy, Reserve Bank of India, June 2009
Isas Working Paper No. 30; 8 Jan 2008; Institute of South Asian Studies, National University of Singapore.


