Prospects of FDI Inflows to Punjab

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ABSTRACT

Punjab direly requires coordinated augmentation of foreign direct investment (FDI) for rapid industrialization. But the bitter fact is that Punjab is a very small recipient of total FDI inflows received by the country. The present study intends to discuss the investment opportunities in Punjab and explore the prospects of FDI inflows. The study concludes that there exist a lot of investment opportunities in Punjab. The major industries which have a great deal of potential are information technology and knowledge industry, agro based food processing industry, bio technology & pharmaceutical industry, auto parts industry, textiles industry, light engineering goods, sports goods and tourism industries. The study revealed that although the prospects of FDI inflows to Punjab are positive in the ensuing decade but the overall expectations for short term FDI inflows can be best described as cautiously optimistic. Hence, the fact remains that it will take some more years before Punjab can fuel stronger investors’ enthusiasm and FDI boom becomes a reality.

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INTRODUCTION

Punjab is one of the fastest growing states in India. The state has posted a steady growth during the last decade. The average real gross state domestic product of the state has grown around eight percent during the decade 2002 to 2011 and has increased more than two fold from around Rs. 71146 crores in the year 2002 to around Rs. 151941 crores in the year 2011. The share of tertiary sector in Punjab’s gross state domestic product in the year 2011 is 42.6 percent and that of secondary sector is 29.4 percent. Per capita income of Punjab in the year 2010 is Rs. 44345 which is 38 percent higher than the national average (www.phdcci.in).

The composite ranking of Punjab on the basis of various parameters viz. macro economy, investment environment, infra structure, agriculture and consumer market is two among all Indian states (Debroy and Bhandari 2011). According to National Productivity council, among the 15 big states of India, Punjab stands 2nd in the overall competitiveness rankings of the states.

In the light of above macro economic variables it is clear that Punjab’s medium term growth prospects remain strong. The mood of the economy is upbeat and signals strong. But Punjab which has done remarkably well in the field of agriculture, now direly requires rapid industrialization through coordinated augmentation of domestic and foreign investment. Here, the question is whether FDI is likely to accelerate in the near future aided by conducive and positive macro economic conditions or not. The present study intends to discuss the investment opportunities in Punjab and explore the prospects of FDI inflows.

Objectives of the Study

The present study has the following objectives
1. To examine the investment opportunities of Punjab.
2. To explore the prospects of FDI inflows to Punjab.

Data Base and Methodology

The secondary data (covering the period 2001 to 2013) has been taken from SIA Newsletters, FDI Factsheets and other publications of Department of Industrial Policy and Promotion (DIPP), Government of India and the publications of World Bank and State Competitive Reports, and Department of Industries, Punjab.

For finding forecasts, univariate ARIMA model has been applied on the time series data of FDI inflows to Punjab. With the help of this methodology, probabilistic values of FDI inflows have been found on the philosophy of ‘let the data speak for themselves’ (Gujarati, 2004). Differenced first order i.e. ARIMA (1, 0, 1) has been adopted which followed the following equation for forecasting:

\[ \hat{Y}(t) - Y(t-1) = \mu + \alpha (Y(t-1) - Y(t-2)) \]  \hspace{1cm} (1)

\[ \hat{Y}(t) = \mu + Y(t-1) + \alpha (Y(t-1) - Y(t-2)) \]  \hspace{1cm} (2)

Where
- \( \hat{Y}(t) \) = value to be forecasted
- \( \mu \) = constant
- \( \alpha \) = autoregressive coefficient
This is a first order autoregressive AR (1) model with zero order of non seasonal differencing and a constant term. The adequacy of the model has been checked by auto correlation coefficient and L-jung Q statistic. The autocorrelation (Box and Jenkins, 1976) function has been used for the purpose of detecting non-randomness in data. Autocorrelations of residuals were worked out as under:

\[ r_k = \frac{1}{n} \sum_{t=1}^{n-k} e_t e_{t+k} \quad \ldots (3) \]

Computed values of auto correlation coefficient, \( r_k(e) \) and the lag \( k \) were displayed graphically to depict autocorrelation function (ACF) also known as correlogram. Residual ACF, which lies within the 95% interval taken as insignificant and insignificance of ACF, implies adequacy of the model to generate forecasts. Ljung-Box Test has been selected to test multiple autocorrelation coefficients. This test is considered to find that the whole set of the values all at a time are significantly different from zero. Ljung-Box Q statistics was computed from the model's residuals by using the following equation:

\[ Q = n(n+2) \sum_{i=1}^{n-k} r_i(e)^2 \quad \text{For } i = 1 \text{ to } k \quad \ldots (4) \]

Where \( Q \) is Portmanteau test statistic, \( n \) is the sample size, \( L \) is the number of lags being tested. Non-significance of Q test is taken to imply that the generated residuals could be considered as white noise, thereby indicating the adequacy of estimated model. Gupta and Kumar, 2008, p.31; http://www.itl.nist).

**Results and Discussion**

The study has been presented in two sections. Section I explains the investment opportunities of Punjab and Section II presents the prospects of FDI inflows to Punjab by generating the short term forecasts.

**Section I**

Punjab is a very small recipient of FDI inflows received by the country. Cumulative FDI in Punjab region for the year ended March 2009 is US$384mn. The region accounts for 0.42% of overall FDI received (Confederation of Indian Industry, 2009). For the year ended March 2011, the amount has escalated marginally to US$416mn i.e. just 2.1 percent of the total FDI received (US$ 19427mn). The region received cumulative amount of FDI equal to US$1024mn for the period 2000-2011 which is of the order of a meager 1 percent of the aggregative FDI received by the country during that period (FDI Fact Sheet, 2011). The figure for Punjab will be all the more less considering the fact that RBI has clubbed the Chandigarh region by including Chandigarh, Punjab, Himachal Pradesh and even some part of Haryana. Before we explore the prospects let us have a look at the opportunities of investment and foreign direct investment in Punjab.

**Investment Opportunities in Punjab**

The resources, policy incentives, infra structure and climate in the state support investment in certain industries like information technology and knowledge industry, agro based food processing industry, bio technology & pharmaceutical industry, auto parts industry, textiles industry, light engineering goods, sports goods and tourism industries.

Regarding information technology industry, the state government is highly focused on developing necessary infra structure, development of human capital, proactive engagement with investors and effective policy implementation so as to create a conducive milieu for it. The state has offered a gamut of incentives under its IT industry policy. Special economic zone (SEZ) for IT industry has been set up in Mohali. The state government is encouraging private and foreign investment in knowledge based industries. Land has already been acquired two self contained mixed use and integrated information technology and knowledge industry parks spread over 1350 acres at Rajpura in Patiala district and at village Jhall Thikriwala in district Kapurthala. Electronic Township (ELTOP) has been established at Mohali for promotion and growth of IT and electronic industry in the state. In the past few years, more than 1200 small scale industrial units have been set up in the electronics hardware sector. These units produce personal computers, industrial electronic instruments, tools and components. In the year 2009-10, the state exported software exports worth US$ 153.7 million. All this indicate Punjab's positive policy to attract FDI in the state.

Other industry which can attract foreign direct investment in Punjab is agro based, food processing and beverages industry. Punjab is endowed with rich agricultural base and is popularly known as the wheat basket of India. Agro based industries contribute nearly 20 per cent to the manufacturing output and about 14 per cent to the employment in he state. The state offers rich fertility, gamut of incentives and packages for the growth of agricultural output and carry immense potential for setting up agro based industrial units. The state has food park located in Fatehgarh district. In order to speed up the investment the state has lowered the threshold limit for investment from Rs.100 crore to 25 crore for mega projects. Punjab Agro Industries Corporation has been encouraging private and foreign investment in the agro processing sector by identifying technically feasible and economically viable projects and inviting financial collaborations for implementation in the joint sector (www.ibeof.org).

The state possesses great potential for investment in the textile sector. The textile sector in the state is strong on all aspects of the value chain, i.e. from the raw material stage to the finished products stage. Textile industry contributes around 22 percent to the manufacturing output and around 24 per cent of the industrial employment in the state. Punjab is among the largest producers of cotton and blended yarn as well as mill made fabrics in India. The state has emerged as a hub of textile industry and has set up Apparel park at Ludhiana which is known for its ready made garments, woolen garments and hosiery. Textile policy of the state offers a gamut of incentives such as creation of infra structure through cluster development, maximum utilization of Central Government’s technology up gradation fund scheme, reduction of electricity duties and assistance in acquiring land for textile related projects. Northern India Institute of Fashion Technology has been set up in providing qualitative man power to textile industry (www.phdcci.in).

Punjab has good scope of foreign investment in the bio technology and pharmaceutical industries. To facilitate biotech industries, state has provided special
package of incentives under its biotech policy 2006. Provision for setting up new bio technology institutes for the research and development, creation of Punjab Biotech Promotion Board to attract investment are the key initiatives taken up by the state. The state has established Biotech Park situated in Chandigarh to provide a favorable environment.

Another sector which can attract FDI in Punjab is tourism and hospitality. Tourism industry has been accorded as one of the key thrust areas in the state. With rich cultural tradition and heritage coupled with good infra structure, the state has emerged as one of the favorable tourist destination. The state has provided various incentives under its tourism policy such as tax incentives, single window clearance facility and provision of loans for tourism related projects. The government of Punjab has constituted the Punjab Heritage & Tourism Promotion Board under the chairmanship of the chief minister of the state. The state government also time to time allocates big grant for the preservation and maintenance of heritage buildings for the promotion of tourism. The state directly needs world class hotels and resorts infrastructure which can be developed by foreign investors.

**Section II Forecasts of FDI Inflows to Punjab**

Forecasting is a necessary input to planning. It can empower the planners because its use implies that they can modify the situation, now, to alter or to be prepared for future (Sidhu and Dhingra 2009). This enables them to formulate the economic policy which can affect the future value of variable the way, they wish it to be. A prediction is an invitation to introduce the best desirable changes in the existing system (Walonick, 1993). ‘What will happen in future’ is the function of ‘what happened in the past’. Believing this, the study endeavors to generate the forecasts of FDI inflows to Punjab.

Before applying the ARIMA model to generate the forecasts its adequacy has been tested. The adequacy of ARIMA model is ensured by computing auto correlation functions (ACF) of residuals and by applying Ljung-Box. The value of Q-statistics is 18.00 which are found to be insignificant at 5 percent level of significance. The non-significance of Q-statistics ensures the adequacy of the model used to generate the forecasts. A careful glance of Fig. reveals that the residual ACF showed no pattern. The coefficients were found to be non-significant as these were all (as a group) within specified limits. This confirms the adequacy of the model to make prediction regarding future values of FDI inflows to Punjab. he forecasted have been shown in Table 1.

**Fig. 1 Auto Correlation Function**

**Fig. 2 Short Term Forecasts of FDI Inflows to Punjab**

### Table 1 Forecasts of FDI Inflows to Punjab

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount in ` million</th>
<th>UCL*</th>
<th>LCL**</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>7235.87</td>
<td>12708.48</td>
<td>1763.26</td>
</tr>
<tr>
<td>2015</td>
<td>7847.81</td>
<td>13326.87</td>
<td>2368.74</td>
</tr>
<tr>
<td>2016</td>
<td>8455.04</td>
<td>13954.38</td>
<td>2975.7</td>
</tr>
<tr>
<td>2017</td>
<td>9063.24</td>
<td>14542.59</td>
<td>3583.89</td>
</tr>
<tr>
<td>2018</td>
<td>9671.24</td>
<td>15150.59</td>
<td>4191.89</td>
</tr>
<tr>
<td>2019</td>
<td>10279.28</td>
<td>15758.64</td>
<td>4799.93</td>
</tr>
<tr>
<td>2020</td>
<td>10887.32</td>
<td>16366.67</td>
<td>5407.96</td>
</tr>
</tbody>
</table>

*Source: Author’s calculations by using SPSS Version 17
d *upper confidence limit
**Lower confidence limit

### CONCLUSION

The study concludes that there exist a lot of investment opportunities in Punjab. The major industries which have a great deal of potential are information technology and knowledge industry, agro based food processing industry, bio technology & pharmaceutical industry, auto parts industry, textiles industry, light engineering goods, sports goods and tourism industries. The study revealed that although the prospects of FDI inflows to Punjab are positive in the ensuing decade but the overall expectations for short term FDI inflows can be best described as cautiously optimistic. Hence, the fact remains that it will take some more years before Punjab can fuel stronger investors’ enthusiasm and FDI boom becomes a reality.

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