Impact of Special Economic Zones to FDI in India

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Abstract

Since 2000, Indian special economic zones were established with the intention to attract foreign direct investment. We present a first empirical assessment with new data from 1980 to 2010 and evaluate the outcome after 10 years. In general, our empirical results confirm that special economic zones attract FDI statistical significantly. Another finding of the study is that open economies with stable inflation attract more FDI than small and closed economies.

Key words: Special Economic Zones, FDI, India
JEL classification: F13, F15, F43

1. Introduction

For centuries, special economic zones have been in existence, but only with the recent rise of globalization they have attracted new attention. India was among the first ones to recognize the potential of free zones to promote exports, with setting up the first export processing zone (EPZ) on Asian ground in Kandla in 1965 (Ministry of Commerce and Industry 2009). Since then, the concept has been widely applied all over the world with more than 2,300 zones in 119 developing and transition countries in 2008, the biggest share thereof being located in Asia (FIAS 2008).

The term "special economic zone" (SEZ) describes a geographical area that has economic laws different from a country's generally economic laws, with the underlying objective to foster economic growth and foreign direct investment. In most cases, special economic zones are open both to domestic and to foreign investors and are established to provide trade operations under a specifically designed tax and duty incentive package (FIAS 2008). They further compensate for an underdeveloped infrastructure and are implemented to smooth the transition from a closed to an open economy (Lakshmanan 2009).

In 2000, India adopted the SEZ model in order to remove administrative burdens on investors, provide better infrastructure and offer attractive fiscal incentives to investors (OECD 2009). In 2005, the SEZ Act was enacted which further encouraged the establishment of special economic zones. Since then, the number of SEZs has skyrocketed with 19 zones before the SEZ Act and as of today 105 operating and a further 580 formally approved zones, with two-thirds of them specializing in the IT-sector (Ministry of Commerce and Industry 2009). In recent years, India has experienced an enormous economic growth –7.75 % from 2000 to 2007 (UNCTAD 2009) – and enormous inflows of foreign direct investments.

In 2008, the share of world total inward FDI was 2.4 percent (Lawrence 2010). India has also gained confidence as the second most attractive country for foreign direct investment on the A.T. Kearney FDI Confidence Index – a major leap from rank 15 in 2002 (A.T. Kearney 2010). In regard of this immense performance, we ask the question: How much of this success can be attributed to SEZs in India?

This paper is organized as follows. In section 2, current literature on SEZs and their impact on FDI will be reviewed. Section 3 empirically tests the research question. The paper concludes with some remarks in section 4.

2. Literature Review

In general literature on economic zones and FDI is quite wide-ranging. However, surprisingly few studies on special economic zones (SEZs) deal with the impact on FDI in India.

In economic literature the impact of SEZs on FDI is not clear at all. Even though a great part of the literature argues that SEZs have become a common way to attract FDI. However, empirical evidence is often lacking. Ge (1999a), Madani (1999), Graham (2004), FIAS (2008), Kinoshita (2008) and PwC (2008) all argue in favor of SEZs attracting FDI. But they also suggest that their findings cannot be applied to all countries and zones since the success depends on factors such as the investment climate and regulations within the zone. Studies in the case of the Senegal EPZ, support this argument (Madani 1999; Graham 2004).

A study by Ge (1999b) refers to FDI as a "main vehicle for transferring capital, technology and knowledge from developed to newly industrialized countries" and confirms EPZs in many cases as an effective mean to attract FDI. Yehoue (2005) adds a point and highlights the importance of clusters for attracting foreign direct investment.Observing existing SEZs, Cling and Letilly (2001) find that special economic zones do not always stimulate economic development. However, Lakshmanan (2009) identifies SEZs as an important growth determinant by creating new infrastructure and improving export competitiveness. Kowalksi and Dihel (2009), however, point out possible negative impacts on the domestic economy through, in some cases, discriminatory export-oriented policies in SEZs. We try to shed more light on the mixed evidence in respect to FDI and SEZ in India. In contrast to most papers we approach the evaluation in an econometric study.

3. Analysis and Results

The empirical analysis addresses the impact of FDI to SEZ in India. For FDI we use the data from the UNCTAD online database. The remaining data is from the Reserve Bank of India and from the World Bank "World Development Indicators & Global Development Finance" online database. At last, a dummy variable is introduced which illustrates the time before and after the SEZ model (Ministry of Commerce and Industry 2009). Furthermore, we have data to measure "Business Freedom" calculated by the Heritage Foundation and The Wallstreet Journal. The dataset contain yearly observations for the time period 1980 to 2008 respectively 1995 to 2008.

The dependent variable is the value of total foreign direct investment in India. The study's main variables of interest are exports from special economic zones (SEZ) and trade openness in relationship to the size of countries (trade to GDP ratio). Thus, the SEZ variable is a prefect proxy of the performance of special economic zones. All goods manufactured within an SEZ

that are either exported into India (outside the zones) or abroad are counted as exports from SEZs. We use other control variables to examine country-specific conditions as in similar studies (Chuhan et al. 1993; Lim 2001; Kahai 2004; Kok and Ersoy 2009). However, due to data availability and multicollinearity we included only special control variables. We estimate a log-equation with ordinary least square and two-stage OLS technique. Moreover, we control for autocorrelation, special effects and events such as the different onset of SEZs in India. Our estimates are based on variants of the following benchmark model:

$$ln\ FDI = \alpha + \beta(ln\ SEZ) + \beta(g\ ln\ GDP) + \beta(lninfl) + \beta(ln\ Trade/GDP)$$

$$+\beta(\ lnBsnFree) + \beta(\ lnFiscFree) + \beta(Dummy\ SEZ) + \varepsilon \qquad (1)$$

where *ln* represents the natural logarithm, *FDI* Foreign Direct Investments, *SEZ* Special Economic Zones, *GDP* Gross Domestic Product, *infl* inflation, *BsnFree* indicator of business freedom, *FiscFree* indicator of fiscal freedom. Furthermore, we estimate a SEZ dummy variable which is one for SEZ in India, otherwise zero.

As expected in models (2) and (4), there is a statistical significant positive relationship between FDI and special economic zones (Table 1). Moreover, within the long time series (Model 1 and 2) we found that trade openness is positively related and statistical significant to FDI in India (Table 1). In addition low inflation rates also promote FDIs. Model 1 and 2 show a negative impact of inflation to FDI at a 5 percent significance level. All other variables are listed in Table 1.

The regression coefficients for exports from SEZs are only significant when not controlling for market size. In these cases, the highly significant results indicate that exports from special economic zones attract FDI. Either way, increasing exports from SEZs could also attract additional foreign firms into India which possibly hope for agglomeration effects as studied by Yehoue (2005). The results of the regression support the strong positive correlations between

special economic zones and FDI in India. The SEZ dummy, which was included into the model in order to test for the impact of the SEZ policies, is unfortunately only significant in model (1) and surprisingly displays a negative sign. So even though the correlation between FDI and the dummy variable was strongly positive, the regression results indicate that the dummy variable actually negatively impacts FDI in our time period. Surprisingly, fiscal packages implemented within SEZs in India, for instance minimum scaleof regulation, seem not to have a big statistical effect. The sign of the other control variables areas expected. They confirm the relationship as in a related research paper by Lim (2001).

Table 1: Impact of SEZ to FDI in India

Independent variable	Model (1) N = 29	Model (2) N=29	Model (3) N=14	Model (4) N=14
(constant)	-26.292[**]	7.949[***]	-63.629[***]	7.366[**]
ln SEZ	-.133	.445[***]	-.269	.531[***]
ln GDP	3.004[***]		5.987[***]	
g lnGDP	-.553[**]	-.263	-.651[***]	-.131
lninfl	-.301[**]	-.331[**]	.096	.240
ln Trade/GDP	1.695[***]	2.174[***]	-1.514[**]	.674
Dummy SEZ	-.444[**]	-.239	-.072	.125
lnBsnFree			-.052[***]	-.036
lnFiscFree			- .007	.020[*]
R^2	0.992	0.988	0.998	0.988
F-statistic	576.584	451.378	851.876	152.986
Sign.	0.000	0.000	0.000	0.000
a. Dependent Variable: ln FDI				
b. ***, ** and * indicate the regression coefficient if significantly different from zero at the 1%, 5% and 10% level respectively				
c. Source: UNCTAD, RBI, World Bank, Heritage Foundation and the Wallstreet Journal				

Our empirical results confirm that both SEZs and trade openness are important variables for the FDI performance. The set-up of SEZs and the trade variable are both positively linked to FDI. Therefore, both variables foster FDI growth and hence economic growth in the long-run in India. Finally, the results show that price-stability or a low inflation rate promotes FDI dynamics significantly in India.

4. Conclusion

This study has empirically investigated the contribution of SEZs to FDI in India. In broad terms, for FDI the correlations proved to be strong and explained much of the observed FDI inflow in India. Moreover, our results indicate that the performance of special economic zones to FDI is statistically significant and positive. Considering the identified determinants of Indian FDI, it is of interest to further look into the reason what makes special economic zones beneficial. Is that because of special grants as duty-free imports or tax-exemptions for the first five years or because of the beneficial economic transformation process introduced within such zones? All questions remain open for further research.

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