Location of SEZs and Policy Benefits
What Does the Data Say?

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LOCATION OF SEZs AND POLICY BENEFITS:
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1. INTRODUCTION

1.1 This paper undertakes a more in-depth investigation into the location of SEZs, based on data available from the Ministry of Commerce. It builds upon early work in Mukhopadhyay (2008) which noted that not only are SEZs located mostly in a few states, even within these states, they are concentrated in a few districts, most of which had an above average rate of industrialisation. This conjecture is examined in more detail in this paper.

1.2 Two data sources are used for this analysis. The Ministry of Commerce data on SEZs contains information of numbers of SEZs in each category and location of each SEZ, which is used to determine the district of a SEZ. Data from the 2001 Census of India, which covers 593 districts, is used to determine the associated district characteristics[5]. Table 1 provides a description of the data.

2. TYPE AND SIZE OF SEZS

2.1 It is useful to begin with a broad outline of the nature of the SEZs. Table 2 groups the 513 formally approved SEZs data up to August, 1, 2008 into two categories, namely, size and type. The size classification is four-fold, i.e., Tiny (less than 1 sq. km.), Small (1 to 3 sq. km.), Medium (3 to 10 sq. km.) and Large (more than 10 sq. km).[1] The category classification groups various types of SEZs also into four broad categories, which are (a) Existing Strengths, which includes Textiles, Apparel, Pharmaceuticals, Gems and Jewellery and Footwear, i.e., our existing export basket; (b) IT and ITES, (c) Multi-product zones and (d) Others, which includes everything else.

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[1]   One hundred hectares is equivalent to a square kilometre.

[5]   *See* page no. 65.

2.2 As is evident from Table 2, almost all the SEZs are either Tiny (70.4 per cent) or Small (23.6 per cent). Only 6 per cent of SEZs are more than 3 sq. km in size. Most of the Tiny SEZs (85 per cent) are in the IT/ITES sector. Indeed, the IT/ITES sector (63.5 per cent) and the existing sectors (9.5 per cent) comprise almost three fourths of the SEZs, meaning that only 27 per cent of the SEZs belong to potentially new export sectors. Only 19 of the 513 SEZs are conventional SEZs in terms of being relatively "Large" and "Multi-product".

2.3 If anything, this picture is even more exacerbated when one looks only at the notified SEZs as shown in Table 3. A full 94.8 per cent are either Tiny or Small, 78 per cent belong to IT/ITES or sectors that are Existing Strengths and only 10 of 250 SEZs are Large and Multi-product. Even among the Tiny SEZs, as shown in Figure 1, almost all (91.8 per cent) are below 0.5 sq. km. (50 hectares) in size and over half (52.3 per cent) are between 0.1 sq. km and 0.2 sq. km (10 to 20 hectares).

2.4 Because of this smallness of size, the picture is quite different when one looks at the area under different sub-categories of SEZs, rather than their number. Within notified SEZs, even though Tiny IT/ITES form the overwhelming majority of the numbers, the 156 SEZs in that sub-category occupy only 11.4 per cent of the area (33.6 sq. km.) while the 10 Large Multi-product SEZs occupy 52.3 per cent (154.7 sq. km.) of the approximately 295.8 sq. km. of area currently occupied by 250 notified SEZs. The proportions are not much different when one considers the formally approved SEZs. Tiny IT/ITES SEZs constitute 10.6 per cent of the area (64.7 sq. km.) while the 19 Large Multi-product SEZs occupy 49.7 per cent (302 sq. km.) of the approximately 608.2 sq. km. of area currently occupied by 513 formally approved SEZs.

2.5 To summarise, it can be said that most SEZs are Tiny; almost all are either Small or Tiny. Only 13 out of 250 notified SEZs are more than 3 sq. km. Most Tiny SEZs are for IT/ITES activities and most IT/ITES SEZs are Tiny. Even for the categories of "Existing Strengths" and "Others", most notified SEZs are either Small or Tiny, with only 2 SEZs out of 70 notified SEZs in these two categories being more than 3 sq. km. Finally, 49 out of 62 notified Small SEZs are either for "Existing Strengths" and "Others". All the Large SEZs are Multi-product SEZs, as expected.

2.6 Much of the debate on SEZs has thus far focused on land acquisition and the consequent effect on the livelihood of farmers and agricultural labourers. It would appear that much of this issue is concentrated in a limited number (31 formally approved and 13 notified) of Medium and

Figure 1: Size Distribution of Tiny SEZs (below 1 sq. km.)

Source: Ministry of Commerce data at http://sezindia.nic.in
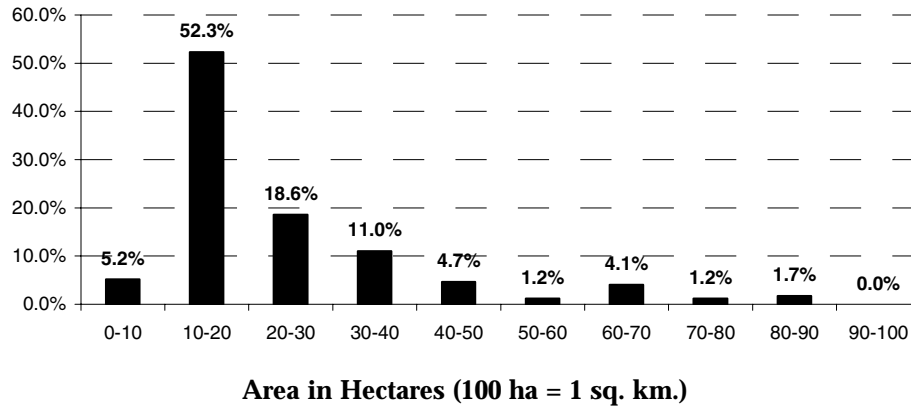
Large SEZs[2]. Focusing on these limited numbers of SEZs may help to define the issue more sharply. For the Tiny and IT/ITES SEZs, where land does not appear to be a primary issue, the more important question may be whether they are providing the advertised benefits of SEZs.

2.7 In size, at least, Small and Tiny SEZs are no different from our existing Export Promotion Zones (EPZs) and industrial estates and the Tiny SEZs are much smaller. Since these are dominated by IT/ITES SEZs, it is also pertinent to ask whether IT/ITES continues to need special treatment and perhaps more relevant, for those who agree that such treatment is needed; can the Tiny SEZs (which are all smaller than the Infosys campus in Bangalore) provide it? Similarly, what is holding back conventional (Existing Strengths) and emerging (Others) export sectors? Will Small SEZs be enough to provide them with the facilities they need? Ignoring other controversies, it would appear that the SEZs that are currently mushrooming may fail to meet the test of internal consistency. Even leaving aside other important consequences and associated costs, such as displacement of people who earn their livelihood from the land, or reduction in agricultural output, the question thus arises as to whether one can expect the vast majority of SEZs that are either Small or Tiny to meet the declared core objectives of the SEZ Act, that of accelerating the growth of economic activity and employment.

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[2]   Small SEZs (121 formally approved and 62 notified) account for about a quarter of the land use by SEZs.

3. LOCATION

3.1 In this paper we try to answer that question by looking at the location of SEZs. A first answer is given by Table 4, which shows the relationship between the size of SEZs and the urbanisation level of a district, as given in the Census of 2001. Each district is classified into one of four quartiles, i.e. the top 25 per cent (top 148 districts) in terms of urbanisation, the next 25 per cent and so on. Thus, the figures in parentheses in the first column show that of the 70 districts that have notified SEZs, 43 are in the first quartile and 20 are in the second quartile, i.e., 63 districts are above the median levels of urbanisation. The first row shows that 183 of 247 notified SEZs (74 per cent) are in the 43 districts in the uppermost quartile of which 142 are Tiny and 36 are Small. The picture becomes even more skewed when one adjusts for some apparent anomalies in classification and changes since 2001. Specifically, of the 53 SEZs in the 20 districts of the second quartile, 25 SEZs (1 Large, 1 Medium, 4 Small and 19 Tiny SEZs) are in Gurgaon (17) and Raigarh (8). Similarly out of the 10 SEZs in the 6 districts of the third quartile, 3 SEZs (all Tiny) are in South Twenty Four Parganas. All these three districts had lower levels of urbanisation at the district level but they adjoin Delhi, Mumbai and Kolkata respectively. The figures in parentheses in the five columns show the adjusted values when these three districts are considered to be in the first quartile of urbanisation. As one can see, 164 of 172 Tiny SEZs and 211 of 247 notified SEZs of all types are in one of these 46 districts.

3.2 Table 5 looks at the relationship between urbanisation and type of SEZs. The adjusted figures, including Gurgaon, Raigarh and South Twenty Four Parganas are in parentheses, as in Table 4. The preference of IT/ITES SEZs for urban locations is clear, with only 7 out of 166 notified SEZs in districts that are not in the uppermost quartile of urbanisation. While the preference for urban areas is still strong, the other types have a slightly less skewed distribution, with 6 of 13, 10 of 27 and 13 of 41 SEZs located in districts that are not in the uppermost quartile of urbanisation for Multi-product, Existing Strength and Other types respectively.

3.3 Moving a little beyond urbanisation, Table 6 examines location by different characteristics of districts, viz. extent of literacy, the share of Scheduled Tribes and Castes and the share of male workers who are in non-agricultural occupations (MNAG Share). All values for these district characteristics are from the Census of India 2001 and therefore have not been influenced by any effect of SEZs themselves. Here it is important to note that while the share of urban population is an administrative measure

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since urban areas are defined administratively, the share of males in non-agricultural occupations is an economic measure of existing industrialisation in that district.

3.4 Even within districts that have an urbanisation level above the median, i.e., the first quartile (U1Q) and second quartile (U2Q), and which contain 236 of 247 notified SEZs, one can observe a concentration of SEZs in relatively more industrialised districts, with a higher share of male workers who are in non-agricultural occupations and higher extent of literacy; and a lower concentration in districts with higher shares of Scheduled Caste and Scheduled Tribe populations. While 172 of 183 SEZs in the top quartile of urbanisation are also in the top quartile of industrialisation[3], only 13 SEZs are in districts where the level of industrialisation is below the median. To illustrate this, in the case of the National Capital Region (NCR), which has ten districts[4] in addition to Delhi, 60 of 74 formally approved SEZs (81 per cent) are in the three districts of Gurgaon, Faridabad and Gautam Budh Nagar (NOIDA), i.e., the suburbs of Delhi.

3.5 How strongly will this pattern show up under statistical analysis? To answer this, we conduct an analysis of the *presence of SEZs* in a district, and the *intensity* of SEZs, i.e., the number of SEZs in a district, using the district characteristics in Table 1 mentioned above and state dummies. Furthermore, since it can be argued that there may be selection effects, i.e., some districts may have more SEZs because of certain inherent characteristics or threshold effects, we control for this possibility using the Heckman correction technique.

4. PRESENCE OF SEZs

4.1 The effect of district characteristics on the presence of SEZs is modelled as the probability that a district would have a SEZ, which is consequently estimated using a probit model. The probit model is used when the response is binary in nature, for example whether or not a political party wins an election. Instead of finding out the expected value of the dependent variable as a function of fixed explanatory variable(s), the probit model estimates

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[3] Some of this is to be expected since the correlation between urbanisation and share of male workers in non-agricultural occupations is high.

[4] The remaining seven districts are Alwar, Jhajjar, Rewari, Mewat, Sonepat, Panipat, and Ghaziabad.

[5] The data is available on request from the authors and can be downloaded from http://www.cprindia.org

the probability of occurrence of an event as a function of given explanatory variable(s), assuming normally distributed errors. The probit model for our analysis is:

Presence of an SEZ in a district	=	ƒ (share of male workers in non-agricultural occupations, extent of literacy, share of Scheduled Tribes, share of Scheduled Castes, State dummies)

where,

Presence of an SEZ in a district = 1 if any SEZ is situated in that district
0 otherwise

Except for workers who are in non-agricultural occupations, where only the share of the male working population is used, literacy, Scheduled Tribes and Scheduled Castes are measured as a share of the total district population.

4.2 In a probit model with state dummies, such States where all the districts have SEZs or those where no districts have SEZs, will be excluded from the regression, since they predict perfectly. Thus only those States can be included, for which at least one district has formally approved SEZs, but not all districts have formally approved SEZs (such as in Chandigarh, Dadra and Nagar Haveli and Goa). Using the same criterion, three States (Chhattisgarh, Nagaland and Pondicherry) need to be excluded in regressions where the dependent variable is based on Notified SEZs. Finally, although Punjab and Jharkhand satisfy the above criteria, data for the two districts that have SEZs in these States, viz.: Saraikela-Kharsawan in Jharkhand and Mohali in Punjab, are not available in the Census of India, 2001 as these two districts were formed subsequently. Thus, the States which are included finally in the state dummies are Andhra Pradesh, Delhi, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu,

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6   In the case of a non-linear model, like probit, the coefficients of the model are not straightforward estimates of marginal effects. Estimated coefficients do not quantify the influence of the explanatory variables on the probability that the dependent variable takes on the value one. A more useful coefficient is the "marginal effect", which measures the change in predicted probability associated with change in an explanatory variable at a point, with the assumption that other variables remain constant.

Uttar Pradesh, Uttarakhand and West Bengal. These States have at least one notified SEZ and also satisfy the condition that not all districts in the State have SEZs.

4.3 Table 7 shows the result of the probit regression as marginal effect of district characteristics, calculated at the mean[6], on the probability that an SEZ would be located in a district. The first three columns provide the results for the presence of formally approved SEZs and the next three for notified SEZs. The first row gives the marginal effect, while the figure in parentheses below gives the standard error of estimation. The last row indicates the Pseudo R^6 of the model. The statistically significant coefficients, at 5 per cent level of significance, are denoted in bold. As indicated in Table 7, the industrialisation variable (measured by the share of male non-agricultural workers) is the only significant variable affecting the presence of a SEZ in a district. Except notified Tiny and IT/ITES SEZs, it is significant for all other four models. It indicates that the probability that a district will have a formally approved SEZ increases by 11.6 percentage points, if industrialisation rises by one standard deviation (19.73 per cent), with all other variables kept at their mean values.

5. INTENSITY OF SEZs

5.1 SEZs are Concentrated In More Industrialised Locations

Since many of the districts have more than one SEZ, we turn from presence to intensity. Is any of the district characteristics related to the number of SEZs in a district? To examine this, we first regress the number of SEZs on district characteristics. As can be seen in Table 8, the only variable to significantly affect the number of SEZs in a district is industrialisation, which positively affects the number of SEZs in a given district, i.e., the more industrialised districts are likely to have more SEZs. However, this can be because of state effects, i.e., because there are relatively more SEZs in relatively more industrialised states. To control for this possibility, we introduce state dummies in the equation. As can be seen in Table 9 this increases the effect of the industrialisation variable, though not in a statistically significant manner. The differences, while not significant, are consistent, and could with some imprecision be interpreted as an indication that the SEZs are concentrated in more industrialised locations within States.

5.2 Industrialisation Effect Stronger for Tiny and IT/ITES SEZs

Moreover, the effect differs across the various types of SEZs. The industrialisation effect is much stronger for Tiny and IT/ITES than non-

Tiny and non-IT/ITES SEZs. Table 10 shows a statistically significant difference in the coefficients on industrialisation across Tiny and non-Tiny SEZs and IT/ITES and non-IT/TES SEZs. It would thus appear that the location decisions of Tiny and IT/ITES SEZs (where, as we have noted earlier, there is a considerable overlap), which comprise the overwhelming majority of SEZs, are more affected by levels of industrialisation.

5.3 Selection Effects

5.3.1 Are these results affected by selection problems? Selection problems occur in samples that are not representative of the underlying population. For instance, if there are threshold effects in certain variables, e.g., a minimum level of industrialisation, that drives the location of SEZs, then they would be observed only in districts that cross the threshold. In the classic example, wages are observable only in the case of individuals who have chosen to work. The absence of information regarding the wage an individual with given characteristics, but outside the labour force, would earn, had s/he chosen to work, remains indeterminate.

5.3.2 This problem of selection bias is shown in Figure 2, where *industrialisation level of a district* (measured by share of Male non-Agricultural Workers) is illustratively plotted against *the number of SEZs in a district.* The solid line shows the statistical (and true) relationship that we would estimate if we could indeed observe *industrialisation levels* and *the number of SEZs* for all these districts. Now if SEZs are observed only in those districts whose industrialisation exceeds some threshold value given by the dotted line, then districts with relatively high industrialisation will be overrepresented in the observed sample, which are shown as the dark points in Figure 2. This selective sample creates a problem of selection bias. Thus, when we estimate the relation between *industrialisation levels* and *the number of SEZs* given by the dashed line in the figure, we find a relationship weaker (flatter slope) than the true one, thereby underestimating the effect of *industrialisation levels* on *the number of SEZs.*

Figure 2: Effect of Selection

Level of Industrialisation (y-axis)

Number of SEZs (x-axis)
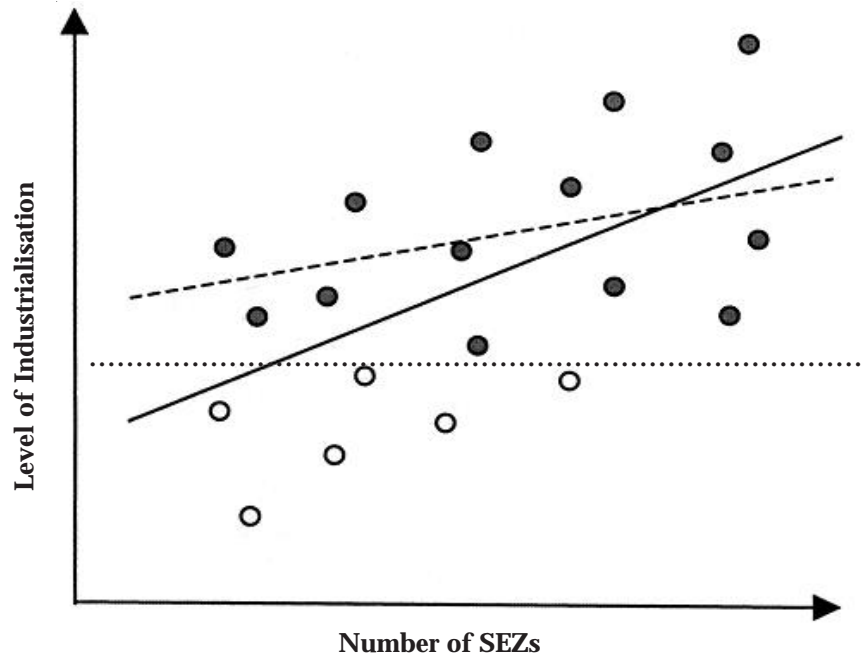
5.3.3 Heckman's correction, first proposed by Heckman (1979), is a technique to address this problem. One way to implement this (known as the two-step method) is to estimate the probability of inclusion in the sample and use the estimated probability as one of the explanatory variables in examining the relationship of industrialisation levels to the number of SEZs. We implement this technique for all SEZs and then by disaggregated types of SEZs, viz. Tiny and non-Tiny SEZs and ITES and non-ITES SEZs, to correct for the bias and detect whether the selection effect exists and whether it varies across different types of SEZs.

The two steps of the model can be viewed as below:

Step 1:

Probability that a SEZ is located in a district	=	f(share of urban population,[7] extent of literacy, share of Scheduled Tribes, share of Scheduled Castes)

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[7] The share of urban population is used to help identify the selection equation by distinguishing it from the share of male non agricultural worker in the main equation.

Step 2:

Expected number of SEZs in a district	= f(extent of literacy, share of Scheduled Tribes, share of Scheduled Castes, share of male workers who are in non-agricultural occupations, State dummies, estimated value of the probability that a SEZ is located in a district)

5.3.4 Table 11 reports these results. As can be seen from a comparison with Table 9, the Heckman correction increases the size of the industrialisation effect, as conjectured in Figure 2. Except for Tiny notified SEZs, where it is significant only at 10 per cent level of significance, the industrialisation coefficient is significant at 5 per cent level of significance for all other types of SEZs. The relationship between industrialisation and the number of SEZs is thus robust to correcting for selection effects and indeed, is enhanced by it.

5.4 Megacity Effects

This result is however not robust to the inclusion of geographical proximity of a district to the six megacities of Delhi, Kolkata, Mumbai, Hyderabad, Bangalore and Chennai as an explanatory variable.[8] We take this variable, based on our earlier observation from Table 10 that the industrialisation effect is stronger for Tiny and IT/ITES SEZs, which, as seen in Tables 4 and 5, are located in more urbanised districts. As shown in Table 12, inclusion of the megacity variable reduces the size of the coefficient and the significance of the industrialisation variable, especially for notified SEZs. The lack of a megacity effect on Tiny SEZs is unexpected, but the poorly estimated probit for Tiny SEZs (see Table 7) may provide a partial explanation. Further, Table 13 shows that while proximity to megacities affects the number of formally approved Tiny and IT/ITES SEZs and

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[8]   There are thirty eight such districts that adjoin these six megacities. These are the districts in the National Capital Region (NCR), viz.: Panipat, Sonepat, Rohtak, Jhajjar, Rewari, Gurgaon, and Faridabad in Haryana, the nine districts of Delhi; Alwar in Rajasthan; Meerut, Baghpat, Ghaziabad, Gautam Buddha Nagar, and Bulandshahar in Uttar Pradesh; North Twenty Four Parganas, Haora, Kolkata, and South Twenty Four Parganas in West Bengal; Thane, Mumbai (Suburban), Mumbai, and Raigarh in Maharashtra; Hyderabad and Rangareddy in Andhra Pradesh; Bangalore and Bangalore Rural in Karnataka; and Thiruvallur, Kancheepuram, Chennai and Dharmapuri in Tamil Nadu.

notified IT/ITES SEZs, it has a much smaller effect on non-Tiny SEZs and no statistically significant effect on non-IT/ITES SEZs.

6. CONCLUSION

6.1 Are SEZs Meeting their Objectives?

The examination of the district wise data on SEZs indicates that pre-existing industrialisation of a district is a major determinant of the number of SEZs in a district, especially for Tiny SEZs and IT/ITES SEZs. Regional balance objectives of the SEZ policy, if ever there were any, are not being met. Indeed, these Tiny SEZs and IT/ITES SEZs appear to be concentrated even more in the districts that contain or are proximate to the six megacities of Delhi, Kolkata, Mumbai, Hyderabad, Bangalore and Chennai. Along with the concentration of SEZs in the IT/ITES sector and given that more than 70 per cent of all SEZs and 93.4 per cent of all notified IT/ITES SEZs are less than one square kilometre in size this pattern inexorably leads to the following conclusions:

(a) The SEZ policy is not creating a new manufacturing base, since the overwhelming focus is on IT/ITES (67 per cent) and, to a lesser extent, on our existing strengths in exports, viz. Textiles, Apparel. Pharmaceuticals, Gems and Jewellery and Footwear (11 per cent). Thus, it is not building new sectors to absorb our growing labour force.

(b) The SEZ policy is not likely to create new infrastructure beyond buildings, since most of them are less than one sq, km. and are located in and around industrialised areas and especially around existing megacities, leading to the suspicion that they may free-ride on pre-existing infrastructure.

(c) The SEZ policy will exacerbate regional imbalance[9], since they are being disproportionately located in districts that already have high levels of industrialisation

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[9]   In and of itself, this may not be objectionable. No country has a regionally even spread of industrial growth. Usually, migration ensures that even though growth is not regionally even, the benefits from growth are more evenly spread out. However, these linkages need to be established and it is not clear whether the existing pattern of sectoral concentration in SEZs, biased towards IT/ITES, would be able to absorb populations in the less developed areas, e.g., Bihar, many of whom are not ready to make the shift to industry in terms of basic educational preparation, leave alone industry-specific skills.

(d) The SEZ policy is likely to generate costs (in lost fiscal revenue) without corresponding benefits (additional employment). Since the SEZs are being located close to existing industrialised areas, new activity in existing firms, which would have happened in the normal course of events, may now be located in the SEZs, since the distance-induced costs are minimal. In some cases, this may encourage firms to move an existing activity from its current location to a SEZ. This, while not generating additional economic activity over that which would have already occurred, will result in fiscal losses.

(e) The pattern of concentration in urban areas is consistent with the hypothesis that SEZs are driven by motivations of acquiring real estate or, as some have noted, by a logic of "accumulation by dispossession" (see, for example, Banerjee-Guha (2008))

These consequences reinforce the concerns that have already been expressed regarding other negative consequences of SEZs, primarily on land acquisition. They strengthen the suspicion that while the costs of SEZs are quite real, the benefits of SEZs are not substantial.

6.2 Could SEZs Worsen Infrastructure?

6.2.1 This pattern of SEZ location is also noteworthy in the context of the discussion of the link between urbanisation and SEZs in Sivaramakrishnan (2009). The SEZ policy is likely to create substantial demands on our existing megacities. As seen in Figure 1, most of these Tiny SEZs are less than 50 hectares (0.5 sq. km) in size and therefore it is highly unlikely that they will be able to function as self-sufficient entities. Since the Tiny SEZs are not large enough to build their independent infrastructure, these concentrations of Tiny SEZs will then draw upon the physical infrastructure and social resources of these megacities, an eventuality for which there has been no preparation. As pointed out by Sivaramakrishnan (2009), there is no clarity on the urban governance in the larger SEZs, and we have not prepared for the urban demands of the smaller SEZs. We may therefore end up in the worst of situations. Not only may the SEZs end up worsening regional imbalance and not create much new infrastructure, they may also further congest the infrastructure in our existing megacities, thereby affecting their attractiveness as industrial locations.

6.2.2 So, on the counts of diversifying our economic base and employment growth away from services, creating new infrastructure and redressing regional imbalance, the SEZ policy appears to be failing. Given their concentration in existing megacities and small size, the SEZs are also likely

not to add new infrastructure but instead draw upon existing infrastructure. At best, the SEZs are an indirect and indefinite continuation of the arguably constructive benefits currently extended to exports especially the IT/ITES sector, which are scheduled to expire in 2009. Surely, this could be done more directly and the costs associated with SEZs avoided.

References

Banerjee-Guha, Swapna (2008) "Space Relations of Capital and Significance of New Economic Enclaves: SEZs in India" *Economic and Political Weekly,* 22 November, 51-59.

Heckman, James.J. (1979) "Sample Selection as a Specification Error" *Econométrica* 47, 153-161.

Mukhopadhyay, Partha (2008) "The Promised Land of SEZs" *Seminar* v. 581 January, 28-35 *http://www.india-seminar.com/2008/581/581_partha_mukhopadhyay.htm*

Sivaramakrishnan, K.C. (2009) "Special Economic Zones: Issues of Urban Growth and Management" Occasional Paper No. 19, Centre for Policy Research, New Delhi.

Table 1: Description of Data

Variable	Mean	Standard Deviation	Mini- mum	Maxi- mum
Share of Urban Population	23.73	19.73	0	100
Extent of Literacy	64.00	12.84	30.2	96.5
Share of Scheduled Castes	14.73	8.66	0	50.1
Share of Scheduled Tribes	16.12	25.88	0	98.1
Share of Male Non Agricultural Workers	42.23	19.73	10	98.4
Formally Approved SEZs (Existing Strengths)	0.081	0.407	0	5
Formally Approved SEZs (IT/ITES)	0.545	3.02	0	38
Formally Approved SEZs (Multi Product)	0.059	0.341	0	4
Formally Approved SEZs (Others)	0.169	0.622	0	7
Total Formally Approved SEZs	0.853	3.712	0	46
Formally Approved SEZs (Large)	0.034	0.230	0	3
Formally Approved SEZs (Medium)	0.019	0.135	0	1
Formally Approved SEZs (Small)	0.204	0.747	0	7
Formally Approved SEZs (Tiny)	0.597	3.164	0	40
Notified SEZs (Existing Strengths)	0.046	0.284	0	4
Notified SEZs (IT/ITES)	0.280	1.835	0	28
Notified SEZs (Multi Product)	0.022	0.178	0	2
Notified SEZs (Others)	0.069	0.302	0	3
Total Notified SEZs	0.417	2.169	0	31
Notified SEZs (Large)	0.017	0.153	0	2
Notified SEZs (Medium)	0.007	0.082	0	1
Notified SEZs (Small)	0.101	0.472	0	6
Notified SEZs (Tiny)	0.292	1.817	0	27

The data for SEZ is as of 1 August 2008. The Census data (first five rows) is from Census 2001.

Table 2: Type and Size of Formally Approved SEZs

Broad Category	Large	Medium	Small	Tiny	Grand Total
Existing Strengths		2	31	16	49
	0.00%	0.39%	6.04%	3.12%	9.55%
IT/ITES			18	308	326
	0.00%	0.00%	3.51%	60.04%	63.55%
Multi Product	19	7	9		35
	3.70%	1.36%	1.75%	0.00%	6.82%
Others	1	2	63	37	103
	0.19%	0.39%	12.28%	7.21%	20.08%
Total	20	11	121	361	513
	3.9%	2.1%	23.6%	70.4%	100.00%

Source: Ministry of Commerce data at http://sezindia.nic.in

Table 3: Type and Size of Notified SEZs

Broad Category	Large	Medium	Small	Tiny	Grand Total
Existing Strengths		1	19	8	28
	0.0%	0.4%	7.6%	3.2%	11.2%
IT/ITES			11	156	167
	0.0%	0.0%	4.4%	62.4%	66.8%
Multi Product	10	1	2		13
	4.0%	0.4%	0.8%	0.0%	5.2%
Others		1	30	11	42
	0.0%	0.4%	12.0%	4.4%	16.8%
Total	10	3	62	175	250
	4.0%	1.2%	24.8%	70.0%	100.0%

Source: Ministry of Commerce data at http://sezindia.nic.in

Table 4: Urbanisation and Size of Notified SEZs

Level of Urbanisation	Large	Medium	Small	Tiny	Total
U1Q (43)	3 (4)	2 (3)	36 (40)	142 (164)	183 (211)
U2Q (20)	7 (6)	1 (0)	20 (16)	25 (6)	53 (28)
U3Q (6)	0	0	5	5 (2)	10 (7)
U4Q (1)			1		1
Total (70)	10	3	62	172	247

Note: Three notified SEZs in two districts Mohali (2) and Saraikela-Kharsawan (1) are not included because they did not exist at the time of the 2001 census.

Source: Ministry of Commerce data at http://sezindia.nic.in and Census of India 2001.

Table 5: Urbanisation and Type of Notified SEZs

Level of Urbanisation	Existing Strengths	IT/ITES Product	Multi	Others	Total
U1Q (43)	15 (17)	137 (159)	4 (7)	27 (28)	183 (211)
U2Q (20)	8 (6)	25 (6)	9 (6)	11 (10)	53 (28)
U3Q (6)	4	4 (1)		2	10 (7)
U4Q (1)				1	1
Total (70)	27	166	13	41	247

Note: Three notified SEZs in two districts Mohali (2) and Saraikela-Kharsawan (1) are not included because they did not exist at the time of the 2001 census.

Source: Ministry of Commerce data at http://sezindia.nic.in and Census of India 2001.

Table 6: Distribution of Notified SEZs by District Characteristics

U1Q	Percent Literate	SC Share	ST Share	MNAG Share	U2Q	Percent Literate	SC Share	ST Share	MNAG Share
1Q	113	33	3	172	1Q	12	2	5	30
2Q	59	27	69	11	2Q	14	14	24	17
3Q	11	99	91	0	3Q	27	25	6	6
4Q	0	24	20	0	4Q	0	12	18	0
Total	183	183	183	183	Total	53	53	53	53

Source: Ministry of Commerce data at http://sezindia.nic.in and Census of India 2001.

Table 7: Marginal Effects of District Characteristics on Probability of SEZ Presence

Share in Population	Formally Approved			Notified		
	All SEZs	Tiny SEZs	ITES SEZs	All SEZs	Tiny SEZs	ITES SEZs
Literates	0.00126 (0.00183)	-0.00034 (0.00121)	0.00018 (0.00111)	0.00071 (0.00077)	0.00017 (0.00031)	0.00018 (0.00025)
Scheduled Castes	0.00112 (0.00207)	0.00049 (0.00129)	0.00083 (0.00112)	0.00027 (0.00083)	0.00009 (0.00030)	0.00004 (0.00020)
Scheduled Tribes	-0.00053 (0.00088)	-0.00005 (0.00053)	-0.00027 (0.00053)	-0.00047 (0.00043)	-0.00020 (0.00020)	-0.00018 (0.00016)
Male Non-Agricultural Workers	**0.00588 (0.00110)**	**0.00388 (0.00087)**	**0.00317 (0.00081)**	**0.00159 (0.00066)**	0.00066 (0.00045)	0.00042 (0.00035)
Pseudo R²	0.3792	0.3636	0.3777	0.3937	0.4266	0.4166

Note: The first row in a cell indicates the value of the coefficient and the figure in the parentheses represents the standard error of the estimation.

Table 8: Relationship between District Characteristics and the Number of SEZs (without state dummies)

Share of	Formally Approved			Notified		
	All SEZs	Tiny SEZs	ITES SEZs	All SEZs	Tiny SEZs	ITES SEZs
Literates	-0.009 (0.015)	-0.011 (0.013)	-0.008 (0.013)	-0.005 (0.009)	-0.006 (0.008)	-0.006 (0.008)
Scheduled Caste Population	-0.020 (0.022)	-0.010 (0.019)	-0.006 (0.018)	-0.007 (0.013)	-0.001 (0.011)	0.001 (0.011)
Scheduled Tribe Population	-0.012 (0.008)	-0.007 (0.006)	-0.007 (0.006)	-0.006 (0.004)	-0.003 (0.004)	-0.003 (0.004)
Male Non-Agricultural Workers	**0.050 (0.010)**	**0.043 (0.009)**	**0.039 (0.009)**	**0.025 (0.006)**	**0.022 (0.005)**	**0.021 (0.005)**
Constant	-0.175 (0.909)	-0.236 (0.778)	-0.373 (0.745)	-0.129 (0.537)	-0.190 (0.451)	-0.201 (0.456)
Adjusted R²	0.0679	0.0593	0.0553	0.0472	0.0434	0.0382

Table 9: Relationship between District Characteristics and the Number of SEZs (with state dummies)

Share of	Formally Approved			Notified		
	All SEZs	Tiny SEZs	ITES SEZs	All SEZs	Tiny SEZs	ITES SEZs
Literates	-0.026 (0.017)	-0.022 (0.015)	-0.018 (0.014)	-0.012 (0.010)	-0.010 (0.009)	-0.009 (0.009)
Scheduled Caste Population	-0.005 (0.025)	-0.006 (0.022)	-0.004 (0.021)	-0.002 (0.015)	-0.001 (0.013)	-0.001 (0.013)
Scheduled Tribe Population	0.000 (0.008)	0.001 (0.007)	0.000 (0.007)	0.000 (0.005)	0.001 (0.004)	0.000 (0.004)
Male Non-Agricultural Workers	**0.069 (0.011)**	**0.056 (0.010)**	**0.051 (0.010)**	**0.033 (0.007)**	**0.027 (0.006)**	**0.026 (0.006)**
Constant	-1.074 (0.947)	-0.830 (0.823)	-0.925 (0.790)	-0.594 (0.564)	-0.528 (0.479)	-0.510 (0.485)
Adjusted R²	0.1279	0.0931	0.0839	0.0940	0.0702	0.0637

Note: The first row in a cell indicates the value of the coefficient and the figure in the parentheses represents the standard error of the estimation.

Table 10: Effects of Industrialisation on Number of Different Types of SEZs in a District (with state dummies)

Formally Approved				Notified			
Tiny SEZs	Non-Tiny SEZs	ITES SEZs	Non-ITES SEZs	Tiny SEZs	Non-Tiny SEZs	ITES SEZs	Non-ITES SEZs
0.056	0.013	0.051	0.018	0.027	0.005	0.026	0.007
(0.010)	(0.003)	(0.010)	(0.003)	(0.006)	(0.002)	(0.006)	(0.002)

**Table 11: Relationship between District Characteristics
and the Number of SEZs (after Heckman Correction)**

	Formally Approved			Notified		
Share of	All SEZs	Tiny SEZs	ITES SEZs	All SEZs	Tiny SEZs	ITES SEZs
Literates	-0.116 (0.199)	0.019 (0.255)	-0.013 (0.291)	-0.049 (0.151)	0.107 (0.670)	-0.387 (0.484)
Scheduled Caste Population	0.025 (0.167)	0.021 (0.218)	0.127 (0.235)	0.192 (0.186)	0.257 (0.665)	0.451 (0.369)
Scheduled Tribe Population	-0.025 (0.105)	-0.061 (0.118)	-0.099 (0.150)	-0.032 (0.122)	-0.389 (0.555)	-0.419 (0.500)
Male Non-Agricultural Workers	**0.275 (0.088)**	**0.252 (0.117)**	**0.302 (0.131)**	**0.266 (0.094)**	0.674 (0.410)	**0.546 (0.233)**
Constant	-12.873 (23.755)	-24.957 (30.901)	-30.739 (32.956)	-25.036 (20.762)	-96.582 (89.105)	-36.403 (46.686)
Wald Chi-Square	52.34	29.19	26.92	33.46	12.48	18.57

Note: The first row in a cell indicates the value of the coefficient and the figure in the parentheses represents the standard error of the estimation.

**Table 12: Relationship between District Characteristics
and the Number of SEZs
(after Heckman Correction, with Megacity dummy)**

Share of	Formally Approved			Notified		
	All SEZs	Tiny SEZs	ITES SEZs	All SEZs	Tiny SEZs	ITES SEZs
Literates	-0.106 (0.184)	-0.002 (0.238)	-0.029 (0.271)	-0.078 (0.133)	-0.055 (0.436)	-0.330 (0.335)
Scheduled Caste Population	-0.012 (0.154)	-0.001 (0.202)	0.112 (0.219)	0.199 (0.158)	0.255 (0.411)	0.350 (0.259)
Scheduled Tribe Population	-0.032 (0.097)	-0.058 (0.110)	-0.099 (0.140)	-0.016 (0.108)	-0.277 (0.357)	-0.325 (0.349)
Male Non-Agricultural Workers	0.160 (0.086)	0.151 (0.114)	0.212 (0.125)	0.129 (0.091)	0.436 (0.319)	0.341 (0.177)
Proximity to Megacity	**8.958 (2.096)**	**8.453 (2.539)**	**8.089 (2.522)**	**7.838 (1.918)**	4.871 (4.121)	**6.663 (2.284)**
Constant	-3.698 (22.110)	-14.383 (28.983)	-21.718 (30.856)	-7.490 (18.997)	-51.981 (66.472)	-16.594 (33.019)
Wald Chi-Square	75.08	42.64	38.96	54.91	20.36	39.79

**Table 13: Effects of Megacity Proximity on Number of
Different Types of SEZs in a District
(after Heckman Correction)**

Formally Approved				Notified			
Tiny SEZs	Non-Tiny SEZs	ITES SEZs	Non-ITES SEZs	Tiny SEZs	Non-Tiny SEZs	ITES SEZs	Non-ITES SEZs
8.453	1.228	**8.089**	0.756	4.871	**1.902**	**6.663**	0.721
(2.539)	(1.285)	**(2.522)**	(0.868)	(4.121)	**(0.605)**	**(2.284)**	(0.562)

Note: The first row in a cell indicates the value of the coefficient and the figure in the parentheses represents the standard error of the estimation.