THE POLITICAL ECONOMY OF SPECIAL ECONOMIC ZONES IN INDIA

by

Triyakshana Seshadri
A Dissertation
Submitted to the
Graduate Faculty
of
George Mason University
in Partial Fulfillment of
The Requirements for the Degree
of
Doctor of Philosophy
Economics

Committee:

Peter Boettke — Director

Richard E. Wagner

Department Chairperson

Richard E. Wagner — Program Director

Dean, College of Humanities and Social Sciences

Date: 4/28/2011

Spring Semester 2011
George Mason University
Fairfax, VA

The Political Economy of Special Economic Zones in India

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at George Mason University

By

Triyakshana Seshadri
Master of Arts
George Mason University, 2007
Bachelor of Arts
Osmania University, 1999

Director: Peter J. Boettke, Professor
Department of Economics

Spring Semester 2011
George Mason University
Fairfax, VA

Dedication

I dedicate this dissertation to my parents. My amma, Padmini, raised me to appreciate learning in any form, was my first teacher, and her support was unwavering even when others were against my pursuit of higher education. My appa, Venkatraman, had the foresight to guide me in the direction of Economics and without whose support, direction and advice I would never have chosen this path. Their undeniable love and support helped me through some of the roughest paths in this journey.

Acknowledgements

First and foremost I would like to Thank my advisor Peter Boettke without whose constant support this dissertation would not have been written. Prof. Richard Wagner and Dr. Virgil Storr offered numerous comments and suggestions on earlier drafts and I remain grateful for their careful reading and insightful comments on my drafts. The teachers that taught me at Mason deserve special Thanks, because they helped me become confident in my Economic intuitions. Special Thanks to Prof.Walter Williams whose class was the best microeconomics class I have ever taken, and who I had the honor to be the TA to for three years. Dr.Frederic Sautet offered me his time and friendship to help make me a better economic thinker, and I remain grateful for his support.

I have been fortunate to have generous funding throughout graduate school. I would like to thank the Mercatus Centre for fully funding my first four years, my dissertation fellowship in my final year, and for summer funding. The Bradley Foundation Scholarship through Prof.Williams supported by summer dissertation research, and the Institute for Humane Studies offered generous scholarships and travel fund to attend conferences and present papers.

Mary Jackson, and Kathy Spolarich at the Economics Department helped me through numerous administrative tasks and have become dear friends. I cannot Thank You both enough for your kindness. Peter Lipsey and Lane Conaway remained patient with me helping me organize my several meetings with my committee, especially in the last year when I was not on campus. Thank You both for all your help.

My friends and classmates at Mason deserve special mention. Adam Martin, Noah Tyler, Brian Hollar and Ali Hasnain were like family to me in my first year and helped me get through classes and exams. Dan D'Amico deserves special mention because I learned my work ethic from him. Geoff Lea, Jenny Dirmeyer, Diana Thomas, Michael Thomas, Emily Skarbek, Dave Skarbek, Shruti Rajagopalan, Jason Aimone, Jared Barton and the several participants of the Graduate Student Paper Workshop at the Mercatus Center have all offered serious comments on earlier drafts of my dissertation, and my papers are much better for their insightful suggestions. Nakul Kumar is like a dear brother to me and has been a constant source of support throughout. My husband Bharath of course was my sounding board when I was writing the last chapter and has been a great source of encouragement through the last stretch of this process. I have derived a lot of strength

from him. Lastly, of course I am grateful to my wonderful parents and my brother who always had a word of encouragement even during the difficult stretches.

Many more people helped me through this program and my deepest gratitude to anyone who I have missed mentioning here.

Table of Contents

List of Tables

List of Figures

Abstract

THE POLITICAL ECONOMY OF SPECIAL ECONOMIC ZONES IN INDIA

Triyakshana Seshadri, Ph.D.

George Mason University, 2011

Dissertation Director: Peter J. Boettke

India has experimented with enclave-based growth through export zones at least since 1964. These zones were developed as regions with limited regulation to encourage export growth, which would earn the much-needed foreign exchange to industrialize the economy. In 2000, a new Special Economic Zone (SEZ) policy was formulated and it became the Special Economic Zone (SEZ) Act in 2005. The SEZ Act has attracted a lot of entrepreneurial attention due to the tax incentives offered, and social attention because of the controversial nature of land acquisition for these projects.

This doctoral research focuses on the economic incentives created by export zone policies and rules in India. The three research questions this dissertation attempts to answer are the following: Have export zones caused export growth in India? What is the fundamental reason for the lack-lustre performance of Indian zones? What are the primary objectives of the new Special Economic Zone policy and are they being achieved? The first chapter analyzes the effectiveness of zone policies towards promoting exports, using data on exports, both from the zones and outside, and concludes that general trade-reforms rather than zone policies have lead export growth in India. The second chapter analyses the knowledge problem with developing export zones in India

and concludes that one of the primary reasons export zones in India failed to perform better was the knowledge problem, inherent in centrally planned economies, that prevented better location of these zones and their success. The third chapter looks at the political economy of developing big area private enclaves, and argues that private sector development of big zones is not possible with existing land acquisition policies in India.

1 Introduction

In the two decades since economic liberalization in 1991, the Indian economy has moved away from forty years of 3% growth rate (disparagingly referred to as the Hindu rate of growth) to almost 9% GDP growth. The policy attempts to induce higher GDP growth rates have followed several strategies such as socialist style five-year planning, focused industrialization, infant-industry promotion, import substitution and export promotion. Export lead growth strategy was made popular by authors such as Bhagwati (1978), Kreuger (1978), who suggested that export led growth strategy was better than import substitution for developing countries like India. The empirical literature uses China, Korea, and Taiwan as successful cases of export promotion and most Latin American countries to show that import substitution policies are not successful in the long run. The World Bank's aid package to many developing countries is based on rules that conform to promoting exports and freeing trade. Export Processing Zones (EPZs) are seen as a way of promoting exports, in particular sectors or regions, without having to undertake the difficult challenge of broader structural adjustment.

Export lead growth strategy has been a policy initiative in India since the 60s. Central and state governments invested in infrastructure projects to develop industrial areas exclusively for export-oriented industries in seven cities. Not surprisingly, some of the

first areas chosen for such development were remotely located and chosen not based on their commercial viability but based on other goals such as regional and backward area development.

Thus, even though seven EPZs were developed in India since the mid 60s, poor location choice and regulatory burdens prevented them from being successful. Early in the 21st century, the export zone lead success of Shenzhen Special Economic Zone in China prompted the Indian government to enact a Special Economic Zone (SEZ) Policy (SEZ 2005) to develop SEZs on a big scale. Through this policy, tax-free enclaves are created in different regions of the country to promote manufacture exclusively for exports. These zones are exempt from several industrial policy regulations that apply to organizations outside the zone. These incentives are given to promote manufacture and exports through these regions and to aid GDP growth through these zones.

One key departure in the new SEZ policy in India, is that private entrepreneurs are allowed to develop SEZ city infrastructure such as roads, buildings and other amenities such as electricity, water and sewage disposal systems. This has increased both the opportunities for private sector infrastructure development and problems with archaic land laws in India. Indian land laws have lead to a government monopoly in land transactions in urban areas and for commercial developments. Government purchases of private land (below market price) have been a prevalent feature since independence. Since industrialization was the primary focus of the early five-year plans in India, the

government also focused on developing industrial towns complete with schools, hospitals and recreational areas in addition to factories. In many cases, the land required for such development was taken from locals without adequate compensation. Therefore, land owners are no longer willing to sell land to either the government or the private sector. Therefore land acquisition problem is a significant problem affecting new SEZ development.

Even though current literature on Indian SEZs highlight problems with land acquisition and bureaucracy, some fundamental problems remain with respect to the effectiveness of Indian zones in promoting exports, effectiveness of governments in choosing the right location for the zone, and effectiveness of entrepreneurs in being able to develop these zones. This dissertation aims to address these three problems with Indian Special Economic Zones.

The first chapter highlights the performance of Indian export zones and their contribution to export and GDP growth. Enclave based policies to promote exports, and consequently economic growth, are not new to India. India's first export zone started in 1964, and six more central government zones were operational by the mid 1990s. However, these zones explain only a fraction of export growth rates in India. Statistics show that during the pre-reform years, these zones contributed to less than five percent of total exports and even now contribute to less than fifteen percent of total exports from India. There seems to be no obvious correlation between export growth and export zones that warrants the spate of

new zones in the country. Partial trade liberalization since the mid 1980s and general reforms since 1991 seems to better explain export growth.

Chapter two explores the knowledge problem as a reason for the failure of Indian export zones. Most explanations of export zone shortcomings focus on poor infrastructure and bureaucratic inefficiencies that typically plague these zones. By focusing on the knowledge problems that government administrators must overcome if they are to design and manage successful EPZs, and highlighting their inevitable difficulties in overcoming these knowledge problems, this paper offers a more fundamental and compelling explanation of the poor performance of Indian EPZs than is traditionally advanced.

Chapter three focuses on the new Special Economic Zone policy in India that was formulated to facilitate private development of big industrial townships. The policy also aims at private provision of infrastructure for the zone areas. This is a significant departure from the typical Export Zone model, where governments usually develop the zone, and invite entrepreneurs to start firms in the zone. However, the zone policy is unlikely to achieve these two objectives because of cumbersome land market laws such as land ceiling, and land-use clauses. This paper analyses the effect of these land laws and the political nature of land dealings with Special Economic Zone development in India, and concludes that zone objectives will not be achieved unless the underlying land laws are changed.

My hope is that these three essays will enable a better understanding of the *de facto* functioning of Zone policy in India, and enrich the debate on the political economy of zone based development policies. Nevertheless, this research raises several questions on land policies and bureaucratic functions in India. However, by focusing on a narrow set of objectives, I have attempted to focus on some of the more fundamental questions that have been overlooked in existing literature.

2 Is the path to higher exports in India paved with export zones?[1]

2.1 Export lead growth strategy

Export Processing Zones (EPZs) and Special Economic Zones (SEZs) are used as second best options to promote exports, in particular regions of a country, without having to undertake the difficult challenge of broader structural adjustment (Engman et al 2007, 35; Kumar 1989, 20). In several transitional economies, a sudden structural change ushering broader macro economic reforms may induce severe economic pressures in the short run. Under such conditions, well-designed free trade zones that offer production and export incentives may be effectively used as a first step towards industrialization and higher economic growth. (Madani 1999, 53; Wong and Chu, 1984, 2)

Enclave based policies are embedded in the larger literature that supports the export lead growth strategy. Krueger (1961), Bhagwati (1978), Ram (1985,1987) and Moschos (1989) have explained that export led growth is an effective strategy for developing countries. Moreover, Bhagwati and Srinivasan (1999, 19) have suggested that export promotion, in practice, lead to more sustained growth than import substitution. However, even though the correlation between exports and growth is not disputed, there are mixed

[1] *forthcoming in the Journal of South Asian Development.* The author thanks Prof. Peter Boettke, Dr. Frederic Sautet, Dr.Virgil Storr and participants of the Graduate Student Paper Workshop, Mercatus Centre, Fall 2008, and the referees for helpful comments on earlier drafts. The usual caveat applies.

results on the direction of causation between exports and growth.

Jung and Marshall (1985) use Granger causality tests to show that only four countries (in their sample of 37) showed that exports caused economic growth. Chandra (2003) applies co-integration and error-correction models to find that in the Indian case the causality between exports and growth runs both ways. According to Reppas and Christopoulos (2005), output growth causes export growth in their sample of 22 Asian and African countries. Kaushik, et al. (2008) on the other hand, use export instability as a variable in their co-integration and error correction model to establish that real exports Granger cause real GDP. Mahadevan (2009) examines the export led growth thesis in the context of Singapore and states that exports are simply a conduit rather than the engine of economic growth. Even though the correlation between exports and growth is clear in these studies, the causation is still up for debate.

Nevertheless, special zones to promote exports in developing countries have proliferated in the latter part of the 20th century. (FIAS Report 2008; Madani 1999) This is predominantly due to the success of countries such as South Korea and Taiwan that followed the export lead growth strategy and succeeded in increasing GDP growth rates. Wade (1990) and Johnson (1983) highlight the export-oriented policies of South Korea, Taiwan, Hong Kong and Japan, and point out the positive impact of export-oriented schemes on national income. However, these authors also model the growth of these countries through heavy government intervention in the economies. One of the

underlying mechanisms pointed out by most studies that promote the idea of export-led growth is backward technological linkages and international competition that discipline domestic industries and make them competitive and thus more efficient.

In the latter half of the 20th century, many countries such as Peru, Ireland, Philippines, and Indonesia adopted export zone policies to promote exports and industrialization towards economic growth and development (FIAS Report 2008). One of the more successful examples of this strategy is from China, where Special Economic Zones pioneered broader market reforms within the economy and have aided fast development of the country through manufacturing exports. According to Wei (2000, 202) "As well as rapid growth, the Shenzhen SEZ has built the necessary technological capability to enhance the competitiveness of economy." These zones are attractive to entrepreneurs because of preferential trade terms, preferential exchange rates, and tariff and tax exemptions. (Aggarwal 2006, 4533).

India was one of the first Asian economies to develop Export Zones to encourage exports. Export promotion became an explicit policy initiative in 1964 when the first Export Processing Zone was set up in Kandla. The primary motive was to earn foreign exchange to pay for machinery imports towards industrialization. Subsequently the Central Government established five more zones in other cities in the country by the late 1980s, and a seventh zone in 1994. However, regulatory burdens and policy biases

prevented them from being successful.[2] In addition to inward orientation, import substitution policies and foreign exchange controls acted as an implicit bias against export industries.

Even though the empirical arguments for export lead growth strategy have established the importance of exports in a nation's growth, other aspects of increased growth such as lower regulation have not been emphasised in the literature (especially because they are more difficult to measure empirically). Moreover, country studies on India discuss export promotion and trade liberalization independently rather than together. This essay tries to bridge the gap in the literature, and show that trade liberalization was more important than export zone promotion in India. The Indian case is significant as a natural experiment because trade liberalization and export zone policies were carried out simultaneously in the nineties.

This essay outlines the motivation for and evolution of India's export promotion policies specifically through export zones, and argues that they have not had a significant impact on total exports from India. This is particularly relevant now because of the new Special Economic Zone Policy in India that aims to achieve unrealistic export targets (Gopalakrishnan 2007, 53; Mukhopadhyay 2009, 60). The rest of this essay is structured as follows. Section 2.2 outlines India's export promotion ventures through export zones, Section 2.3 analyses the impact of export zones on export growth in India, Section 2.4

[2] See Aggarwal (2004, 2005, 2006, 2007), Kumar (1989), Kundra (2000), and Mukhopadhyay (2009)

compares the export performance of different types of zones in India, and Section 2.5 offers policy implications and concludes.

2.2 Indian Export Zones History and Literature

India was one of the first countries in the world to establish Export Processing Zones (EPZs). The first EPZ in India was developed by the Central government in the Western port city of Kandla about 600 miles North-West of Bombay. The second EPZ (SEEPZ) in Bombay was started in 1974, Falta (FEPZ), Cochin (CEPZ), Noida (NEPZ) and Madras (MEPZ) were established in the mid eighties and Vishakapatnam (VEPZ) was established in 1994. These zones promised cheap office and factory space and pre-developed infrastructure (electricity, roads, water, housing, and proximity to the sea-port) to encourage entrepreneurs. Imports into these zones were exempt from tariffs. In addition, tax concessions were offered to units in the zones. The only requirement was that they remain positive foreign exchange earners.

In 1980 due to space constraints in the Bombay EPZ, the Export Oriented Unit (EOU) scheme was started. EOUs are not geographically bound to the Export Zones. They can be located anywhere in the country. Once they are notified as an EOU the Customs Office bonds them, and administrative control of the EOU is established with the EPZ Development Commissioner of the region. However, unlike units within the geographic

boundaries of the Zone, EOU units were less regulated.[3] In addition, an existing domestic unit can be partially or wholly converted to an EOU. EPZ units did not have these facilities. Customs closely monitored goods movement into and outside the EPZ. Nevertheless, EOUs also had to be positive foreign exchange earners.

The success of Chinese Special Economic Zones, such as Shenzhen, prompted the Indian government to enact a Special Economic Zone Policy (SEZ 2005) to develop SEZs on a big scale. Existing central government EPZs were renamed SEZs and state governments and the private sector were allowed to develop and operate new SEZs. Through this policy, tax-free enclaves are created in different regions of the country to promote manufacture primarily for exports. SEZs are exempt from several industrial and labour policy regulations[4] applicable to organizations outside the zone. In addition, government clearances and approvals are expedited for SEZ units through a single window clearance policy. These incentives are offered to promote manufacture and exports through these regions and to aid GDP growth through these zones.[5] The original intention of the SEZ policy was to develop SEZs modelled after Shenzhen in China (i.e., large area enclaves exclusively for export manufacturing and processing with residential areas, schools, and other amenities). However, the new SEZ policy in India is currently embroiled in controversies related to land acquisition leading to most SEZs being developed as small

[3] For example they were not subject to heavy inspection of every shipment, the process was more self-declaration of contents and value.
[4] SEZs are designated as public utility status, which makes strikes and union activities illegal inside the zone.
[5] SEZ enclaves promote manufacturing and commercial activities that lead to more employment, and technological transfer into the domestic economy. In addition, allowing private participation in development reduces the fiscal burden on the public sector to provide basic infrastructure such as roads.

units within established cities (Mukhopadhyay and Pradhan 2009). This has lead to strain on infrastructure in these cities, while defeating the purpose of allowing private participation in infrastructure development.

Several studies have pointed out the problems with Indian EPZs and why they failed to perform better. One of the primary drawbacks is that unlike in China where the local municipalities have control over zone development activities, and can use local taxes towards zone development activities (Haywood, 2000), Indian EPZs were centralised and zone commissioners did not have direct access to zone revenues. A Central fund pooled EPZ earnings, and EPZ Development Commissioners had to make requests from the central pools even for simple development projects in their zones.

Kumar (1989) and Kundra (2000) point out that there were severe problems with the developed infrastructure and that was a main bottleneck towards development of these regions. Aggarwal (2005) makes a comparison of Indian EPZs with similar zones in Sri Lanka and Bangladesh and concludes that primary infrastructure provision was much better in the latter two than in India and that is an important reason for the failure of Indian EPZs.

Mukhopadhyay (2009) shows that the estimates and projections made about the success of SEZs in India are at best unreasonable. He compares the Beijing Economic

Technological Development Area (BDA SEZ)[6] in China with Indian SEZs and shows that the estimates of over half a million direct or indirect employment in the latter are unreasonable. BDA SEZ took twelve years to develop, employs approximately 100,000 people and has fewer regulatory controls and legal hassles than Indian SEZs.

Palit and Bhattacharjee (2008) outline the SEZ policy development in India and conclude that the primary problem with the policy is lack of adequate information. They also believe that the government should have a higher stake in developing infrastructure in these zones to make the projects more viable for private units.

Seshadri and Storr and (2010) offer an alternate explanation that export zones suffer from the same knowledge problem that plagued centrally planned systems. According to Haywood (2004), one of the reasons for success of Chinese zones was their decentralised nature and countries that try to emulate the Chinese model fail to replicate the governance conditions that existed in Chinese zones. As mentioned before, much of the administration of the export zones was centralised in India. Whatever the governance structure, and the consequent problems, the first step towards analysis of success or failure of Indian zones is to investigate if these zones achieved the promised objective of higher export growth rate in India.

[6] which has an area comparable to the maximum possible area allocated to Indian SEZs (5000 hectares)

2.3 Did export zones cause export growth in India?

Engman et al (2007, 18) say "While the first Indian EPZ was established already in the 1960s, EPZ policy has not been part of a coherent national strategy and its impact on the Indian economy was minimal." If we look at the macro perspective, the original export zones were framed within the restrictive foreign trade policy of the Central Government between the 1960s and 80s (Kumar 1989, 38; Kundra 2000, 37). One of the primary motivations behind export promotion through zones was to earn foreign exchange to mitigate the trade deficit in the economy. This is apparent from the requirement that these units had to be positive foreign exchange earners. This motive has not been abandoned with the new SEZ policy either. However, as we will see later in this section, motivations and intentions need not necessarily lead to desired results. This section analyses the outcome of two, not mutually exclusive, motives of Indian export zones -- reduce trade deficits and promote exports -- argues that export zones constitute only a small share of the exports from India, and outlines the effect of general trade reforms on Indian exports.

2.3.1 Reduce Trade deficits

Let us consider the objective of reducing trade deficits first. In spite of the export promotion measures and devaluation in 1966 and 1991 to correct balance of payments

deficits, India's trade balance has always been negative.[7] The primary reason a crisis did not occur before 1991 was foreign aid and borrowings (Kamath, 1992; Sharan and Mukherji, 2001, 13-25). Table 1 shows India's trade balance between 1961 and 2000.

Table 1: India's Trade Deficits, five-year averages, 1961-2000

Year	Trade Deficit (millions US $)
1961-1965	-790.4
1966-1970	-913.2
1971-1975	-465.6
1976-1980	-1351
1981-1985	-5985.4
1985-1990	-5668.8
1991-1995	-2841.6
1995-2000	-7807.8

Source: Computed from http://www.indiastat.com

Trade deficits were lower (compared to the preceding period) in the early 1970s, and early 1990s. The 1970s were a period of high volatility with both world and domestic exchange rate policies. Table 2 is a time line of important exchange rate policy changes that could explain the reduced trade deficits of the period.

Table 2: Chronology of India's exchange rate policies:

• 1947 (When India became member of IMF): Rupee tied to pound, Re 1 = 1 s, 6 d, rate of 28 October, 1945
• 18 November, 1967: UK devalued pound, India did not devalue
• August 1971: Rupee pegged to gold/dollar, international financial crisis

[7] Except for 1972-73 and 1976-77, when India had a trade surplus of 134 and 76 million US dollars respectively

• 18 December, 1971: Dollar is devalued
• 20 December, 1971: Rupee is pegged to pound sterling again
• 1971-1979: The Rupee is overvalued due to India's policy of import substitution
• 23 June, 1972: UK floats pound, India maintains fixed exchange rate with pound
• 1975: India links rupee with basket of currencies of major trading partners. Although the basket is periodically altered, the link is maintained until the 1991 devaluation.
• July 1991: Rupee devalued by 18-19 %
• March 1992: Dual exchange rate, LERMS, Liberalised Exchange Rate Management System
• March 1993: Unified exchange rate: $1 = Rs 31.37
• 1993/1994: Rupee is made freely convertible for trading, but not for investment purposes

Source: 2002 Devika Johri & Mark Miller, CCS Working Paper No. 28

The change in the trade deficit in the early 1970s can be attributed to the international financial crisis and India's own attempts to peg the Rupee to the Pound Sterling after the Dollar was devalued in 1971. Similarly, the huge fall in deficits in the early 1990s was due to the Rupee devaluation as a result of the balance of payments crisis in India.

If export zone policies had achieved their objective, we would have observed more instances of decrease in trade deficit. Nevertheless, we cannot expect export zones to have a big impact on the country's exports because their trade potential is very small compared to the rest of the country (Gopalakrishnan 2007; Menon and Mitra 2009). Thus, the motive of earning foreign exchange through export zones to correct trade deficit was not very successful. Instead, as discussed below it led to inefficient investment.

Secondly, in the Indian case, the trade deficit was coupled with high fiscal deficit, and at the height of the crisis in 1991 fiscal deficit was close to 10% of the GDP. India was forced to undertake reforms due to a Balance of Payments crisis in 1991. Subsequently, exchange rate reforms were undertaken in the mid 90s to ease the pressure on trade deficits. This increased the volume of trade (both imports and exports); however, the import bill remained higher than the export bill. Sharan and Mukherji (2001, 34-36) believe that this is because India was still in the first phase of the *J curve effect*. However, it is not apparent that any of the export zone policies (EPZ/EOU/SEZ) have lead to the intended reduction in trade deficits.

We can call the policy partly successful if at least one of the objectives is met. That is, if the zone policy leads to growth in exports through these zones, then the policy is partly successful and the lessons learned can be re-applied to other regions of the economy and potentially other countries as well. Nevertheless, as shown below export zone policy was not very successful at achieving its second objective of promoting exports.

2.3.2 Promote Exports

Until overall liberalization in 1991, the restrictive trade regime of tariffs and quotas acted as an effective deterrent to exporters even though an export promotion policy existed. Incentives offered to import substitution industries (such as easy access to credit, exclusive production licenses, tax holiday period), and concessions offered to importers

of capital goods (reduced or duty free imports, over-valued currency) acted like an implicit bias against export industries.[8] Thus, capital was mal-invested in sectors that were not India's comparative advantage. Sectors such as textiles,[9] which would have greatly benefited from exports, were effectively killed by the restrictive trade and industrial policies followed in the decades immediately after independence.

Since direct trade reforms were carried out in addition to renewed export promotion, we cannot really parse out the empirical effect of specific export promotion policies on growth. However, we can arrive at general conclusions based on the direction of exports before and after general trade liberalization. Table 3 illustrates the average annual growth rate in total Indian exports (from zones and otherwise) between 1960 and 2006. Trade policy was restrictive between 1960 and 1985.

Table 3: Total Exports growth rate

Year	Export Growth (%)
1960s	8.9
1970s	16.8
1972-76	26.2
1981-85	13
1986-1990	27
1990-2000	19.47
2000-2006	17.88

Source: Computed from http://www.indiastat.com

[8] The over-valuation of the Rupee all through the 1970s was in effect a tax on exports.
[9] The American Civil War and the two World Wars were a boost to the Indian textile industry, because they increased Britain's demand for Indian textiles.

The annual average growth rate in exports in the 1960s drops to 5.7% if we exclude the data for 1966-67, which is an outlier because of rupee devaluation. Exchange rate valuation changes (see Table 2) partly explain the unusual increase between 1972 and 1976. The 1970s average drops to 7.3% if we exclude data from 1972-76. Since the unusual increase occurs before the establishment of the Bombay EPZ, we cannot attribute the increase to the zone.

The mid 1980s represent a structural break because economic and trade reforms were being initiated, albeit reluctantly, by the government. (Dandekar 1992; Virmani 1989) Thus, in the latter half of the 80s, certain non-tariff barriers and quantitative restrictions, and some licensing procedures were removed (Virmani 1997, 2005) Thus in the period leading up to economic liberalization in 1991, it does not appear as if export growth was due to export zone policies, rather it seems to be the effect of lower trade barriers.

In 1991, general trade liberalization was undertaken, the SEZ policy was implemented in 2000 and it became a formal act in 2005. Let us now consider the growth rate in exports from India after 2000/2005 when the SEZ policy was in effect, and contrast this with the growth rate of exports since 1991. Average export growth rate between 1990 and 2000 was 19.47% and between 2000 and 2006 is 17.88%. The 1990s average export growth is actually lower than the export growth of the late 80s. In the absence of other major policy initiatives (such as structural reforms and trade liberalization), it is not apparent that the EPZ/SEZ policy has lead to a drastic spurt in export growth rates.

The second thing would be to look at the percent of SEZ/EPZ/EOU exports to total exports from India. If these numbers have grown at a higher rate since the EPZ/SEZ policy was implemented then it shows that there is some effect to the export zone policy. However, if it follows the same trend as before then we can infer that these policies do not really have much impact. If EPZs/SEZs are indeed contributing significantly towards exports, we do not observe this effect in export shares. EPZ/SEZ exports are still less than five percent of the total exports from India. Taken as a whole SEZ/EPZ/EOU exports together contribute between ten percent and fifteen percent to total exports from the country and this number has not significantly changed since the new SEZ policy. Table 4 shows the share of EPZ, EOU and SEZ exports to total exports from India.

Table 4: EOU/EPZ/SEZ Exports as a percent of Total Exports from India

Total Exports Share	1981-1985	1986-1990	1990s	2000-2006
EOU share in Total Exports (%)	0.5	2.0	6.7	8.8*
EPZ/SEZ share in Total Exports (%)	2.1	2.6	3.4	4.6*
Export as % of Indian GDP	4.6	5.0	8.6	14.3#

Source: Computed from Kundra (2000) Tables 3.3, 4.5

* Computed from EOU, SEZ website

Computed from tables 2.1 and 130 Handbook of statistics on the Indian Economy, RBI, 2008.

Table 4 illustrates a surge in the EOU share to total exports in the 90s. One of the reasons for this surge could be trade liberalization that occurred during the same period. The EPZ/SEZ share in total exports on the other hand has only shown moderate changes comparatively during the same period. This could also be because an economy wide liberalised trade regime reduces the unique advantages of zones, since similar liberalised procedures are available even outside the zone.

However, it is too soon to analyze the impact of the new SEZ policy, since it was enacted only in 2005. In addition, policy makers and entrepreneurs face multiple hurdles, predominantly land acquisition related, with its implementation. Nevertheless, it is for the same reason that it is not clear what the impact of the SEZ policy is on Indian exports. Table 4 shows data up to 2006, which does not include most of the SEZs created after the SEZ Act. Veeramani (2007) investigates the sources of export growth in India during the pre-reform and post-reform years using empirical models and concludes that the rapid growth in India's exports especially after 2002 was predominantly due to a buoyant world economy. Thus, the growth in exports as percent of GDP in the early 2000s could not be because of the new SEZ policy. The higher export growth in more recent years is probably due to other reasons, and the most plausible reason is trade liberalization.

2.3.3 Liberalization Policies

Liberalization policies and structural reforms have modified the business climate of India since the early 1990s (Basu 1993; Bhagwati and Srinivasan 1993). Removing industrial licensing, most price controls and other regulation has enabled a better environment for productive entrepreneurship. Although data for pre-reform years is not available, the economic freedom index has moved favourably since the early 1990s. The Fraser Institute rating for starting a business in India has progressively gone up in the 1990s (4.5, 5.3 and 8.x in 1995, 2000 and 2006 respectively). Since general trade reforms in the early 1990s, most quantitative restrictions have been lifted and tariffs have been rationalised (Srinivasan 1998). Tariffs have come down from an effective average of about 300% to between 25% and 35% in the last 18 years (Ahluwalia 1999, 47-49). This rationalization of tariffs has lowered the opportunity costs to trade and increased trade (both exports and imports). However, India's notorious inverted import duty structure remains, where import duty on the finished product is lower than the duty on raw materials and intermediate goods. This would partly explain why imports remain higher in spite of trade and exchange rate reforms. Nevertheless, removing quantitative restrictions lowered administrative and bureaucratic hurdles.

With a highly restrictive trade regime, much effort is spent in ensuring that entrepreneurs do not exceed their quota of imports, exports or foreign exchange. Thus, entrepreneurs spend considerable time, effort and money to find ways around the system or indulge in rent seeking activities to procure the quota and other privileges. All these add to the costs of trade. These costs are effectively lowered when the trade regime shifts to more

openness. The monitoring costs on part of the government also goes down considerably and entrepreneurs can channel their energies towards more productive activities. We observe this with reforms in the Customs Department policy as well since general trade reforms. For example, in the mid 90s, the Customs Department introduced the *green channel* for imports, which allowed several importers with valid permits to import without being subject to inspections at the port of entry. This reduced the costs to importers partly explains the surge in imports in the 1990s, despite depreciation of the rupee against major currencies.

Moreover, structural reforms such as removal of industrial licenses, and ease of administrative procedures undertaken in the 90s, eased the barriers to entrepreneurship considerably. This implies that the opportunity costs to doing business have gone down as well since liberalization. The general reforms that facilitated more entrepreneurship have effects in the external trade sector as well. Since entrepreneurs can now start a business without as much interference from the government as before, more time, energy and effort is spent towards activities that grow the business such as R&D. This explains why the growth rate both in trade and in GDP has gone up since liberalization.

As outlined in this section, export promotion through EPZs and SEZs have had very little effect on the growth rate of exports from these zones. However, general trade reforms seem to have contributed to higher growth rates in exports. Nevertheless, within the zone policy, some zones have performed better than others due to better location choices or

and other factors (Seshadri and Storr 2010; Shah 2008).

2.4 Indian Export Zone schemes compared

When we compare the export performance of EPZs, it is not surprising that the most successful zones are in the two big metro cities Bombay and Madras.[10] Bombay and Madras have been major business and political centres, and have established seaports at least since colonial times if not from before. These cities also have relatively business friendly governments. In addition, since they are big cities, the infrastructure is better than other zones. The Kandla EPZ, is also in a business friendly state, but lacks other facilities such as pre existing industrial and business clustering that implies a well developed supplier, distributor, warehousing, retailer and financier network (Kundra 2000). Falta (FEPZ) is about 34 miles from Kolkata (formerly Calcutta, also a big metro) but lacks a business friendly government to facilitate easy business activity (Shah 2008). Thus, FEPZ compares poorly with other EPZs. Cochin (CEPZ) is marginally better than FEPZ but suffers from problems similar to FEPZ due to a government that is unfriendly to businesses (Aggarwal 2005). Table 5 summarises some of the performance indicators of six EPZs.

[10] Now called Mumbai and Chennai.

Table 5: Comparative performance of different EPZs*

Zone	Year it became operational	Share in Total Exports (%) from		Total Approvals	Units in Production	Share in EPZ employment (%)
		EPZs	India			
Kandla	1964	9.65	0.37	931	98	12.92
Bombay	1974	52.21	1.9	376	157	39.51
Madras	1985	20.85	0.8	293	82	21.66
Cochin	1985	3.63	0.14	141	45	5.78
Falta	1985	1.10	0.04	283	26	2.27
Noida	1985	12.56	0.48	443	117	17.86

Source: Computed from Kundra (2000), tables 3.4, 3.2, 3.8 and 3.5A.
*Cumulative data up to March 1998. Data on VEPZ was not comparable for the same period since it became operational only in 1994

It is clear from Table 5 that Bombay EPZ (SEEPZ) is performing better than the others are. Critics may claim that the newer EPZs have not had sufficient time to mature; however, it is obvious that Madras EPZ (MEPZ), which is one of the newer EPZs, has performed better than others that became functional in the same year have. The relative success of Madras also highlights the earlier point about pre-existing business environment in the zone regions.

In a comparison between EPZs, Bombay and Madras emerge as the leaders; however, when we compare the performance of all EPZ units to EOU units, we observe that the latter have performed better on several variables. Table 6 draws a comparison between the performances of EPZs and EOUs on certain key variables.

Table 6: EPZ and EOU comparison*

	EPZ*	EOU
Number of functional Units	525	1210
Share in Total exports from India (%)	3.81	8.08
Foreign Investment (Rs. Millions)	2330.74	37231.39#
Net Foreign Exchange Earning %	36.62	62.24

Source: Cumulative data up to March 1998, Kundra (2000) Tables 3.2, 3.3, 3.7, 3.9, 4.1, 4.5, 4.6, 4.7

#Excludes VEPZ data *Cumulative data up to March 1998.

It is apparent from the above table that EOUs contribute more than twice the EPZ share towards Indian exports. They also attract more foreign investment and have a higher net foreign exchange earning potential than EPZs. As mentioned before, EOUs were set up in 1980 in response to space constraints in the Bombay EPZ. These units have more freedom, and less regulatory burden than EPZs. EOU costs are considerably lower since existing business units can be converted into EOUs. These lower relative costs could explain their better performance.

Nevertheless, the rate of non–starters[11] among both EPZs and EOUs is very high. Table 7 shows that the number of operational units in both EPZs and EOUs is low compared to the number of applicants who received approval to start units.

[11] Units need government approval before they become operational. Non-starters refers to the units that did not commence production after approval. Non-starters do not include units that cease operation.

Table 7: Number of functional Units in EPZ/EOU*

	EPZ	EOU
I. Total approval	2467	3818
II. Units that became operational	789	1210
III. Units in Production#	525	1210
III/I Percent	32	31

Source: Kundra (2000) Tables 3.2 pg 68 and Table 4.1 pg 114
#The difference between III and II would be the number of units that ceased to function.
*Cumulative data up to March 1998.

Table 7 illustrates that EOUs have more approvals and more units in production than EPZs. Since EOU units are not geographically bound, and have performed better than EPZs, let us consider the high rate of non-starters with EOU units. Table 8 shows that the rate of non-starters with EOUs has consistently gone up since the 1980s; however, even out of 2037 functional EOUs in 2006, almost 71% were in the following five business friendly states: Andhra Pradesh, Karnataka, Gujarat, Tamil Nadu, and Maharashtra.[12]

Table 8: Percentage of EOU Non-starters

Year	Non-Starters (%)
1985	45
1991	55
1995	67
1998	69
2003*	78
2006*	74

Source: Computed from Kundra (2000) table 4.1 pg 114; * Computed from EOU website.

[12] The average EOU approval rate for 2005-06 was 85%. It is not surprising that these states have the most EOUs. These states also account for 61% of the industrial licenses granted for the same period.

The entrepreneur has to incur significant monetary and non-monetary costs to apply for EOU status. Thus, the high rate of non-starters is a puzzle. Since EOU licenses are not transferable, we can rule out the secondary market reasons for EOU approval. There could be several reasons why businesses apply for EOU status and choose not to become functional once they have the approval. Some of the plausible but unlikely reasons are higher than anticipated cost of production, information asymmetry, and better capital availability or simply as a signalling mechanism towards better credit access. There seems to be a different motivation for EOU approved non-starters that is yet unexplained and beyond the scope of this paper.

However, even though the rate of non-starters is high in both EPZs and EOUs and the reason is unclear, it is clear that EOUs have outperformed EPZs on multiple criteria. The locational advantage has clustered operational EOUs to business friendly states, and successful EPZs have benefited from existing business linkages in big cities. Thus, it does not seem like zone policies are necessary to promote exports in the country. The primary factor appears to be less regulation due to liberalization in the early 1990s.

2.5 Conclusion

India has experimented with different forms of export promotion in response to foreign exchange shortages since the early 1960s. Most of these schemes (either individual export promotion incentives or export zones of some kind) incentivised positive foreign

exchange earnings by participating units. This indicates that the goal of these schemes has been predominantly to earn foreign exchange rather than increase in employment or production, or achieve efficiency. Although export zones are used as a first step towards complete liberalization of the economy in several countries, trade pessimism and inward looking policies prevented Indian export policies from being successful. In addition, import substitution policies offered privileged status to certain categories of entrepreneurs who were able to use special favours to expand domestic production in sectors that were not India's comparative advantage. This also worked to the disadvantage of export entrepreneurs.

The limited success of export zones is evidenced in other countries as well. According to Madani (1999,6), "Even at the height of their influence, EPZs never acquired a prominent role either in terms of exports value or employment creation in S. Korea or Taiwan." Similarly, zones in Senegal, Turkey and Philippines have not been successful either.[13] Likewise, even though Shenzhen in China is a successful example, Hainan suffers from over-invested infrastructure. In the light of such evidence, it is reasonable to argue that Indian zones cannot be expected to have contributed towards export growth or employment creation. Moreover, statistics also show that Indian export zones have had only a minimal impact on exports. In fact, the comparatively better performance of Export Oriented Units in India shows that it is not the location and incentives offered to units in zones that matters, but the ease of business operations that determines the success

[13] See Madani (1999) for Senegal, Kibritcioglu (1995, 21) and Organ (2006,) for Turkey and Remedio (1996) and Warr (1987) for Philippines cases.

of export units in India.

Furthermore, this is evident from the fact that total exports from India have responded favourably to reduction in trade barriers and deregulation due to liberalization and structural reforms. Even the new SEZ policy, that has attracted a lot of entrepreneur attention, needs extensive revision to achieve its objectives (Aggarwal 2006, Gopalakrishnan 2007, Mukhopadhyay 2009). Moreover, the costs of the new SEZ policy seem to far outweigh the benefits (Goswami 2008; Mukhopadhyay 2009).

In spite of concentrated efforts on export promotion schemes for more than forty years, empirical evidence from such policies in India, suggest that they do not have a big impact on export growth rate. In contrast, trade reforms had a significant impact on export growth within the first five years of implementation. Thus, it is apparent that export growth rate responds favourably to export sector reforms such as lower tariffs and fewer procedural bottlenecks. Moreover, Seshadri and Storr (2010) have argued that concentrated zone policies are ineffective due to the knowledge problems associated with creating zones. Additionally, the current SEZ policy is susceptible to rent-seeking activities by both government agents and entrepreneurs, thereby reducing the effectiveness of the intended policy (Seshadri 2010).

In conclusion, the renewed policy emphasis on Special Economic Zones is not likely to be successful, as long as entrepreneurs' cost of doing business remains high due to

regulation. Alternatively, removing the barriers to starting a business, not just within the zone but elsewhere in the country as well would be a better policy initiative. This approach to policy would have high rewards and better success rates since exports from zones form less than 1% of GDP, while exports from outside the zones contribute to about 14% of national income. It is equally important to implement policies and incentives that reward existing business and export clusters and encourage entrepreneurship in these regions. Such policies would have a higher impact in export growth, because they would enable existing businesses to grow, and attract new businesses with simultaneously wasting fewer resources on regulatory compliance.

3 Knowledge problems associated with creating export zones[14]

3. 1 Introduction

Export processing zones (EPZs) -- i.e. enclaves where the laws and regulations governing enterprise are more liberal than elsewhere in the country -- have been a part of India's development strategy since the 1960's. Unfortunately, these free zones, reformed and renamed special economic zones (SEZs) in 2005, have not been as successful at promoting exports and job creation as might have been hoped (Gopalakrishnan 2007; Seshadri 2010a).[15] While some EPZs like those in Bombay and Madras do appear to be thriving, most of the others are not doing very well (Kundra 2000, Aggarwal 2004). Moreover, the combined exports of all Indian EPZs and SEZs are (and have historically been) only a fraction of total Indian exports (Palit and Bhattacharjee 2008; Menon and Mitra 2009). Additionally, their employment creation ability has proven to be minimal (Aggarwal 2005, 2007).

Kumar (1989), Kundra (2000), Aggarwal (2004), Mukhopadhyay (2008) and Palit and Bhattacharjee (2008) have attributed the poor performance of EPZs in India to inadequate

[14] Co-authored with Dr.Virgil Storr and published in *The Review of Austrian Economics, Vol.23 No.4, 347-366*

[15] We will use the EPZ and SEZ interchangeably throughout this article. There are important distinctions between them which we do not want to overlook. SEZs, for instance, have fewer procedural complexities, rely more on private sector development and offer a better tax and tariff structure than EPZs. But, both EPZs and SEZs suffer from the shortcomings that we highlight in this article.

infrastructure, bureaucratic delays and procedural complexities as well as regulatory issues associated with other parts of the economy. As Engman et al. (2007, 18) write, "the Indian EPZ policy of the 20th century failed to address issues related to administrative inefficiencies, rigid customs procedures for bonding and bank guarantees, foreign ownership and infrastructural shortcomings." Similarly, as Ranjan (2006, 23) suggests, "Dysfunctional policies, regulations, lack of single window clearance facilities, poor attitude of the officials, centralized governance, stringent labour laws, poor physical and financial infrastructure, all accounted for an undesirable investment climate and thus EPZ failed to create employment."

Although India's SEZ scheme is quite new and was enacted to address some of the issues associated with the earlier EPZs, the new and reconstituted SEZs suffer from similar problems and have not performed significantly better than their predecessors. As Goswami (2008) states, "It is also certain that a large number of notified or approved SEZ proposals will not translate to any facility worth the name. Today, for many, the situation is no different than an old fashioned 'license grab': lets get a bunch of guys together with some political connections; apply for a small to middling SEZ; get it approved and notified; and then see what value can be generated out of this state-approved piece of paper." Additionally, as Mukhopadhyay (2009, 60) has explained, "based on an examination of data available from the ministry's own website, while the costs appear very real, the benefits of SEZs appear to be a mirage."

Although the shortcomings of both the EPZ and SEZ regimes listed above are substantial (i.e. bureaucratic delays, inadequate infrastructure, etc.), they do not address what is a key (and perhaps insurmountable) challenge facing any development effort that relies on free zones rather than nation-wide economic and regulatory reform. Officials responsible for encouraging, licensing and regulating EPZs must overcome the knowledge problems inherent in deciding (a) "where" to locate new zones, (b) "what" industries to promote within established zones and (c) "which" proposed units are likely to be successful and so should be permitted to operate within the zones. It is unlikely that officials embedded in the political, bureaucratic and regulatory processes which inform these decisions will discover the requisite knowledge. As Mises (1944, 56) argues, bureaucracies fail because of "the unavoidable weakness of any administration of public affairs. The lack of standards which could, in an unquestionable way, ascertain success or nonsuccess in the performance of an official's duties creates insoluble problems. It kills ambition, destroys initiative and the incentive to do more than the minimum required. It makes the bureaucrat look at instructions, not at material and real success." Simply put, the officials responsible for EPZs are unlikely to know the "where," "what," and "which" that they need to know if they are to successfully plan an EPZ.

In many ways, then, the problems of India's EPZs and SEZs should not have been surprising given the context in which they were established. If knowledge problems are inherent in any top-down government economic development program, they are more intense in socialist and quasi-socialist contexts where government officials qua central

planners cannot make use of the information generated in markets about the plans, purposes, preferences and proficiencies of potential entrepreneurs, employees and consumers. EPZs in India were developed within the restrictive trade regime of India at a time when India closely followed socialist central planning models (see Shenoy 1968, 323; Bardhan 1984, 65). The Indian Planning Commission was charged with the responsibility of determining priorities, assessing all of the country's resources, augmenting deficient resources, and formulating plans for the most effective and balanced utilisation of resources across regions.[16] At root, then, it was assumed that the central planning commission was able to arrive at the right configuration of production and exchange that will help the economy progress. A knowledge problem of the sort that made the failure of India's central planning regime inevitable also hampered India's experiment with EPZs. Officials in India did not have sufficient knowledge to plan their economy nor did they possess sufficient knowledge to plan and implement these zones.

This article is an attempt to highlight some of the knowledge problems inherent in developing successful EPZs and to explain the poor performance of Indian EPZs as a result of India's EPZ administrators being unable to overcome these problems. The rest of the article is structured as follows. Section 3.2 highlights some of the more successful and failed zone policies in different countries and focuses on the history and structure of EPZs in India. Section 3.3, then, discusses the knowledge problems associated with setting up a successful EPZ and how these knowledge problems which plague all EPZs

[16] http://planningcommission.nic.in/aboutus/history/about.htm

have proved particularly challenging in India because of the way their EPZ and now SEZ regimes are structured. Section 3.4, then, looks at the most successful Indian EPZs to see if important lessons can be learned from Indian officials' apparent successes at overcoming the knowledge problems associated with creating EPZs in those contexts. Finally, Section 3.5 offers concluding remarks.

3.2 A Brief History of EPZs/SEZs

Several countries have experimented with export processing zones (also called free trade zones, special economic zones and enterprise zones) as a way to promote employment, investment and exports. Not surprisingly, these zones differ in scope, the degree of regulations, the sorts of incentives offered to investors and the infrastructure available within the zones. Free Trade Zones in Dubai, for instance, have state developed infrastructure and offer tax breaks up to thirty years and allow for 100% foreign ownership (Hoekman 2000, 257). Export Processing Zones in Latin America and other Asian countries have broader scope and have less strict regulation to promote entrepreneurship and domestic linkages than the Free Trade Zones in Dubai (Hoekman 2000, 252).

The Mexican maquiladoras, for instance, were set up in response to US immigration policy in 1964. The predominant feature of units within maquiladoras is that they import half-finished products from the US, assemble or process them and re-export them to the

US. Since US firms pay duty only on the value added in the maquiladoras, units within these zones take advantage of the duty free concessions on the import of items re-exported into the US by the US government. Even though the maquiladoras contribute to about 40% of exports from Mexico, however, their impact on increasing employment and exports has been reduced since 2000 (Gruben and Kaiser 2001). The structure of the maquiladoras has also undergone change in the last two decades. While earlier they existed mostly in the border regions and as subsidiaries to US firms, interior maquiladoras are growing rapidly. In addition, the ownership is now almost equally divided between Mexican and US entrepreneurs (MacLachlan and Aguilar 1998, 318)

Special Economic Zones such as in China were developed as big area enclaves (as big as modern cities or bigger) and have a great deal of freedom from federal intervention. China began experimenting with SEZs in 1979 when the Chinese government established four SEZs along the coast, close to Taiwan and Hong Kong. These zones had the freedom to implement special policies and measures and subsequently gained independent legislative powers. Subsequently, China designated several coastal cities as Economic and Technological Development Zones to promote unrestrained foreign trade. This freedom to implement zone level policies has been cited as one of the most important reasons for the success of the Chinese zones (Kundra 2000, 150; Yeung, Lee and Lee 2009, 226). However, not all Chinese SEZs are success stories. While Shenzen stands as the crowning achievement among Chinese SEZs, Hainan stands in sharp contrast with over-invested infrastructure.

Among countries that have used EPZ's, Mauritus is arguably the most successful case. Since 1971 when the EPZ law was passed in Mauritus, the EPZ units have successfully enabled export and employment generation in addition to strong linkages with the domestic economy. This success seems to be predominantly due to appropriate policies and minimal interference from the government in addition to favourable trade agreements with the European Union (Madani 1999, 75). The Senegalese EPZ's, on the other hand, despite enjoying tax breaks and unrestrained profit repatriation did not perform well because of labour market rigidities, bureaucratic delays as well as minimum employment and investment requirements similar to price ceilings and floors (Madani 1999, 76).

Turkey established Free Zones in June 1985 to increase investment and production in the export sector, reduce unemployment and increase foreign investment. The model of zone development they employed involved a council of ministers identifying the zone location, the government providing the land and infrastructure, and the private sector building the necessary buildings. The zones were exempt from income and sales taxes and bureaucratic red tape was minimised in these designated areas. Nevertheless, as Kibritcioglu (1995, 21) states, these zones have "limited employment and foreign capital attraction effects." Additionally, as Organ (2006, 139) argues, the Turkish zones have not had sufficient impact on the economy due to improper locational choices. According to him the zones have enabled higher imports rather than higher exports. He also believes that there are too few zones in Turkey to have a positive impact on the economy.

In the US, enterprise zones were created to generate economic activity primarily in declining areas. The enterprise zone one or empowerment zone policy in the US is not a federal policy but is a state and municipality driven policy that targets areas of declining economic activity and offers incentives in the form of tax breaks as well as capital and labor subsidies (Greenbaum and Landers 2009, 468). Since these programs are not driven by the federal government, there are wide variations in the policies. However, the most common incentives offered are tax breaks and subsidies to organizations that operate in the zone. These programs in the US, however, have had mixed results. And, they do not appear to be able solutions to the socio-economic problems that plague US urban contexts. As Wilder and Rubin (1996, 480-81) state, "zones do not have magical qualities that can overcome all physical, social, and economic barriers to revitalization. In this respect, zone critics are correct in arguing that the myriad social and physical problems plaguing many urban neighborhoods (e.g. decaying infrastructure, high crime rates, inadequate school systems) are not responsive to targeted development incentives."

EPZs/SEZs in India are government developed enclaves that promise income and sales tax exemptions, tariff and duty relief, cheap office and factory space and pre-developed infrastructure (electricity, roads, water, housing, and proximity to a sea-port) to encourage entrepreneurs. In return, the units are expected to meet export obligations and be positive foreign exchange earners. If a unit fails to meet export obligations they can be fined and, if it is unable to furnish the penalties, the zone authorities could auction the

unit's capital assets to realize the penalties. Even minor shortfalls could be and are sometimes penalized (Kundra 2000, 49).

EPZ's have been a part of India's development strategy since 1964 when it established the Kandla Export Processing Zone, the first Export Processing Zones (EPZs) in Asia. Kandla is a 1.09 square mile zone which produces textiles and engineering goods that is located about 600 miles North-West of India's financial capital Bombay. Although until the 1980s this EPZ was comprised of mostly small-scale firms (firms with investments of less than Rs.2 million), according to Kumar (1989, 86), from its inception, 20% of the units in Kandla have contributed to between 80% and 90% of exports from the region. [17] Until the early 1990s most of the exports from Kandla went to Russia. However, by the end of the last century, the United States became the predominant trading area from this zone.

The second EPZ (SEEPZ) which focuses on electronics and jewellery was established in Bombay (Santa Cruz) in 1974. SEEPZ is located within the commercial area of Bombay city (which is the financial capital of India). "Another striking feature in SEEPZ," Kumar (1989, 86) writes, "is the dominance of a single family group of companies." In the early 1980s, this single family group of companies was responsible for forty-three percent (43%) of SEEPZ's total exports as well as fifty-four percent (54%) of its employment and

[17] The definition of small scale has changed over the years. In the late 60s, investment limit was up to Rs.1 million, this was revised to up to Rs.2 million in 1981, and up to Rs.3.5 million in 1985. In 1997 it was revised to Rs.6 million.

nineteen percent (19%) of its investment (ibid.). Similarly, Kundra (2000, 241) has noted that although SEEPZ is the smallest of all EPZs in India (at 0.15 Sq. miles), it contributed to fifty-two percent (52%) of all EPZ exports from India in 1997-1998.

Falta (FEPZ), Noida (NEPZ), Cochin (CEPZ), and Madras (MEPZ) zones were established in the mid eighties and a zone in Vishakapatnam (VEPZ) was established in 1994. Except for Noida all the other EPZs were in port cities. Both Falta and Noida are located close to large metropolitan areas. While Noida is doing relatively well with employment at 33,000 and exports at Rs.168433 million, Falta is not performing as well with only 11,600 people employed and Rs.10263 million in exports. Madras EPZ is located in the Madras metro area, which is one of the four largest metros in the country, has an area of 0.4 Sq. miles and primarily exports electronics and garments. It has 106 units in production with 29,195 employed and Rs.30465 millions in exports. Vishakapatnam lags behind the others with only 4,200 employed in 42 units.

As noted earlier, the performance of these EPZs has been mixed. *Table 9* highlights some of the performance indicators of the six original EPZs.[18]

[18] Data on VEPZ was not comparable for the same period since it became operational only in 1994.

Table 9: Comparative performance of different EPZs

Zone	Year it became operational	Share in Total Exports (%) from		Number of approved units	Units in Production	Share in EPZ employment (%)
		EPZs	India			
Kandla	1964	9.65	0.37	931	98	12.92
Bombay	1974	52.21	1.9	376	157	39.51
Madras	1985	20.85	0.8	293	82	21.66
Cochin	1985	3.63	0.14	141	45	5.78
Falta	1985	1.10	0.04	283	26	2.27
Noida	1985	12.56	0.48	443	117	17.86

Source: computed from Kundra (2000),tables 3.4, 3.2 ,3.8 and 3.5A. Cumulative data up to March 1998.

Even SEEPZ, the most successful of the EPZs contributes less than 2% to total Indian exports. And, combined the six EPZs contributed less than 5% of total Indian exports.

In 1980 space constraints in SEEPZ prompted the central government to start the Export Oriented Unit (EOU) scheme. Although EOUs also had to be positive foreign exchange earners, EOUs, unlike EPZs, were not geographically bound and could be located anywhere in the country. Once they were notified as an EOU, the Customs Office bonds them, and administrative control of the EOU is established with the EPZ Development Commissioner of the region.[19] However, while the customs and other government departments constantly monitored EPZ units, EOU units were much less scrutinized. The additional advantage that EOUs had over traditional EPZ was that EOUs could be an extension or modification of an existing domestic area unit. As such, EOUs could reap

[19] Notification is the process by which the government establishes the legitimate license issued to the unit by publishing the details of the unit in the gazette.

the benefits of EPZs without incurring much of the regulatory costs.[20] Not surprisingly, on average EOUs performed better than EPZs (Table 10).

Table 10 compares EPZ and EOU shares and the share of all exports (from zones and otherwise) in Indian GDP.

Table 10: EOU/EPZ/SEZ Exports as a percent of Total Exports from India

Total Exports Share	1981-1985	1986-1990	1990s	2000-2006
EOU share in Total Exports (%)	0.5	2.0	6.7	8.8
EPZ/SEZ share in Total Exports (%)	2.1	2.6	3.4	4.6
Export as % of Indian GDP	4.6	5.0	8.6	14.3[#]

Source: Computed from Kundra (2000) Tables 3.3, 4.5
[#] Computed from tables 2.1 and 130 Handbook of statistics on the Indian Economy, RBI.

Although EOUs have contributed almost twice as much to total Indian exports as EPZs, under 10% of Indian exports come from EOUs.

In 2001, a Special Economic Zone (SEZ) policy was initiated after the then Finance Minister visited China. The SEZ Act which aimed to emulate the export lead growth

[20] Unlike EPZs, EOUs were not centrally managed by the Ministry of Commerce but were instead under the jurisdiction of a zone development commissioner. In addition, since they were developed by private entrepreneurs, they were not subject to the same controls on expansion that EPZs were. Moreover, they were exempt from Customs inspections of every shipment. And, since they were not geographically bound, they could be located in convenient locations with access to markets.

success of Chinese SEZs by modelling Indian zones along the lines of Shenzhen in China (i.e., large area manufacturing enclaves exclusively for exports housing residential areas, schools, and other amenities for zone unit employees) was formalised in 2005. In addition to renaming existing central government EPZs to SEZs, the central government allowed state governments and the private sector to develop and operate new SEZs. These enclaves promise tax and tariff exemptions for up to ten years to promote manufacturing primarily for exports. Also, SEZs are supposed to offer a friendly climate for entrepreneurship through exemptions from several industrial and labour policy regulations. For instance, SEZs are given public utility status, which makes strikes and union activities illegal inside the zones. Plus, the government pledged to expedite clearances and license approvals for SEZ units through a *single window clearance* policy.[21] These incentives are supposed to get the private sector involved in the production of infrastructure and to promote manufacture and exports within these zones.[22] Although the original intention of the SEZ policy was to develop SEZs along the lines of Shenzhen in China, political pressure and several amendments later, the SEZ policy reads more like a form of industrial licensing. [23]

[21] Under this policy entrepreneurs should be able to obtain all the necessary clearances with one agency rather than through multiple agencies as is the norm in the rest of the country.

[22] SEZ enclaves are supposed to promote manufacturing and commercial activities that lead to more employment and technological transfer into the domestic economy. In addition, by allowing private participation in development, they are supposed to reduce the fiscal burden on the public sector to provide basic infrastructure such as roads.

[23] See Palit and Bhattacharjee (2008) for an evolutionary account of the SEZ policy in India.

Although it is somewhat early to assess the performance of SEZs, the data shows that simple employment projections have proven to be much higher than actual employment (see *Table 11*).

Table 11: Actual and Projected Employment in SEZs

	Direct Employment			Indirect Employment		
	Proposed	Actual	Actual/ Proposed	Proposed	Actual	Actual/ Proposed
SEZs before 2005 Act	92890	44768	48%	43625	22698	52%
SEZs after 2005 Act	2448246	97993	4%	2455196	220506	8.9%

Source: Computed from data at www.sezindia.nic.in/

SEZs notified under the new SEZ Act, for instance, have met less than 10% of their proposed employment numbers.

Although they have been a source of some exports and some jobs which might not have existed had these zones not existed, based on their own criteria for success, these zones have performed poorly (Seshadri 2010a).[24] Moreover, they have not been (nor are they

[24] Kumar (1989, 183), for instance, calculates the benefit cost of the Kandla EPZ and concludes that "results for KFTZ probably underestimate the costs incurred in the zone. This underestimation of costs arises due to the paucity of cost data for the early years of the zone. Actual figures for annual capital outlay, revenue expenditure and most important, purchases from DTA are simply not available." Similarly, Warr (1987, 238) measures the social cost of the Bataan EPZ and concludes that "public capital was wasted through the excessive expenditure required to establish an industrial centre in an isolated and mountainous coastal area and because a significant part of the expenditure proved to have been unnecessary. This

likely to be) anything like the development tool that Indian officials hoped they would be. As will be argued below, the mixed success of these EPZs/SEZs should not be surprising given the knowledge problems that zone administrators have to overcome if they are to successfully develop these zones and the unlikelihood of their doing so.

3.3 Knowledge problems associated with setting up EPZs

The knowledge necessary for social and economic coordination is always dispersed throughout the society, is often tacit, and is not given (in any sense) but must be generated through a social learning process (like the market). Originally, then, the "knowledge problem" referred to the notion that a centralized bureaucracy would necessarily lack the knowledge to arrange factors of production and allocate resources in a way that was rational enough to sustain modern advanced technology (Lavoie 1985, 52). Consequently, the centrally planned economy advocated by Marx and Marxists where the means of production are socialized and economic arrangements are not left up to the vagaries of the market but are instead organized on the basis of a central plan could not deliver anywhere near the material progress that its advocates claimed it would. Although a central planning board could potentially determine which range of technologies can be used for the production of which range of goods, it has no way of determining whether in producing a particular good it is putting resources to their most urgent and desired use or whether it was wasting or using resources efficiently. As

---

included upgrading the port subsequently not used to servicing the EPZ, and construction of a large modern office building, underutilized when central administrative functions were eventually transferred to Manila"

Hayek (1948, 83) summarizes, "if we can agree that the economic problem of society is mainly one of rapid adaptation to changes in the particular circumstances of time and place, it would seem to follow that the ultimate decisions must be left to the people who are familiar with these circumstances."

Since it was originally pointed out by Mises and refined by Hayek, Austrian economists have applied this logic to critique all sorts of government interventions where decisions are taken out of the hands of private actors and centralized within some government apparatus. Hayek (1960, 372), for instance, has critiqued government led conservation efforts along the lines that government officials cannot possibly know the optimal rate of resource depletion. Similarly, Grossbard-Shechtman and Lemennicier (1999) have challenged the ability of judges and legislators to overcome the knowledge problems inherent in designing optimal marriage contracts, in deciding which aspects of a contract should be enforceable and in deciding which enforcement methods to employ. Sobel and Leeson (2007) have likewise highlighted the knowledge problem inherent in natural-disaster management and, in particular, government's ability to determine which disasters to become involved in and which level of support to provide. And, Coyne (2007) has demonstrated that Western nations lack the knowledge that would be necessary to genuinely engage in exporting democracy and nation building.

Desrochers (1998, 65) has pointed to the importance of local knowledge in urban areas and has challenged the notion that industrial regions can be developed by governments.

Likewise, Desrochers (2001) stresses that knowledge transfers within industrial clusters are mostly tacit and thus argues convincingly that it is a myth to believe that all of this knowledge can be generated scientifically by the government. Similarly, Desrochers and Sautet (2004, 238-239) have challenged the arguments that local clusters are formed due to geographical proximity and instead argue that "clustering is the result of entrepreneurial activity and is driven by the production of valued goods to seize profits. Governments cannot therefore supersede the market in the creation of clusters." As they (ibid) suggest, "There is no reason to think that under the institutional arrangements where governments take an active role in cluster promotion, the relevant knowledge will be generated. Thus … they would still not be able to implement successful cluster policies."

Glavan (2008) has also argued that promoting industrial clusters is a panacea to market coordination failures. As he (ibid.) explains, "changes in individual preferences cause the relative prices of goods to vary permanently and this, in turn, increases or reduces the number of close substitutes and complements for any given good. The concrete specialization of economic units is also determined by the actual array of relative prices. All this makes the attempt to circumscribe economic clusters illusory, because these industrial districts continually change." Additionally, Hospers (2003,156) argues that knowledge, creativity and innovation cannot be planned from scratch by local governments. He gives the example of Akademgorodok in Russia which was modelled along the lines of Silicon Valley in the Tundras of Siberia but has continued to languish

for several decades because of lack of knowledge base in the region.

As stated above, government officials responsible for encouraging, licensing and regulating EPZs lack critical knowledge about (a) "where" to locate new zones, (b) "what" industries to promote within established zones and (c) "which" proposed units are likely to be successful and so should be permitted to operate within the zones.

3.3.1 Where to locate new zones

A key decision that EPZ regulators must make is where to locate free zones. Whether a particular EPZ will be successful at attracting foreign direct investment, attracting dynamic and profitable firms and creating jobs will depend a great deal on where it is located. In particular, it will depend on the quality and existence of key infrastructure, the ease with which necessary inputs can be brought in and final goods shipped out, the availability of a sufficiently large pool of skilled and unskilled workers and how the EPZ compares along these margins with other potential locations for targeted enterprises. EPZ regulators are unlikely to have access to this knowledge since the specific factors necessary for an EPZ to thrive will differ depending both on which industries develop inside the zone and what other potential zones have to offer. Moreover, what counts as necessary and sufficient local prerequisites for a zone to thrive will differ depending on which industries emerge in the zone.

Jacobs (1969, 86-89), for instance, compares Manchester and Birmingham in the mid 1800s and characterises the former as a mostly specialized industry town, while the latter was more diverse and *inefficient*. However, Manchester declined while Birmingham continues to thrive. Jacobs attributes this to the diversity of activities carried out in Birmingham compared to Manchester. As she (1969, 88) writes "Birmingham was also making, among other things, guns, jewelry, cheap trinkets and papier-mache trays. The work of making cheap metal toys lead to making cheap steel penpoints. The work of making guns afforded the opportunities for making rifling machines and other machine tools."

Although there are several variables affecting the formation and success of a cluster, one of the most important components is the knowledge that exists within these regions. Hospers, Desrochers and Sautet (2009, 291), for instance, argue that "as illustrated by the genesis of the micro-electronics cluster in Silicon Valley, the birth, life and death of clusters is essentially part of a spontaneous order that rests on entrepreneurial discovery and the generation of explicit and tacit knowledge." Similarly, Desrochers and Sautet (2008) identify that government policy that enables entrepreneurs to take advantage of spontaneously evolved industrial diversity promotes regional development rather than government identified promotion of a certain location. As they (ibid., 826) suggest, "policy strategies that deliberately reinforce regional specialization tend to impoverish the environment for entrepreneurs because they limit the probabilities of seeing and

acting on new opportunities, whether through the development of new interindustrial linkages or new combinations."

Also, as Brenner (2004, 15) explains of industrial clusters, some regions are simply more attractive (i.e. have more geographic, demographic and cultural advantages) than other regions for certain industries. Similarly, Yusuf (2008, 10) has argued that different products require different conditions and that every urban setting cannot simply spawn a cluster by default. Additionally, as McCarty, Regerd and Reidel (2008, 56) suggest, specialization and clusters could be a result of historical factors that exist in the region, like in the case of Hanoi Vietnam where "street specializations date back to the establishment of Hanoi's merchant guilds in the thirteenth century." Which factors are important for the emergence of a successful industrial cluster in a particular locale as opposed to another emerges during the process of competition for clusters between regions.

Not surprisingly, scholars have pointed to poor location as a chief reason why Indian EPZs have failed. As Kundra (2000, 66) writes, "Kandla is located in a backward region which lacks industrial culture and has poor social infrastructure." Likewise, the IFC (2008, 50) notes that "poor site location entailing heavy capital expenditure" is a common obstacle for success of zones.[25] Complicating matters, location choices for public sector

[25] Consider, for instance, the Bataan EPZ in Philipphines which produces garments, textiles, industrial products, house-wares and toys (Remedio 1996). It is located 160 Kilometers from the capital Manila in a mountainous region with poor access roads. As Warr (1987, 234) empirically shows, "under all

undertakings (including EPZs) in India were based not on the economic opportunities or the demographic and geographic advantages of the region but on considerations of balanced regional development, which aimed at developing backward areas by giving them concessions and subsidies. For example, Falta is in a "backward" area located just 55 kms from Calcutta in West Bengal. The State of West Bengal has one of the highest rates on unemployment in the country and Falta was intended to reduce that unemployment rate. The Zone is located in a 0.43 sq. mile area and, in 1997-1998, most of the exports were from pharmaceutical units. By 2006, however, Falta had 101 functional units, of which textile companies were the most common followed by engineering, plastic/rubber and synthetic firms. Most exports from this zone go to Malaysia, Hong Kong, the United Arab Emirates, the United States, Kazakhstan, France, Singapore and Italy. The Falta EPZ, however, has failed to deliver the desired employment or exports. According to Shah (2008, 16) Falta is the only zone that did not show increase in net exports since 2000. And, as Kundra (2000, 249) writes, "it is ironic indeed that jewellery workers from West Bengal have migrated to the Noida EPZ, as they have no avenues of employment in Falta." Even though Falta is located close to the Calcutta metro, it has problems with infrastructure. As Aggarwal (2004, 26) describes, "Falta is another zone where infrastructure needs tremendous improvement due to poor communication facilities (even ISD is not available), overflowing drains and poor transport facilities."

---

combinations of assumptions examined, the [Bataan] zone generates negative net present value. Equivalently, it generates an internal rate of return below the estimated real discount rate." Similarly, as Wu (1991, 53-55) explains, "Close to two decades after opening, Bataan is languishing. ... The Bataan EPZ in Philippines has poor transportation links. Its potential fine harbour is under-developed due to the high cost involved and the lack of sufficient throughput to justify its development."

Indeed, early Indian EPZs suffered from basic infrastructural problems that prevented them from growing rapidly. For example, ten years after it was developed, Kandla, which still has empty warehouses and office space, 4 of its 15 units were not functional because of infrastructural inadequacies.[26] First, Kandla did not have a metre gauge railway line until 1969 which was not converted to broad gauge until after. This meant that even after 1969 it was extremely inefficient to transport materials in and goods out of Kandla because, unlike broad gauge trains, metre gauge trains could not carry double stacked shipping containers nor could it be easily linked to the broad gauge tracks that connected much of the subcontinent. As recently as 2006,[27] officials were planning to improve Kandla connectivity to other major cities though widening existing two lane roads and broad gauging the railway network. Second, the nearest big stock exchange is 365 Kms away in Ahmedabad. As Levine and Zervos (1998) show, stock market liquidity and banking development predict economic growth. Not only did Kandla suffer from a lack of basic infrastructural facilities such as transportation, it did not have a developed credit market either which is a consequence of a well developed commercial zone.

Even if government officials could overcome the knowledge problems inherent in choosing the right locations for zones, it would still have to figure out which industries to promote within zones. Clusters succeed not only because they are located in areas with

[26] Kandla had 96 units out of a maximum of 250 in a 700 acre area in 2002. As of July 2008 it had 169 units of which 60 were established before 2000. See Kundra (2000, 239), and http://sezindia.nic.in.

[27] http://www.projectsmonitor.com/detailnews.asp?newsid=10957

ready access to low cost transportation, a pool of potential employees, and the appropriate infrastructure but also because the industries that evolve within the cluster are complementary.

3.3.2 "Which" industries to promote within established zones

The second important decision that a government official must make when creating a zone is to identify the industries or sectors to promote in EPZs. Some regions have a natural advantage for certain categories of industries.

Even though EPZ regulators may have access to geographical information, they are unlikely to know what allied industries will help the development of other sectors. Consider, for example Lancashire, England at the turn of the 20th century. If it did not have steel, milling, cotton textile and engineering firms then it is unlikely that the steam engine would have been manufactured in that region (Timmins 1998, 259-261). However, there was no linear path to the development of these different industries. They emerged as a consequence of serendipitous events that were not planned by a central agency. Because government officials decide ex ante which industries to allow into EPZs/SEZs, if they are to be successful, they must anticipate which linkages and subsidiary industries will be important in the future.

As Bell and Albu (1999) suggest, intra-firm and intra-cluster co-ordination activities are a

predominant source of knowledge within clusters and much of this knowledge is tacit. Similarly, Porter (1985, 175) writes that "the boundary of an industry is often imprecise, because distinctions between an industry's product and substitutes, incumbents and potential entrants, and incumbents and suppliers or buyers are often arbitrary." Similarly, as Enright (1995, 139) writes, "there is no single natural progression through which industries develop. While portions of the Swiss watch industry eventually consolidated into a vertically integrated managerial firm, the Prato textile industry and the Hollywood picture industry did just the opposite." If these distinctions are arbitrary, then there can be no clear knowledge of which industries and allied sectors should be developed in a zone and how to divide the boundaries of the industries allowed in zones.

For instance, garments and textile industries in India use an extensive network of sub contractors in the local market. While the government approved of the textile and garment industries to be started within these zones, the procedures for sub-contracting were over-looked. Sub-contracting involves removing half-finished items out of the zone for processing and back into the zone after processing. The rules to remove half-finished goods out of the zone were practically non-existent, and in addition, no efforts were made to develop these sub-contacted sectors within the zones. Moreover as Kundra (2000, 130) says "Sub-contracting is an operational requirement for specialized work, but permission procedures have been complex and formalities difficult to comply with. [Exporters] are not keen on setting up EPZs/EOUs unless they are heavily dependent on imported raw materials and capital goods."

Another example that illustrates this lack of knowledge with regard to allied industries has to do with the rules for disposal of the waste, scrap, rejects, etc., that the export sector generates. Units were required to pay high customs duty on disposal of these wastes or rejected items in the Domestic Tariff Area (Aggarwal 2005, 29; Aggrawal and Aggarwal 1994, 393). This both artificially increased the cost of doing business within the zones and reduced the likelihood that spill-over industries employing the waste materials of the primary industries would develop either in or around the zones. If government had knowledge of the underlying operations of these sectors, however, it would have developed the allied sectors for waste handling within the zone itself.

Even if the specific issues surrounding sub-contracting and waste materials could have been anticipated, it is simply unlikely that zone administrators will be able to identify all the existing and potential linkages that might prove important to the industries within the zone. Moreover, it is not sufficient to identify the right industries and complementary activities to promote in a zone. If zones are to be successful zone administrators also need to develop a metric by which they can assess the potential for success or failure of the units hoping to gain entry into the zones. In other words, since zone administrators must explicitly approve every unit that can operate within a zone and is tasked with turning down proposed units that they do not believe will generate the requisite exports and employment, zone administrators need a mechanism to assess the potential performance of proposed zone units. It is unlikely, however, that they will have access to the

knowledge that they would need to accurately pick winners and losers out of the pool of potential zone units.

3.3.3 "Which" proposed units are likely to be successful and so should be allowed into the zones.

Since government officials decide which firms to allow to operate within EPZs/SEZs and which to deny entry, if they are to be successful they must accurately pick winners and losers out of the pool of potential applicants. It is, however, unclear what criteria they should apply in deciding between applicants and it is also unclear what strategies they should employ to decide between applicants whatever criteria they adopt. "Promised net exports" is the criteria most often adopted but these pledges have proven to be grossly exaggerated. In the market, investors chose between various enterprises based on their belief that the selected ventures are likely to be successful. If they are accurate then they reap a reward. If they are inaccurate then they pay a penalty. As such, investors in the market have an incentive to ensure that the projections made in the various proposals they are considering are accurate. Moreover, if they repeatedly make large errors about who to invest with, investors lose some of their capacity to invest in the future. Similarly, if they consistently make the right choices they gain more access to funds to invest with. Government officials lack a mechanism that rewards or disciplines them based on the success of their choices and so lack both a mechanism for learning from their past errors and the immediate and longer term incentives to make the correct decisions about the

firms to allow within the unit. In fact, they face short term political rewards for selecting firms who promise high levels of exports and employment regardless of their capacity to deliver on their promise.

Under EPZs, units were selected by the respective zone board chaired by the Additional secretary of the Ministry of Commerce, and representatives from relevant ministries such as customs, labour, etc.[28] In the new SEZs, the Board of Approvals (BoA) selects units.[29] These eight or nine individuals meet to evaluate proposed units on the basis of several criteria – such as potential to generate employment, and exports – and to decide if a proposed unit should be allowed to operate within the SEZ.[30] This system, however, is fraught with problems. For example, as Kumar (1989, 21) states, although there was a broad list of six criteria, for the approval process, "in actual practice none of the above conditions is taken as necessary or binding for selecting a unit. An 'overall judgement' is made on the project application keeping in view these conditions and 'others' ... to an outside observer, the criteria may appear arbitrary and weakly related to established objectives."

[28] The approval boards for EPZs evolved in several stages with some differences in the structure between the different zones (see Kumar 1989, 57)

[29] The BoA is made up of the Development Commissioner, the Director or Deputy Secretary of the Ministry of Commerce and Industry, the Zone Director General of Foreign Trade, the Zone Customs Commissioner, the Zone Income Tax Commissioner, the Zone Director of Banking from the Ministry of Finance, two representatives from the State Government (usually state Ministry of Commerce and Industry officials) and a representative from the developer or unit office as a special invitee.

[30] The two important reasons for rejection are non availability of required infrastructure and low foreign exchange earning potential (Rule 18, sub rule (2) of the SEZ rules)

Even if the criteria were strictly applied, the export earning criteria used to evaluate units is based solely on estimates of export projections generated by the units.[31] However, these numbers are at best, guesses, and since approval is dependent on high export projections, they tend to be exaggerated. Entrepreneurs know that their chances of approval are higher if their export earning projections are higher. As Kundra (2000, 49) explains, proposals were based on "Threshold Value Addition (VA) norms ... for groups of industries, and proposals envisaging lower value addition are liable to be rejected." Therefore, they have a compelling incentive to exaggerate these figures and improve their likelihood of approval. Therefore, it is not surprising that close to 78% of EPZ units failed to meet export obligations and close to 45% of the new SEZ units did not meet even 25% of their export projections.[32]

Moreover, even if the government knew these units were exaggerating their export claims, there is no effective mechanism nor is there an incentive to verify the estimates made by these firms. First, the Board of Approvals is not privy to the same knowledge that firms have about their export earning potential, especially since the Board of Approvals (BoA) is primarily comprised of top bureaucrats far removed from the everyday workings of the industries. Second, since one of the objectives of these zones is to promote exports, the BoA has little incentive to reject a unit that projects higher exports. Third, the BoA can reject applications based on low foreign exchange

[31] Once approved, units have to meet these estimated export targets to avoid penalties and continue operations.

[32] Calculated with data from http://sezindia.nic.in projected exports and actual exports for 2007-08

projections (Sub rule 2, Rule 18 of SEZ Rules). Fourth, the higher the numbers the units projects for exports and foreign exchange earners, the better its application will look to the officials making the decision because the better their efforts to promote exports will look to their superiors in government and the general public.

Consider, for instance, the Vishakapatnam SEZ. It is 0.56 sq.miles located in the port city of Vishakapatnam along on the Eastern coast of the country. It was one of the last EPZs to be set up in the mid 1990s and became operational in 1998. By 2000, 95% of exports from the zone were from two major companies.[33] In 2005, the then Assistant Development Commissioner of the zone projected exports to be at Rs.40-Rs.50 billion by 2006-2007.[34] However, exports in 2006-2007 were a mere Rs.7.49 billion.[35]

Because government officials are unlikely to possess the requisite knowledge to decide winners and losers ex ante, they must and do rely on more readily available criteria to make decisions (i.e. the size of the estimates, the political connections of the applicant, etc.). Thus, it is not surprising that EPZ units performed badly on average relative to their predictions. Additionally, the unseen costs associated with this way of deciding between applicants – i.e. the applicants who would have been successful but were rejected because their estimates were too low and the potential applicants who did not

[33] http://www.thehindubusinessline.com/2000/04/03/stories/140332c4.htm
[34] http://www.business-standard.com/india/storypage.php?autono=217807
[35] Calculated from http://sezindia.nic.in/HTMLS/visiblegains.sez.html. Last accessed 1 Nov 2009

apply because they did not want to engage in the "projection exaggeration game" – is incalculable but potentially large.[36]

Zone units in Bombay and Madras have performed considerably better than their counterparts in other zones. If officials in these zones were able to overcome the knowledge problems that we discuss above, then our thesis that government officials are not well positioned to overcome these problems would be called into question. However, with these successful regions, historical factors seem to have contributed to their emergence as successful commercial clusters even before the idea of enclave lead development became popular in India. As such, it was not the case that Indian EPZ/SEZ rules made these clusters possible but that they merely (in these cases) identified already successful zones.

3.4 How then do you explain the success of some zones?

Two of the more successful zones in India are Bombay and Madras. Although Bombay and Madras EPZs have performed better than the other EPZs in the country and the central government expenditure in these regions was approximately Rs.864.4 million ($20.2 million $1= Rs.43), together they are responsible for less than 5% of total Indian

[36] Panagariya (2008, 272) estimates the rejection rate at around 50% as of 2006.

exports (Kundra 2000, 67). As of March 2008, 333 and 106 units were in production in Bombay and Madras, respectively.[37]

The relative success of Madras and Bombay EPZs highlight that locational factors for new clusters are best left to forces outside of the government development planning apparatus. Recall that ideas of balanced regional and backward area development took precedence over arguments regarding the suitability of a particular region when the Kandla EPZ was established in 1964. Kandla's infrastructural inadequacies and unsuitability are well documented (see above as well as Kundra 2000). On the other hand, manufacturing clusters existed in India even before the government established EPZs.[38] And, when zone administrators simply located zones where there were already successful clusters the infrastructural problems did not exist. It is instructive that it took Kandla EPZ over four decades to reach capacity whereas the Bombay EPZ ran out of space within the first five years and a special EOU policy had to be implemented to meet the demand. Similarly, the Noida EPZ has out-performed Cochin and Falta EPZs due to its proximity to the nation's capital and an existing industrial cluster (Seshadri 2010a, Shah 2008, Aggarwal, 2007). The latter two, however, are in states that have militant labour unions opposed to business and industrial activities (Kundra 2000).

[37] http://sezindia.nic.in. It is not clear what happens to the closed units, since unit level data is unavailable. A survey of individual units may reveal their motivations and is the topic for future research.

[38] Surat, Bhiwandi, Salem-Erode had Textiles; Agra, Bhiwandi, Madras Leather industry. Some of these clusters such as Agra are 100 years or older.

One clue to the better performance of Bombay and Madras is, thus, their economic and commercial situation before EPZs. The Bombay Stock Exchange was established in 1875. It was the first Stock Exchange in the sub-continent and one of the first in Asia. As early as 1956**, a** Suburban Train Overcrowding Enquiry Commission was documenting inward migration to Bombay and the overcrowding of the city. Commercial expansion and population migration (leading to an over-crowded city and expansion of the metro area boundary) can serve as proxies to the economic development of a region. By almost any measure then, Bombay was a booming city even before the EPZ was setup. It is not, therefore, surprising that an EPZ set up in Bombay became successful. Similarly, Madras had about 1,267 companies registered by 1937 of which 22.42% were banking and insurance and 39.38% were manufacturing and trade (Manikumar 2003, 78). By the early 20th century, Madras was so well integrated to world markets that the effect of the Great Depression was felt here as early as November 1929 through a fall in export earnings (Manikumar 2003, 18). Madras was a developed commercial centre before the EPZ and so its success cannot be attributed to the EPZ regime.

It seems quite clear then that the successful EPZs are the ones that developed organically prior to the existence of an EPZ policy in India. And, that the successful EPZs would likely have remained successful even if no EPZ policy emerged. Zone administrators seem unable to create successful EPZs where no successful commercial centre previously existed. Similarly, successful clusters in India do not appear to need the existing EPZ/SEZ structures in order to be successful. The most successful clusters in India (both

zones and otherwise) are located in urban areas that have diverse commercial activities which suggests that urban agglomeration tendencies override government locational choices.

Consider, for instance, Bangalore which is popularly known as the Silicon Valley of India. Basant (2008), Basant and Chandra (2007), Heitzman (2004), Balasubramanyam and Balasubramanyam (2000), and Heeks (1996), argue that Bangalore had a unique set of circumstances that helped to develop a technology knowledge base in the city which in turn helped with its emergence as an IT cluster. Bangalore was a big city even during the British Raj. In 1906, Bangalore was the first city in India to have electricity. The educational system in Bangalore which is commonly attributed to the government was actually a by-product of the British Empire (i.e. the British set up a cantonment in Bangalore) and philanthropists (e.g. M.Vishveshwarayya) who established schools and colleges even prior to independence. The Indian Institute of Science, for instance was started in 1909 by a private entrepreneur Jamsetjii Tata. In the latter half 20th century, MICO and Texas Instruments set up research and development operations in Bangalore which indicates that the city had some natural advantages for industrial agglomeration.

Other successful clusters, not developed by the government or centrally planned, exist in India. For example, the Surat textile cluster has been a successful cluster since the late 19th century (Menning 1997). The Ambur leather industry (near Madras) is over a century old and was developed by the local Muslims who could work with leather unlike caste

Hindus who had religious restrictions on handling animal hide. Ludhiana emerged as a textile cluster in the mid 19th century and managed to remain successful despite the loss of its major export partner, Russia, in the early 90s (Tewari 1999).

EPZs/SEZs are, thus, neither a necessary nor sufficient condition for the development of successful export oriented industrial clusters. The successful EPZs/SEZs in India were successful prior to and independent of the existence of EPZs/SEZs and there are numerous successful industrial clusters in India that are not EPZs/SEZs. The knowledge problems highlighted above thus seem endemic.

3. 5 Conclusion

The romance of Indian policies with big plans is not new. The *Bombay Plan* (the precursor to the five-year plans) dates back to pre-independence India. The Bombay Plan was a detailed document that articulated a central plan for resource use in the country. Despite liberalization of the economy in the early 1990s, subsequent governments have not abandoned the five-year plans, and every quinquennium they present a new five-year plan outlaying the available resources and their use in different sectors.[39]

[39] Liberalization efforts in India have not been as effective as hoped. As Virmani (2005, 28) concludes, the failure of the reform policies lead to non sustainability of higher growth rates. Moreover, as Williamson and Zagha (2002, 28) write, "India could (and can) move faster to put its fiscal house in order, to rid itself of remaining small industry reservations, to liberalize the labor market, to fix the power sector, and to privatize its state-owned industries, without allowing capital account convertibility or thwarting democratic debate. Its failure to move faster in these areas slows growth and unnecessarily perpetuates poverty."

The EPZ policy from 1965 and SEZ Act of 2005 just one more in series of efforts to articulate a centrally developed plan for Indian development. However, the experience with Indian trade zones under whatever moniker (SEZ, EPZ, EOU) is everything but success. Official statistics may point to the potential job creation and export growth but the promised successes have not materialized. Moreover, there is no accounting for the unseen opportunity costs of these zones, which if included would arguably make their failures more glaring.

Indian export promotion policies did not fail because of bad design or implementation. Indian export promotion policies failed because of the knowledge problems associated with a government planning agency determining where to locate a zone, what industries to promote within a zone and which firms to allow in the zone. They failed because the Indian government pursued a top down export promotion strategy rather than a bottom up strategy.

The consequences of ignoring the knowledge problem continue to add to the wastage of resources that can be better spent elsewhere. For example, zone bureaucrats spend considerable time and effort in attempting to select the "best" developers and entrepreneurs for their zones. Moreover, zone developers expend considerable resources developing infrastructure to promote the development of regions that might not be the best place to produce for industries that might be the best industries to promote in that region.

Due to the knowledge problem, any policy that is geared towards developing a region is bound to fail (or to be unnecessary). Regions and clusters develop due to several factors in the local economy which cannot be engineered by a central planner. Thus efforts to engineer clusters will continue to be frustrated as is demonstrated by recent efforts in India. Although India's new zone policy intended to move business operations out of existing big cities, for instance, most of the zone-based business successes have been within existing cities. This is a clear indicator that the clusters that emerged spontaneously offer powerful incentives to entrepreneurs rather than newly government created areas.

Consequently, the knowledge problem inherent in these zones which prevents government officials from identifying the best locations and the best industries for these zones, leads to opportunities being created for rent seeking (Seshadri, 2010b). Both the entrepreneurs and officials have incentives to generate and capture rents in these zones.

Arguably, a better policy initiative would be to ease regulatory burdens and enable better entrepreneurial climate throughout these countries by removing the procedural bottlenecks to starting a business enterprise. In addition, encouraging existing clusters rather than trying to develop new clusters would likely offer more rewards than the current zone based development strategy. Similarly, removing spatial constraints on new ventures would also allow entrepreneurs to use the economy of existing clusters and developed regions and thereby be better able to innovate and develop the economy.

4 Special Economic Zones in India: Landed Before Take-off[40]

4.1 Introduction

Export Processing Zones (EPZs) and Special Economic Zones (SEZs) are used as second best options to promote exports, in particular regions of developing countries, without having to undertake the difficult challenge of broader structural adjustment (Mukhopadhyay, 2001; Wang, 2009:6). In several transitioning economies, a sudden structural change that brings relative prices back to market levels after several years of administered pricing may not be very popular. Under such conditions, well-designed free zones that offer production and export incentives may be effectively used towards higher economic growth. One of the more successful examples of this strategy is from China, where Special Economic Zones pioneered broader market reforms within the economy and have aided fast development of the country through manufacturing exports (Kundra, 2000; Aggarwal 2007). India is not new to enclave based development policies. Since independence in 1947, central and state governments have developed industrial areas in almost every state in the country. [I]

[40] This essay has been conditionally accepted at *Urban Studies*. I am grateful to Dr. Robin Grier, and two anonymous referees for comments and suggestions on earlier drafts.

Export promotion, in India, became an explicit policy initiative in 1964 when the first Export Processing Zone was set up in Kandla. Subsequently the Central Government established five more zones in other port cities in the country by the late 1980s, and a seventh zone in 1994. However, these zones failed to perform as expected and in 2005 the SEZ Act was legislated. The seven government EPZs became government SEZs, several regulations were relaxed and private SEZ development was encouraged.

The objective of the new SEZ policy in India is to promote the development of city-sized self-reliant areas with privately developed infrastructure, and amenities for residential areas, schools, parks and recreation facilities. These zones are intended to move economic activity to regions way from established urban areas, and generate investment, employment and economic activity. However, to realize these objectives developers need to be able to purchase the required land to develop infrastructure and amenities. Thus, one of the fundamental requirements for the implementation of this policy is land procurement.

The Indian SEZ policy, encouraging private development of big industrial towns, is a significant departure from the typical Export Zone model, where governments usually develop the zone, and invite entrepreneurs to start firms in the zone (eg. Bataan in Philippines, Batam in Indonesia, Masan in South Korea). For example in Shenzhen, the government owned the land, reallocated it from a fishing community and developed the required infrastructure (Phillips and Yeh 1989; Wu 1999).

The Indian case is significantly different from the Chinese case because, not only is there private ownership of land in India, but the government is also an important player in Indian land markets. In India, zonal authorities conduct land valuations and have strict rules against land-use conversions. In addition, because India is a democratic country, issues of dislocation and rehabilitation are important within the Constitutional context. It is because of these reasons that investigating land procurement for SEZs is important even before we analyse other objectives (i.e. increase investment, employment etc).

Although scholars of Indian SEZs address the political economy of land transfers, and the poor performance of existing zones, there is a lacuna in the literature with the following counterfactual analysis. If we assume that land displacement issues and concerns with agricultural land conversion have acceptable and implemented solutions, and focus only on private land acquisition to build new SEZs, is it possible for a private entrepreneur with adequate capital to legally purchase the minimum contiguous land required to build such an SEZ? If not, how have entrepreneurs responded to the incentives offered by the government for developing big SEZs? This essay bridges this gap in the literature with an analysis of the above counterfactual. The short answer is that existing land markets in India make it practically impossible for these zones and corresponding infrastructure to be developed as expected.

Therefore, the primary focus of this research project is urban land markets in India and how they interact with the SEZ policy particularly through the land acquisition process. This paper explains how existing land laws hinder the development of big private SEZ cities in India. Since SEZ policy in India is still evolving and less than six years old, most of the data used are from secondary sources. Nevertheless, the authors have attempted to triangulate anecdotal evidence with data from government departments. The rest of the paper is structured as follows: Section 4.2 develops an outline of zone policies around the world, explores the motivation for this essay, and provides a synopsis of the performance of Indian zones, Section 4.3 argues that big Indian SEZs similar to Chinese SEZs are not likely to emerge due to land acquisition issues, Section 4.4 highlights political economy issues surrounding land acquisition and its impact on private infrastructure development and Section 4.5 concludes and offers policy suggestions.

4.2 History and Performance of Zones in India and Elsewhere

Special zones (also called Free Trade Zones, Special Economic Zones and Enterprise Zones) to promote employment, investment and exports, exist in both developing and developed countries. While specific regulations, incentives and infrastructure differ between countries, most offer some form of investment incentives in the form of lower taxes or tax holidays. For instance, Zones in Dubai, offer tax breaks up to thirty years (Hoekman 2000, 257), while in China

they last a maximum of three years (Wong and Chu 1985). Similarly, foreign investors can own property in the Mexican maquiladoras, while in China they can only lease use-rights to the property.

The motivations and location choices of these zones also vary between countries. Some zones such as the Mexican maquiladoras and Shenzhen in China utilized the proximity to trading partners (U.S, and Hong Kong respectively) to develop the region. Others such as Kandla in India and Bataan in Phillippines were established in remote areas in pursuit of regional development goals. However, irrespective of the motivation for the development of zones, they have had mixed results with respect to increasing exports, employment and income.

Among countries that have used EPZ's, Mauritius is arguably the most successful case. Since 1971 when the EPZ law was passed in Mauritius, EPZ units have successfully enabled export and employment generation in addition to building strong linkages with the domestic economy (Madani 1999, 75). The Senegalese EPZ's, on the other hand, despite enjoying tax breaks and unrestrained profit repatriation did not perform well (Madani 1999, 76). Similarly, the levels of government investment and returns have mixed results. Both Masan EPZ in Korea and Bataan in Philippines were developed with a lot of government investment in infrastructure. Masan was built on reclaimed land and Bataan in a remote mountainous region. While Masan helped Korea

increase its export share (Warr 1984), offices from Bataan were finally moved to Manila, because of under-utilization of zone services Warr (1987).

Special Economic Zones in China were developed as big area enclaves (as big as modern cities or bigger) and function autonomously. This freedom to implement zone level policies has been cited as one of the most important reasons for the success of the Chinese zones (Kundra 2000, 150; Yeung, Lee and Lee 2009, 226). However, Rabbani (1980) and Banerjee-Guha (2008) have questioned the economic and social costs of these zones, and argued that zones have ignored increasing income inequalities, exploitation of labor and environmental degradation.

Regardless of how we measure the success or failure of these zones, we cannot deny the role played by the Chinese government in urban development in China. Since the mid 1980s, Chinese policy makers have increasingly adopted institutional changes within their ambiguous property laws to improve land access for urban housing projects especially in zones (World Bank 1993; Wu 1996; Wang and Murie 1999; S. M. Li 2000; Huang 2003). In Shenzhen, foreign and private investors can lease land-use rights from the government. (Wu 1999; Wong and Chu 1985). However, there are no private land markets in China, and land-use rights can be traded only in specific cases laid out by the land policy. (Lin and Ho 2005)

The Chinese case of complete state ownership of land is an outlier. In most countries, there is at least some private ownership of land. Most commonly, many Asian countries have ill-defined land titling that leads to manipulation of land-use policy by powerful landed interest groups, (Dowell and Leaf, 1991). For example, in Manila, such groups and local authorities coercively expedited the conversion of fertile agricultural lands for commercial purposes (Kelly 2003). Similarly, Guyot (1971) highlights the political process through which land is allocated in Malaysia. Although her analysis is with the development of agricultural land, it is equally relevant in an urban setting.

The literature on land politics in India is vast (Rao 1998, Nair 1996, DN 1989). While Fernandes (1998) and Sharma (2009) argue that the ambiguity in the public use clause of the land-laws have lead to misuse of laws to allocate property to private developers, Radhakrishnan (1990) and Sampat (2008) point out that land reforms can be successful only in areas where the potential beneficiaries are organized and politicized, and even in such cases eminent domain clauses trump local interest. Mukul (1996) investigates the political, bureaucratic and landowner nexus in New Delhi and argues that local politicians, goons and the Delhi Development Authority were instrumental in the forceful displacement of the legal residents of Ashok Nagar in New Delhi. Similarly, Patkar and Singh (2007) highlight the provisions in the Mumbai Affordable Housing policy draft that leaves enough leeway for rent seeking by bureaucrats and corporate builders. Likewise, Banerjee-Guha (2008) Sarma (2007), Bhaduri (2007), and Sampat (2008) provide detailed analyses of the specific

issues surrounding land dispossession, displacement and compensation due to the new SEZ policy in India.

Even though land assembly is a controversial issue, most scholars agree that existing export zones in India have not been as successful at promoting exports and job creation as might have been hoped (Aggarwal 2005; Gopalakrishnan 2007). While some central government zones, developed prior to the SEZ policy, like those in Bombay and Madras appear to be thriving, the rest are not doing very well (Kundra 2000, Aggarwal 2004). Moreover, the combined exports of all Indian EPZs and SEZs are (and have historically been) only a fraction of total Indian exports (Palit and Bhattacharjee 2008; Menon and Mitra 2009). Additionally, their employment creation ability has proven to be minimal (Aggarwal 2005, 2007).

Kumar (1989), Kundra (2000), Aggarwal (2004), Mukhopadhyay (2009) and Palit and Bhattacharjee (2008) have attributed the poor performance of EPZs in India to inadequate infrastructure, bureaucratic delays and procedural complexities. Since infrastructural bottlenecks have been one of the most cited reasons for the lack-lustre performance of zones developed prior to the SEZ policy, the emphasis on private infrastructure development in the new SEZ policy is not surprising. However, even though the new SEZ policy seeks to address the issues associated with the earlier zones, these new SEZs have not performed significantly better than

their predecessors. Goswami (2008) and Mukhopadhyay (2009, 60) argue that while costs are real the benefits of SEZs are unclear.

Nevertheless, the SEZ policy is not the only enclave policy in India. Since liberalization in the early 1990s Indian states and cities have developed enclaves predominantly for the IT sector. Many of these campuses are self-contained units with residential areas, and office spaces existing within the campuses. In most cases, the city or state governments developed these IT parks (For example Electronics City in Bangalore; HITEC city in Hyderabad), and some were developed through public-private partnership (Eg. ITPL, Bangalore). Audirac (2003), and Kennedy (2007) provide extensive narratives on the ITPL Campus in Bangalore and HITEC city in Hyderabad. Regardless of the entity developing the main campus, the local governments, predominantly provide ancillary facilities such as access roads, and public transportation from the main city center to these campuses. In some cases facilities such as access to water, sewage disposal and electricity are also through the local municipal infrastructure. Even though some IT campuses enjoy benefits similar to new SEZs, they cannot be converted to SEZs. According to the new SEZ policy, *only new developments* that have been approved by the Board of Approvals can be designated as SEZs.

The following section highlights the problems with land markets that have prevented the emergence of big city sized SEZs in India.

4.3 Zones and Land Markets in India

The SEZ policy was motivated by the big enclave based strategy followed by China in Shenzhen. According to the then Commerce and Industry Minister Mr.Murasoli Maran, (one of the early proponents of the new SEZ policy in India; Haridas, 2000): “After studying the success of these special economic zones, or SEZs, in China, I have decided to have similar SEZs in our country. The idea of SEZ is new to India, hence I modelled it on China.” "If China can do it, we wish to show that India too can do it and do it better," says Mukesh Ambani Chairman of Reliance Industries (Gupta 2006).

Such quotes are not uncommon, and the rhetoric of Indian SEZ policy and debate is filled with comparisons with the Chinese SEZ model. While policy makers have extolled the virtues of the Chinese model, critics have argued that the Chinese model is not applicable in India. Chinese SEZs took at least a decade to be developed, have fewer regulatory controls than Indian SEZs and employ fewer people than Indian SEZ ambitions (Mukhopadhyay, 2009). Moreover, the average Chinese SEZ is about 78.37 Sq.miles while the largest Indian SEZ is not more than 5 Sq.miles. Thus, a comparison of Indian SEZ policy with Chinese policy is inapplicable in terms of pure size.

However, the small size of Indian SEZs is not because of want of vacant land, but due to regulatory constraints imposed by land laws that prevent individuals and companies from procuring vast tracts of land. This section looks at the minimum contiguous land

requirements for various categories of SEZs and analyses why land requirements for big SEZs are not likely to be met. There are two stages to development and operation of an SEZ in India. In the first stage, the SEZ developer makes a proposal and if the Board of Approvals approves it, the developer is granted an in-principle approval if she does not own the required land, and a formal approval if she owns the land. An in-principle approval gives the developer two years to get the required land. Once the developer gets the Formal Approval, she can start developing the property. The second stage is when the SEZ is Notified by the government. Once it is notified, it can start operations. Table 12 shows the minimum land required for different categories of SEZs, the percentage of formal and in-principle approvals, and the percentage of notified SEZs in each category.

Table 12: SEZ land requirement and approval

Type of SEZ (Minimum land required in Sq.miles)	Percent of SEZs with Formal Approval	Number of SEZs with In-principle approval	Notified SEZs
Multi-product (3.8)	2.60%	38%	4%
Single Product (0.38)	6%	52%	32.40%
IT/ITES (0.038)	60%	7%	62%
Gems and Jewelry (0.038)	2.23%	2.60%	1.60%
Total	581	154	373

Source: Authors computations from data at http://sezindia.nic.in

Table 12 indicates that even though there is considerable interest among entrepreneurs towards developing multi-product zones (38% of in-principle approvals), only a small

fraction of them own the required land. It is not surprising that the IT/ITES sector has the majority of approved and functioning SEZs. This is because, one of the biggest problems SEZ developers face is land acquisition, and IT/ITES sectors require the least amount of contiguous land. Under existing land laws in India, companies cannot (independent of the government) procure contiguous land to develop a multi-product SEZ.

In countries where property is traded easily, land markets emerge and become well developed over time. In India, land markets are distorted due to regulations such as land ceilings, land-use clauses that effectively prevent usage of vacant land, ill-defined public-purpose clause that enables government to use eminent domain without the possibility of judicial recourse and problems of credible commitment. The following paragraphs analyze the two major problems affecting the purchase of land for big SEZ development: a) Urban Land Ceiling Act and b) Land-use laws.

4.3.1 Urban Land Ceiling Act

The Urban Land Ceiling Act (henceforth ULCA) was enacted in 1976. This act limited private ownership of urban land, and made government the only authorized agency to transact in land markets in urban areas (http://indiacode.nic.in). Although the effectiveness of the ULCA in redistributing urban land has been contested, it is clear that the act created an artificial shortage in the supply of land in urban areas and

increased the costs of land development (Sivam 2002; Srinivas 1991). ULCA effectively limits ownership of large tracts of land, by increasing the costs of trading in land markets. In addition, land prices in these areas are not representative of the true value of land because the price at which land is traded is predetermined and subsidized by the local government. According to Mitra (1990, 2723) "Underreporting of the land price data is a crucial feature of this source of information as the land sold by the agencies like municipal corporation, registrar of lands, urban development agencies, etc, always transact at reserved price or predetermined price which is subsidised."

However, the true price of land is higher due to reduced supply of land. This shortage and consequent higher real price is because of two effects. Firstly, since land price is controlled by the local government, and is lower than the true market value, it acts as an implicit price control.

Thus, the Price is set at P^c and we observe a shortage of S^cD^c (*see figure 1*). Secondly, the presence of ULCA shifts the supply of land in the market to the left, so that the true price of land is higher at P^a and the quantity transacted in the market is down to Q^a.

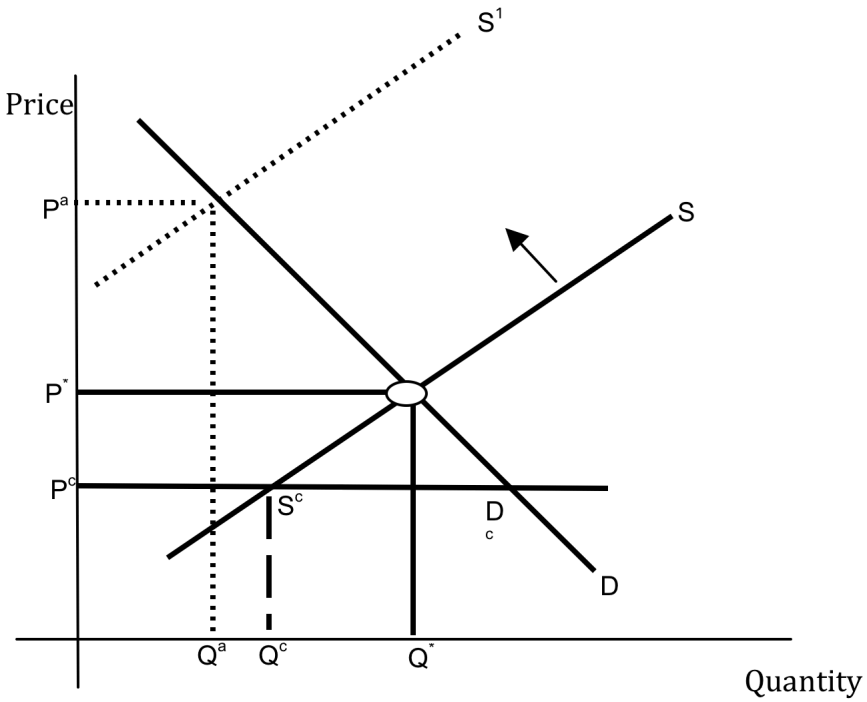

Figure 1

Since ULCA has effectively created a government monopoly in land transactions, it has also lead to extensive rent-seeking in land markets in India. Even though the Federal ULCA was repealed in 1998, land laws are state government issues, and land ceiling limit exists *de facto* in many states that are actively promoting SEZs (Andhra Pradesh, Maharashtra, Himachal Pradesh, Uttranchal and West Bengal have not revoked the law *de jure*). In addition, most Indian cities have unreasonable restrictions on built

area (Floor Space Index (FSI) or Floor Area Ratio), which limits the amount of built space within a given piece of land (Seetharam-Sridhar 2010; Bertaud 2002). An FSI of 1.2 would allow a maximum of 1200 Sq. meters of built area in a 1000 Sq. meters piece of plot. This artificially restricts the amount of space available to build even office blocks (much less factory buildings) within cities. The justification for low FSI in central business districts in India is to prevent congestion. However, this has only lead to more congestion, and high costs of real estate projects, because of the increase in true price of property due to artificial supply constraints.

In Mumbai, for example, the FSI in the city is 1.3. Some of the older buildings have a higher FSI because they were built before the law; however, if they were redeveloped, the developers would lose valuable floor space. Thus, old dilapidated buildings continue to exist without renovations right in the heart of the city (Bertaud 2004). Since building owners have little incentive to demolish existing property, and residential areas have restrictions on height of buildings, Mumbai has a proliferating slum population (48.8% of the city's population live in slums) that attempts to overcome the shortage in housing through shanties built on vacant land (acquired by the city through ULCA and undeveloped private land) (Thakur, 2010).

Thus, ULCA and FSI restrictions prevent big SEZs in urban areas. This seems to explain why close to 62% of all SEZs in India encompass an area equivalent to

one city block in Chicago (0.038 Sq.miles). Therefore, *de facto* land ceiling practices and unreasonable limits on built-up area hinder the development of multi-product SEZs in urban areas. Nevertheless, urban land shortage need not prevent entrepreneurs from developing multi-product SEZs in peri-urban areas. In fact, the few big SEZs that are being developed have emerged in peri-urban areas of big cities like Mumbai, Chennai and Jaipur. However, the small number of these SEZs begs the question of why there are not more of them. One reason is the land-use clause discussed below.

4.3.2 Land use clause and land use conversion

If acquiring land in urban areas is difficult because of the urban land ceiling act, then SEZ entrepreneurs can move to peri-urban areas. Since one of the objectives of the SEZs is to enable private development of infrastructure, moving away from urban areas would not only ease the infrastructural burden in cities, but also fulfill one of the SEZ objectives.

However, one of the primary problems with moving away from urban areas is the absence of established commercial networks that are essential for entrepreneurship. The location of industries is dependent on availability of local knowledge, skill base, functional credit markets, and supplier base among others. The fringes of urban areas offer most of the advantages of the urban area without

some of the regulatory problems associated with the urban area (especially the floor area restrictions).

Nevertheless, in India, the *change of land use* clause acts as a barrier to land acquisition in these areas. Under Indian land laws agricultural land cannot be procured for commercial purposes (http://indiacode.nic.in). In addition, agricultural land cannot be converted to non-agricultural uses easily. To convert such land, the purchaser needs to get a Non Agricultural use Clearance (NAC) from local civic authorities. Conversion of land from agricultural to commercial use changes the value of land. In most instances, it increases the value of land. Thus this is an activity prone to much corruption (Sivam 2002, 531). Morris and Pandey (2007, 2085) emphasize that: "the change in the value of land bestows large rents to the purchaser of the agricultural land at the cost of the agriculturalist who normally cannot look to getting a NAC for his land… It amounts to state mediated transfer to the buyer from what was legitimately the farmer's even when no taking is involved. It depresses the price of agricultural land from true values and creates a vast difference between post- and pre-change over prices."

This difference in valuation makes land markets highly attractive for speculators, and provides fewer incentives for the sellers. With well functioning land markets, land will be utilized in avenues that produce higher returns for the owner. However, land use conversion laws have lead to vast tracts of unutilized land in India. Between 1970-71 and 1999-2000 there was a 25% increase in the amount of fallow land, which

shows inefficiency in land usage. During the same time period growth in land area used for non-agricultural purposes increased by 36%. Thus, the higher monetary and regulatory costs of conversion crowds out potential small and medium developers, and enables large developers with sufficient political and bureaucratic connections to participate in land markets. However, even a large developer requires state patronage to procure land on her behalf using the public purpose clause, as discussed in Section IV.

Furthermore, compensation for these *takings,* is based on land valuation conducted by the state. In most countries with land markets, private parties decide the valuation of the land. However, in India, the government conducts land valuation based on existing land-use rather than future use, which depresses the value of the land further. For example, a plot that is currently used for agriculture would become more valuable when it is used for commercial activity. However, when land is traded from agricultural to commercial, valuation is based on its agricultural nature and thus it remains under valued, and since compensation is based on valuation, land owners no longer receive just compensation for the land. Therefore, property owners are unwilling to sell land to either the government or the corporate because of under-valuation.

In addition to undervaluation due to predetermined and subsidized prices, land under valuation is also a consequence of transaction taxes. For every land transaction, the buyer has to pay stamp duty, which is a percentage of the declared value of land (The stamp duty is in addition to sales and local taxes, land use charges, registration and other fees).

In some states, it is almost as high as 14%. The new SEZ rules have tried to eliminate this transaction cost by exempting SEZ developers from paying stamp duty. However, since land is a state government issue, central government policies cannot force states, especially since land registration, stamp duties are a significant source of revenue for state governments. (In 2003-04 Stamp duty and land revenue accounted for 11.5% of State revenue in Maharashtra. Similarly, Kerala's forecast for the same values in 2009-2010 was 7%) [IX]

SEZ developers have reacted to the land acquisition problems in two ways. Firstly, most new SEZs are in urban areas. Mukhopadhyay (2009, 52-53), notes this urban orientation "These twenty, mostly urban, districts account for 71 per cent of SEZs by number, 82 per cent by area, 88 per cent by number of direct jobs and 89 per cent of the indirect jobs generated." Therefore, less than 3% of new SEZs have sufficient space to develop independent townships. Secondly, the few big SEZs that exist have developed with active state patronage either in the form of joint ventures with state governments or with state enabled land acquisition. The following section highlights the political economy of land transactions in India especially with the new SEZ policy.

4.4 Political economy of land transactions

Since Independence central and state governments in India have procured land for public sector projects. Most big projects such as the Hirakud dam projects, procured vast tracts

of private land and displaced the locals (D'souza et.al 1998; Baboo 1991). Additionally, most states have self-contained industrial areas developed by the state government (CIDCO in Maharashtra, SIDCO and SIPCOT in Tamil Nadu). Land for these projects were acquired under *eminent domain* clauses. In addition, an amendment to the land acquisition act of 1894 in 1984 allowed the government to procure land on behalf of a private company using the *public purpose* clause (http://dolr.nic.in/hyperlink/acq.htm). Since then both central and state governments and their representatives have aided the private sector with land assembly for commercial projects.

With respect to land transactions and land policies, the general distrust of the private sector exists alongside a distrust of the public sector as well. This is because of two reasons. Firstly, most state and local governments have neither provided adequate compensation to displaced population, nor enhanced their economic opportunities through takings. Secondly, the use of *public purpose* clause to procure land for private companies has created rent-seeking opportunities for the private sector. Therefore, land transactions become highly political adding to the distrust of the private sector.

Even though land acquisitions have been commonplace since independence, more recently, acquisitions, especially through the public purpose clause, have generated protests from local farmers and civic groups. Most of these protests are due to the political nature of land purchases, under valuation and lack of credible commitment in providing compensation for displaced populations. For instance, the protests against the

Tata-Nano project in Singur (not an SEZ project) were motivated because the State government diverted fertile farmland for an industrial project. The state government helped the private sector acquire land for the project in 2006. However, the Tatas abandoned the project in 2008 because of the protests, and lack of support from the state government. Similarly, the POSCO-SEZ plan in Orissa stalled due to land-acquisition problems. The POSCO SEZ protestors even kidnapped foreign company officials to force the state government to stop SEZ development in the region (BL 2007, FE 2007). In each of the above cases, land owning villagers organized effective campaigns against land acquisition. These increasingly common protests against land-acquisition have made it extremely difficult for both the public sector and the private sector to assemble land for large-scale SEZ projects.

Since, the government controls land transactions, large area land assembly is not possible without state assistance. Therefore, most big SEZs in India have been developed either by the government or through a joint venture with the government. The first seven Export Processing Zones (now relabeled Special Economic Zones) were developed by the Central and State governments, and of the fifteen new SEZs, at least six are exclusively developed by state governments, while the others have had significant support from the respective state governments during the land acquisition stage.

State government support for land acquisition was explicit during the initial days of the new SEZ policy. However, since violence broke-out during a protest against land-

acquisition in Nandigram (near Calcutta) in 2007, both the central and the state governments have stopped using the *public purpose* clause to procure land for private corporations. This has effectively stalled several big SEZ projects because private companies are no longer able to purchase land without government help. The most famous of these is the Reliance project in the Raigad district of Maharashtra. The project was proposed in 2005, and in 2007 the State government declared acquisition using the *public purpose* clause. However, by 2009, acquisitions were stalled because of local farmers protest and the State government recently (February 2011) revoked the SEZ approval granted to the company (Hindu 2011, Jog 2009, Menon 2007).

Nevertheless, partly in response to land-acquisition protests, some state governments have drafted state SEZ Acts and State SEZ Policies that govern land assembly for SEZ development. It is not surprising that the SEZs developed with least local resistance are concentrated in four of the six states that proactively developed their own State SEZ Acts. These four states (Gujarat, Haryana, Tamil Nadu and Punjab) also have the most successful public private partnerships in developing SEZs. This indicates the importance of government commitment towards just implementation of the new SEZ policy. The following examples highlight the nature of state government involvement in the development of four of the fifteen multi-product SEZs. In each case, the project was either initiated much before the SEZ Policy was enacted in 2005, or the state government owned most of the required land prior to the SEZ Policy. In addition, in each case, the

State government and not the private sector company, completed the land-acquisition for the SEZ project.

The Navi Mumbai project in Bombay started as a State government venture through the City and Industrial Development Corporation of Maharashtra (CIDCO). CIDCO acquired land in early 2000 and developed some infrastructure (local roads, water and sewage, electricity, standard factory and office spaces). [XII] The SEZ is registered as a joint sector (public private partnership) SEZ. However, the state government developed most infrastructure even before the SEZ became a joint venture with the private developer. [XIII] In addition, the local government has granted up to 20% of the development costs of a metro rail project, and 100% of the development of a ferry service (BS, 2010).

Similarly, the Mundra Port SEZ is often quoted as a successful privately developed SEZ. However, the Adani group of companies started the Mundra port project in 1994 (Thakkar, 2008) much before the SEZ Policy, and it was incorporated as a joint sector company with the Gujarat State Government in 1998 when the group was unable to privately procure required land. The transfer of ownership and name to SEZ happened in 2006 after the SEZ policy was announced. [XIV] Thus, the required port infrastructure was being built as a joint venture between Gujarat State and the Adani group even before the SEZ policy. It is notable here that it has taken the port close to ten years to become operational.

The Mahindra World cities in Chennai and Jaipur come close to being successful private SEZ developments. However, both the Chennai and Jaipur complexes were developed as a public-private partnership with the help of the respective State Industrial Development Corporations. In Chennai, Mahindra started buying land in 1997 as part of a State government initiative (Vijayabaskar 2010). Since the process started even before the SEZ Policy, it can hardly be called a successful SEZ strategy. In the Jaipur case, the Rajasthan government already had 1000 acres of contiguous land, and helped the Mahindra group procure the other 2000 (Sarkar, 2008).

One trend that is apparent in these examples is the level of state government commitment to these projects, and early initiatives in land-acquisition that predate the SEZ Act of 2005. Moreover, in each case, the state orchestrated land acquisition took more than two years. The SEZ policy grants private developers two years from the date of in-principle approval to acquire the land. However, the above examples show that for a private developer acting independently, the two-year time-period is an unreasonable time frame within which to complete land-acquisition for the project.

In addition to enabling the private sector assemble land for SEZs, some State governments have assisted the private sector in developing self-contained industrial enclaves. State and local governments have also demonstrated successful partnerships with the private sector in various areas of local development policy (Jain, 2003, 356). For instance, the Karnataka Industrial Area Development Board developed the Electronics

City and assisted with the development of ITPL, both in per-urban areas of Bangalore city (Shaw and Satish, 2007). Similarly West Bengal, a state notorious for militant union protests, has developed IT parks (fully developed by the state government). Nevertheless, every case of enclave development, either for an SEZ or otherwise, requires active co-operation and involvement from the state government.

Commercial land transactions in India are highly political and cannot be solved without state intervention. In addition to being political, land dealings in India are also highly criminalized. For instance, Weinstein (2008) notes the proliferation of Organized Criminal Groups in Mumbai city alone towards land development activities. She traces the origins of these activities in the restrictions on housing constructions and regulations limiting the size of the city in 1950s and 1960s. Similarly, Siemiyaticki (2006, 289) says, "political opportunism has been a constant presence in the creation of the Delhi metro".

Thus between the administrative and legal issues of being able to procure land and the practical issue of land owners not selling land, it is impossible for entrepreneurs to even be able to procure the necessary land for a multi-product SEZ, which requires a minimum area of approximately 3.8 sq. miles. Therefore, it appears that acquiring the required land is one of the primary barriers to the successful development of large area SEZs.

However, if the large city SEZs cannot be developed, existing cities will bear the infrastructure burden of increased economic activity due to this policy. This defeats the

objectives of the new SEZ policy that aims to a) enable private development so that the government fiscal burden on infrastructure is removed and b) move economic activity away from big cities.

4.5 Conclusion

The government of India perceives SEZs as a compensatory mechanism to reverse decades of low growth. Even though export lead strategy has been tried in different forms, policy makers have failed to notice its limited success. Moreover, observed growth in exports (Aggarwal, 2005) has not been significant enough to warrant major policy incursions to reverse the trend. What is needed is a comprehensive overhaul of the regulatory mechanism that has stifled export and GDP growth in the last few decades.

In the light of miserable past performance of Indian Zones, and the fact that even elsewhere SEZ policies have ambiguous results, it is not clear what objective the new SEZ policy in India will fulfill. It is more likely that zone policies have endured and reincarnated under different names, as a means for rent-seeking where politicians, bureaucrats and entrepreneurs find it a convenient means to generate and extract rents. Moreover, the current enthusiasm for SEZs from real-estate developers in the country leads us to believe that zones serve a purpose other than the stated objectives of higher employment or export generation. The problem with Indian SEZs is not because of a distrust in the private sector. It is due to a distrust of both the private sector and public

sector. Therefore, in states that have gained the trust of the citizens (through credible commitment), both private and government SEZs exist and function. However, in regions where decades of government policy have failed to trigger economic growth, neither public nor private have successfully emerged.

While understanding the above issues, if we assume for argument's sake that a zone-based policy is pursued, the only way big city enclaves will emerge is through an overhaul of the land laws in India. This overhaul is imperative to general economic growth and not just zone-based growth. Therefore, land markets in India need to become more transparent, land use rights clearly defined not just for landowners, but also for tenants. Land titling needs to be clearly defined and strictly enforced. Urban Land Ceiling laws need to be removed from state and local government policies. In addition, unless central and state governments stop being major players in land markets, it is unlikely that private infrastructure development will occur on a large scale either within or outside SEZs in India.

5 Conclusion

Since the early days of independence in 1947, policy makers in India have not been short of ideas to jump start the economy and catapult it towards a high growth trajectory. In the early days the five-year plans focused on industrialization and import substitution as the primary means to higher growth. In the latter half of the 20th century, Indian policy makers enamoured with the export successes of South East Asian countries attempted to emulate the success through export zone policy in India as well.

The Balance of Payment crisis in 1991 prompted a regime of structural reforms and deregulation that had real effects not only in increasing growth but in reducing poverty rates and unemployment rates in the economy. Indian policy makers continued to follow export lead growth strategies and designed the new Special Economic Zone policy in 2005 modeled similar to such zones in China. These essays address the strand of literature that have discussed problems with zone policy in India based on infrastructure and bureaucratic deficiency. The objective was to offer insights into fundamental problems that exist due to the knowledge problem and inconsistent domestic policies that conflict with zone policies.

The first and the third essay analyse the economic impact of these zones and zone policies. While the first essay shows that past policy has not been effective in generating higher export growth, the third essay highlights the inconsistencies between the new SEZ policy and existing land laws that prevent the development of these zones in a way envisaged by the policy makers. Instead of being the paths to private development the new zone policies have encouraged rent seeking and more state government involvement in zone development. In addition, instead of moving economic activity away from congested cities (as intended by the policy), almost 70% of new zones are within big cities.

The knowledge problem itself is endemic in centrally planned economies, and is not concentrated only within zone policies. Despite decades of research on knowledge problem, developing countries such as India, continue to draft new policies without accounting for the knowledge problem. The second essay highlighted the knowledge problem in Indian export zones that prevent governments from choosing the right location for these zones, and choosing which businesses will operate in these zones. Even though the new SEZ policy in India aims at decentralized planning, decisions of location and business licenses continue to be made by a centrally appointed Board of members who lack the knowledge to make such economic decisions.

These essays highlight that development policy through export zones is not as simple as voiced by Indian policy makers. While there are benefits to lower regulations, there are

significant costs that arise due to the interaction of zone policies with other economic policies. In the past, export policies were in direct conflict with import substitution goals. While explicit import substitution goals no longer exist in India, the new SEZ policy is not likely to fulfill its objectives because other laws remain that contradict the SEZ laws.

Bibliography

Bibliography

Aggarwal, A. (2004), Export Processing Zones in India: Analysis of the export performance, Working paper 148, *ICRIER* New Delhi

Aggarwal, A. (2005), Performance of export processing zones: A comparative analysis of India, Sri Lanka and Bangladesh, Working Paper 155, *ICRIER* New Delhi

Aggarwal, A. (2006), Special Economic Zones: Revisiting the Policy debate, Economic and Political Weekly, Vol.41, No.43, 4533-4536

Aggarwal, A. (2007), Impact of Special Economic Zones on Employment, Poverty and Human Development, Working Paper 194 *ICRIER,* New Delhi

Agrawal, S.P, and Aggarwal J.C. (1994), *Information India: 1992-93: Global View*. New Delhi: Concept Publishing Company

Ahluwalia, M.S. (2000), India's economic Reforms in J.D.Sachs, A.Varshney, and N.Bajpai (Eds), India in the era of Economic Reforms, pp 26-80 New Delhi: Oxford University Press.

Baboo, B (1991), State Policies and People's Response: Lessons from Hirakud Dam, *Economic and Political Weekly*, 26(41), Oct. 12, 2373-2379

Balasubramanyam, V.N, and Balasubramanyam, A. (2000). The Software Cluster in Bangalore. In J.H. Dunning (Ed.) *Regions, Globalization and Knowledge-based economy* (pp. 349-63) Oxford: Oxford University Press

Banerjee-Guha, S. (2008), Space relations of capital and significance of new economic enclaves: SEZs in India, *Economic and Political Weekly*, 43(47).

Bardhan, P. (1984), *The Political Economy of Development in India*. Oxford: Basil Blackwell

Basant, R. (2008), Bangalore cluster, evolution growth and challenges. In Yusuf. S, Nabeshima K. and Yamashita, S. (Ed.) *Growing Industrial Clusters in Asia: Serendipity and Science* (pp. 147-193) Washington DC: The World Bank.

Basant R. and Chandra, P. (2007), Role of Educational and R&D Institutions in City Clusters: An Exploratory Study of Bangalore and Pune Regions in India, *World Development,* 35(6), 1037-1055

Basu, K. (1993). 'Structural Reform In India, 1991-93. Experience and Agenda', *Economic and Political Weekly*, 28(48): 2599 – 2605

Bell, M. and Albu. M. (1999). Knowledge Systems and technological Dynamism in Industrial Clusters in Developing Countries. *World Development,* 27(9), 1715-1734

Bertaud, A. (2002), Bangalore and Karnataka: note on land issues, Accessed March 2010 (http://alain-bertaud. com/AsianCities)

Bertaud, A. (2004), Mumbai FSI conundrum: the perfect storm: the four factors restricting the con- struction of new floor space in Mumbai, Accessed March 2010 (http://alain-bertaud.com/AB_Files/AB_Mumbai_FSI _conundrum.pdf)

Bhaduri, A. (2007), Development or Developmental Terrorism?, *Economic and Political Weekly*, 42(7).

Bhagwati, J. (1978), *Anatomy and Consequences of Exchange Control Regimes: Liberalization Attempts and Consequences*. Cambridge, MA: Ballinger.

Bhagwati, J. and T.N. Srinivasan. (1993), India's Economic Reforms, Paper prepared by the Ministry of Finance, Govt. of India

Bhagwati, J. and T.N. Srinivasan. (1999), 'Outward Orientation and Development: Are Revisionists right?' *festschrift* for Professor Anne Krueger. Available at http://www.columbia.edu/~jb38/Krueger.pdf accessed 1 November 2009

Brenner, T. (2004). *Local Industrial Clusters: Existence, Emergence and Evolution.* In Cantwell, J. (Ed.) *Studies in Global Competition Volume 20*. London: Routledge

Business Line Bureau (2008), Raigad votes against SEZ in referendum, The Hindu Business Line, September 23 2008 (http://www.thehindubusinessline.com/2008/09/23/stories/2008092352471000.htm)

Business Standard Reporter (2010), R-Infra wins Rs 11,000 cr Mumbai Metro-II project, Business Standard, January 21 2010 (http://www.business-standard.com/india/printpage.php?autono=83759&tp=on)

Chandra, R (2003), Reinvestigating Export led growth in India using a multivariate cointegration framework, *The Journal of Developing Areas,* 37(1): 73-86

Coyne, C. (2007), *After War: The Political Economy of Exporting Democracy.* Stanford, CA: Stanford University Press.

Dandekar, V.M. (1992), 'Forty Years after Independence in Bimal Jalan.' (ed) The Indian Economy: Problems and Prospects*,* New Delhi: Viking, Penguin India

Desrochers, P. (1998), A Geographical Perspective on Austrian Economics, *Quarterly Journal of Austrian Economics*, 1(2), 63-83

Desrochers, P. (2001), Geographical Proximity and the Transmission of Tacit Knowledge. *The Review of Austrian Economics,* 14 (1), 25-46

Desrochers, P and Sautet, F. (2004), Cluster-Based Economic Strategy, Facilitation Policy and the Market Process. *The Review of Austrian Economics,* 17(2-3), 233-245

Desrochers,P. and Sautet, F. (2008), Entrepreneurial Policy: The Case of Regional Specialization vs. Spontaneous Industrial Diversity. *Entrepreneurship Theory and Practice,* 32 (5), 813-832

DN (1989), Landlords as Extensions of the State, *Economic and Political Weekly*, 24(4) 179-183.

Dowell.D and Leaf.M (1991), The price of land for housing in Jakarta, *Urban Studies*, 28, 707-722

D'Souza.R, Mukhopadhyay, P and Kothari, A (1998), Re-Evaluating Multi-Purpose River Valley Projects: A Case Study of Hirakud, Ukai and IGNP, *Economic and Political Weekly*, 33(6), 297-302

Enright, M.J. (1995), Organization and coordination in Geographically concentrated industries. In Lamoreaux, N. R. and Raff, D. M.G. (Ed.) *Coordination and Information: Historical Perspectives on the Organization of Enterprise* (pp. 103-146). Chicago: University of Chicago Press

Engman, M.,Onodera.O., and Pinali, E. (2007), Export Processing Zones: Past And Future Role In Trade And Development. OECD Trade Policy Working Paper No. 53, OECD Trade Directorate

FIAS Report. (2008), *Special Economic Zones: Performance, Lessons Learned and Implications for Zone Development.* Washington DC: World Bank Group

Fernandes, W. (1998), Land Acquisition (Amendment) Bill, Rights of Project-Affected People Ignored, *Economic and Political Weekly*, 33(42/43), 2703-2706.

Glavan, B. (2008), Coordination Failures, Cluster Theory, and Entrepreneurship: A Critical View. *Quarterly Journal of Austrian Economics,* 11, 43–59

Gopalakrishnan, S. (2007), In the name of Growth: The Politics and Economics of India's Special Economic Zones, A study prepared for the Council for Social Development. New Delhi

Goswami, O (2008), Why Only a Few will make it, Seminar, 582 web edition. (http://www.india-seminar.com/2008/582/582_omkar_goswami.htm)

Greenbaum, R.T and Landers, J. (2009). Why are State Policy Makers Still Proponents of Enterprise Zones? What Explains their Action in the Face of the Preponderance of Research?. *International Regional Science Review,* 32(4), 466-479

Grossbard-Shechtman, S and Lemennicier, B (1999). Marriage Contracts and the Law-and-Economics of Marriage: An Austrian Perspective. *Journal of Socio-Economics,* 28, 665-690

Gruben,W.C. and Kiser, S.L.(2001), NAFTA and Maquiladoras: Is the Growth Connected? , Federal Reserve Bank of Dallas

Gupta, A. (2006), Battle Royale, Outlook Business, October 5 2006 (http://business.outlookindia.com/printarticle.aspx?101121)

Guyot, D (1971), The Politics of Land: Comparative Development in Two States of Malaysia, *Pacific Affairs*, 44(3), 368-389

Haridas, N. (2000), The Rediff, Business Interview/Murasoli Maran Rediff Business March 31 2000 (http://www.rediff.com/money/2000/mar/31maran.htm)

Hayek, F.A. (1948). *Individualism and Economic Order*. Chicago: University of Chicago Press

Hayek, F.A. (1960). *The Constitution of Liberty*. Chicago:University of Chicago Press

Haywood, Robert .C. 2000. 'Free Zones in the Modern world', available at http://www.wepza.org/article5.html accessed 1 November 2009

Haywood, Robert .C. 2004. 'Economic realities and free trade zones', available at http://www.wepza.org/article4.html, accessed 1 November 2009

Heeks, R. (1996). *India's Software Industry: State Policy, Liberalization and Industrial Development.* New Delhi: Sage Publishers

Heitzman, J. (2004). *Network City: Planning the Information Society in Bangalore.* New York: Oxford University Press.

Hoekman, B.M. (2000), Trade policy developments in the Middle East and North Africa, Volume 763 World Bank Publications

Hospers, G. (2003), Creative Cities: Breeding Places in the knowledge Economy, *Knowledge Technology and Policy*, 16(3), 143-162

Hospers, G J, Desrochers, P. and Sautet, F. (2009). The next Silicon Valley? On the relationship between geographical clustering and public policy. *International Entrepreneurship Management Journal,* 5, 285–299

Huang, Y. (2003), A room of one's own: Housing consumption and residential crowding in transitional urban China, *Environment and Planning A*, 35 (4): 591–614.

Jacobs, J. (1969), *The Economy of Cities*, Vintage Books. New York.

Jog, S. (2009), Mumbai SEZ puts Raigad project on hold, The Financial Express, June 9 2009 (http://www.financialexpress.com/printer/news/473253/)

Johnson, C. (1982), *MITI and the Japanese Miracle: the growth of industrial policy 1925-1975*. California: Stanford University Press.

Johri, D. and M. Miller. (2002), Devaluation of the Rupee: Tale of two years, 1966 & 1991, Working Paper No 28, New Delhi: Centre for Civil Society.

Jung, Woo S. and P. J. Marshall. (1985), Exports, growth and causality in developing Countries, *Journal of Development Economics*, 18: 1–12.

Kamath, S.J. (1992), Foreign Aid and India: Financing the Leviathan State, Policy Analysis no. 170, Cato Institute, Washington DC.

Kaushik, K.K, Arbenser, L. Nii A, and Klein,K.K. (2008), Export growth, export instability, investment and Economic growth in India: A time series analysis, *The Journal of Developing Areas*, 41(2): 155-170

Kelly P.F (2003), Urbanization and the Politics of Land in the Manila Region, *Annals of the American Academy of Political and Social Science*, Vol. 590, Rethinking Sustainable Development 170-187

Kibritcioglu, A. (1995), Free Zones in Turkey and Their Macroeconomic Effects. Paper presented at Concepts and Instruments of the Economic Development of Turkey: A Model for Palestine? Friedrich Naumann Foundation & Akdeniz University, Antalya,

October 27-29, 1995. http://129.3.20.41/eps/it/papers/0301/0301001.pdf. Accessed 1 June 2010

Krueger, A. O (1961), Export Prospects and Economic Growth: India-A Comment, *Economic Journal*, 71(282): 436-442

Kumar, R (1989), *India's Export Processing Zones*, Oxford University Press, New Delhi

Kundra, A (2000), *The performance of India's Export Zones*, Sage, New Delhi 2000

Lavoie, D. (1985), *National Economic Planning what is left?* Cambridge MA: Ballinger Publishing Company

Levine, R. and Zervos, S. (1998), Stock Markets, Banks, and Economic Growth, *American Economic Review,* 88(3), 537-58

Li, S. M, (2000), Housing consumption in urban China: A comparative study of Beijing and Guangzhou, *Environment and Planning A* 32, 1115–34.

Lin, G. C. S., and S. P. S. Ho. (2005), The State, Land System, and Land Development Processes in Contemporary China, *Annals of the Association of American Geographers*, 95(2), 411–436

MacLachlan, I. and Aguilar, A.G. (1998) Maquiladora Myths: Locational and Structural Change in Mexico's Export Manufacturing Industry. *Professional Geographer,* 50(3), 315-331

Madani, D. (1999), A Review of the Role and Impact of Export Processing Zones. Policy Research Working Paper No. 2238, Washington DC : World Bank

Mahadevan, R.(2009), The sustainability of export-led growth: The Singaporean Experience, *The Journal of Developing Areas*, 43(1), 233-247

Manikumar K.A. (2003). *A Colonial Economy in the Great Depression*, Madras (1929-1937). Orient Blackswan.

McCarty. A, Record, R. and Riedel, J. (2008). Competition and Cooperation: Vietnam. In Kuchiki.k, and Tsuji.M (Ed.) *Industrial clusters in Asia:Analyses of their competition and cooperation* Hampshire: Palgrave Macmillan

Menning, G. (1997), Ethnic Enterprise in the Decentralised Textile Industry of Surat, India. *Journal of Entrepreneurship,* 6(2), 141-64

Menon, M (2007), Farmers take to streets against SEZ in Raigad, The Hindu, 24 March 2007

Menon, S.N and Mitra S.K (2009), Special Economic Zones: The Rationale, Occassional Paper 16 in Special Economic Zones: Promise, Performance and Pending Issues, Centre for Policy Research, New Delhi.

Mises, L.V. (1944), *Bureaucracy*. New Haven:Yale University Press

Mitra, A. (1990), Land Price in Indian Cities Dimensions and Determinants of Change, *Economic and Political Weekly*, 25 (50), 2723-2729

Morris, S. and A.Pandey (2007), Toward a framework of Land Acquisition in India, *Economic and Political Weekly*, 42(22)

Moschos, D. (1989), Export expansion, growth and the level of economic development: An empirical analysis, *Journal of Development Economics*, 30(1), 93-102.

Mukhopadhyay, P (2001), Do *De Novo* SEZs make sense. Learning Lessons from China and India, Draft prepared by IDFC.

Mukhopadhyay, P (2009), The Promised Land of SEZs, Occasional Paper 17, in Special Economic Zones: Promise, Performance and Pending Issues, Centre for Policy Research, New Delhi.

Mukhopadhyay, P. and K. C. Pradhan. (2009), ' Location of SEZs And Policy Benefits: What Does The Data Say?' Occasional Paper 18, in Special Economic Zones: Promise, Performance and Pending Issues, Centre for Policy Research, New Delhi

Mukul (1996), Building from Above, Displacing from Below Land Development in Delhi, *Economic and Political Weekly*, 31(5), 259-261.

Nair, J (1998), Predatory Capitalism and Legalised Landgrab Karnataka Land Reforms, *Economic and Political Weekly*, 31(5), 251-252

Organ, I. (2006). Do Tax-free zones create employment? The case of Turkish Free Trade Zones. *South-East Europe Review for Labour and Social Affairs,* 4, 127-140

Palit, A. and Bhattacharjee. S. (2008), *Special Economic Zones in India: Myths and Realities,* Anthem Press, New Delhi

Panagariya, A. (2008), *India the Emerging Giant*. New Delhi: Oxford University Press

Patkar, M. and Singh, S. (2007), Urban Renewal: At who's cost?, *Economic and Political*

Weekly, 42(11)

Phillips, D.R. and Yeh A.G.O, (1989), Special Economic Zones, in D.S.G. Goodman (ed) China's Regional Development, Routledge, London

Porter, M. E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: The Free Press

Rabbani, F.A. (1980), *Economic and Social Impacts of Export Processing Zones in Asia*, Asian Productivity Organization, Tokyo.

Radhakrishnan, P (1990), Land Reforms: Rhetoric and Reality, Economic and Political Weekly, 25(47), 2617-2621

Rafferty, K. (2010), Failings of Indian infrastructure, The Japan Times: Friday, Sept. 3, 2010

Ram, R.(1985), Exports and economic growth: Some additional evidence, *Economic Development and Cultural Change*, 33 (2), 415-425.

Ram, R.(1987), Exports and economic growth in developing countries: Evidence from Time-Series and Cross-Section Data, *Economic Development and Cultural Change*, 36(1), 51-63.

Ranjan, R.K. (2006), Special Economic Zones: Are the Good for the Country?, Centre for Civil Society Working paper 156, New Delhi

Rao, J.P. (1998), Tribals' Struggle against Land Alienation, *Economic and Political Weekly*, 33(3), 81-83

Remedio, E. M. (1996). Export Processing Zones in the Philippines: A Review of Employment, Working Conditions and Labour Relations. Working paper 77, Geneva: International Labor Organization

Reppas P. A. and D. K. Christopoulos.(2005), The export-output growth nexus: Evidence from African and Asian countries, *Journal of Policy Modelling*, 27, 929–940

Sampat, P. (2008), Special Economic Zones in India, *Economic and Political Weekly*, 43(28)

Sarkar, R. (2008), Mahindra's cash in on early SEZ appeal, Business Standard, July 29, 2008.

Sarma, E.A.S (2007), Help the Rich hurt the Poor: Case of Special Economic Zones, *Economic and Political Weekly*, 42(21)

Seetharam- Sridhar, K. (2010), Impact of Land Use Regulations: Evidence from India's Cities, *Urban Studies*, February 8 2010, 1-29

Seshadri, T. (2010), From Special Economic Zones to Special Interest Zones, Mercatus Centre Working Paper

Sharan. V, and I.N. Mukherji. (2001), *India's External Sector Reforms*, New Delhi, Oxford University Press

Shah. S. (2008), Special Economic Zones in South Asia: A comparative analysis of Bangladesh, Sri Lanka and India. Harvard University

Shenoy, B.R. (1968). *Indian Economic Policy*. Bombay: Popular Prakashan

Siemiyaticki, M. (2006), Message in a Metro: Building Urban Rail Infrastructure and Image in Delhi, India, *International Journal of Urban and Regional Research*, 30(2), 277–292

Sivam, A. (2002), Constraints affecting the efficiency of the urban residential land market in developing countries: a case study of India, *Habitat International*, 26, 523-537

Sobel, R. and Leeson, P. (2007). The Use of Knowledge in Natural-Disaster relief management. *The Independent Review*, XI(3)

Srinivas, L. (1991), Land and Politics in India: Working of Urban Land Ceiling Act 1976, Economic and Political Weekly, 26(43), 2482-2484

Srinivasan, T.N.(1998), India's Export Performance: A Comparative Analysis in Ahluwalia I.J. and I.M.D. Little (eds) India's Economic Reforms and Development, New Delhi: Oxford University Press.

Tewari, M. (1999), Successful adjustment in Indian industry: The case of Ludhiana's woollen knitwear cluster. *World Development,* 27(9), 1651-1671

Thakkar, S. (2008), Mundra: The birth of a modern city, The Economic Times, November 8 2008 (http://economictimes.indiatimes.com/articleshow/3687487.cms?prtpage=1)

Thakur, P. (2010), Millionaires Get Slum Neighbors in Space-Challenged Mumbai, Bloomberg, August 12 2010. Available at (http://www.bloomberg.com/news/print/2010-

08-12/millionaires-get-neighborly-with-slum-dwellers-in-space-challenged-mumbai.html)

Timmins, G. (1998). *Made in Lancashire: A history of regional industrialization.* ND: Manchester University Press

Veeramani, C .(2007), Source's of India's Export Growth in Pre- and Post-Reform Periods*, Economic and Political Weekly*, 42(25), 2419-2427

Vijayabaskar, M (2010), Saving Agricultural Labour from Agriculture: SEZs and Politics of Silence in Tamil Nadu, *Economic and Political Weekly*, 45(6)

Virmani, A. (1989), 'Growth, Capital and Employment: Performance in Perspective', Economic Research Paper No.3, Planning Commission, New Delhi.

Virmani, A. (1997), India: Crisis, Reform and Growth, *Economic and Political Weekly*, 32(32): 2064-2067

Virmani, A. (2005). India's Economic growth history: Fluctuations, Trends, Break points and Phases, Occassional Paper, New Delhi: ICRIER

Wade, Robert .1990. Governing the market: Economic Theory and the role of the government in east Asian Industrialization. New Jersey: Princeton University Press.

Wang, J. (2009), The Economic Impact of Special Economic Zones: Evidence from Chinese Municipalities, working paper

Wang, Y. P., and A. Murie (1999), Commercial housing development in urban China, Urban Studies 36, 1475–94.

Warr, P.G. (1984), Korea's Masan Free Export Zone: Benefits And Costs, The Developing Economies, 22: 169–172.

Warr, P.G. (1987), Export Promotion via Industrial Enclaves: The Philippines' Bataan Export Processing Zone, Journal of Development Studies*,* 23(2), 220-241

Wei, Xei. 2000. 'Acquisition Of Technological Capability Through Special Economic Zones (SEZs): The Case Of Shenzhen SEZ', Industry and Innovation 7(2): 199–221,

Weinstein, L. (2008), Mumbai's Development Mafias: Globalization, Organized Crime and Land Development, International Journal of Urban and Regional Research, Vol. 32, No.1, 22–39

Wilder, M. G. and Rubin, B. M. (1996). Rhetoric versus Reality: A Review of Studies on

State Enterprise Zone Programs. *Journal of the American Planning Association,* 62(4), 473- 491

Williamson, J. and Zagha, R. (2002). From the Hindu rate of growth to the Hindu rate of reform. Working paper no. 144, Stanford: Center For Research On Economic Development And Policy Reform

Wong, K-Y, and Chu, D.K.Y (1984), Export Processing Zones and Special Economic Zones as Generators of Economic Development: The Asian Experience, Geografiska Annaler, Series B, Human Geography , Vol. 66, No. 1, 1-16

World Bank. (1993), China: Urban land management in an emerging market economy, The World Bank, Washington, D.C.

Wu., C.T. (1991). Policy Aspects of Export Processing Zones: Lessons from an international study. *Southeast Asian Journal of Social Science*, 19 (1&2)

Wu, F. 1996. Changes in the structure of public housing provision in urban China. Urban Studies 33 (9): 1601–27.

Wu, W. (1999), Pioneering Economic Reforms in China's Special Economic Zones, Ashgate Publishing Limited, Aldershot.

Yeung, Y, J. Lee and K. Lee. (2009), China's Special Economic Zones at 30, Eurasian Geography and Economics, 50 (2), 222-240

Yusuf. S. (2008). Can Clusters be made to order? In Yusuf S, Nabeshima K. and Yamashita S, (Ed.) *Growing Industrial Clusters in Asia: Serendipity and Science* (pp. 1-37) Washington DC: The World Bank.

Curriculum Vitae

Triyakshana Seshadri received her Bachelor of Arts from Osmania University in 1999, graduating with a triple major in Economics, Sociology and Modern Languages. She received a Masters in Applied Econometrics from Pondicherry University in 2001. She worked at the Indian Institutes of Management at Ahmedabad and Bangalore prior to starting graduate studies at George Mason University in 2005. She was a Visiting Instructor at Denison University for the academic year 2010-2011.