SUMMARY AND CONCLUSIONS

Development strategies have usually focused on rapid industrialization. The objective which a country sets for itself in building up its industrial sector and the means which it adopts, have a decisive influence on the welfare of the people, the conditions of the economy and its capacity for growth. Thus, profitability and growth of industries as a means of rapid economic growth has become a permanent feature of the less developed countries. Industrial development has a wider connotation than the establishment of productive industries. It also includes the mineral base, energy, transport, scientific research and the supply of technical and scientific manpower. Together these account for much of the greater part of investment as well as foreign exchange expenditure. In strategic management, business portfolio planning techniques, suggest that firms should invest in the area having business friendly investment climate, as investment and productivity growth of a firm hinge on the quality of investment climate. Any investment expenditure by firms is made only if the firm expects that expenditure on investment will be profitable. There are three broad components that shape these expectations like: macro fundamentals, institutions and governance. Macro fundamentals include social and political stability, macro economic stability e.g. sustainable fiscal and external balances, realistic exchange rate, low inflation and interest rate and competitive markets. Institutions and governance refer to transparency and efficiency in regulation, taxation and legal system; strong and well functioning financial sector, labor market flexibility and skilled labor force. All these three components reflect the investment climate of a particular country. Another important variable of the investment climate is infrastructure that is concerned with the availability and quality of physical infrastructure such as transportation (roads and ports), telecommunications, power and water supply. Thus, investment climate is the institutional, policy and regulatory environment in which firms operate. A productive investment climate can be broadly thought of as an environment in which governance and institutions support entrepreneurship and well functioning markets in order to help generate growth and development. If the local government is highly bureaucratic and corrupt, and if the government owned provision or
regulation of infrastructure and financial services are inefficient, then firms cannot get reliable services. The returns on potential investments will be low and uncertain, and one would not expect much accumulation and growth in these environments. Therefore, government plays an important role in the creation of good investment climate. Government can create a good investment climate for attracting more investment by providing better financial services, better infrastructure facilities through sound regulation that helps to improve productivity and growth. In short, a good investment climate is necessary to achieve high industrial growth. To sum up, the business friendly investment climate of a state requires political stability, low inflation rate, interest rate, well established financial market, skilled labor force and also the availability of infrastructure. Present study aims to empirically analyze the inter-relationship between investment climate, industrial growth, profitability and total factor productivity of the sample firms of Punjab and Haryana. The specific objectives of the study are:
1. To measure investment climate prevailing in industrial sectors of Punjab and Haryana.
2. To find out the factors determining the quality of investment climate in industrial sectors of Punjab and Haryana.
3. To examine the inter-relationship between investment climate and growth pattern of major firms of Punjab and Haryana.
4. To examine the relationship between investment climate and profitability of sample firms of Punjab and Haryana.
5. To examine the relationship between investment climate and total factor productivity of major firms of Punjab and Haryana.
6. To draw some conclusions and policy implications from the analysis.

Organization of the Study

The study has been divided into eight chapters. The first chapter introduces the study. Literature survey of the present study is given in chapter second. An attempt is made in this chapter to give a brief review of the important analytical studies on variables measuring investment climate, factors affecting the investment climate and inter-relationship between investment climate, industrial growth, profitability and total factor productivity. Third chapter deals with the data base and methodology used in the study.
Fourth chapter gives an overview of industrial sector of Punjab and Haryana. In fifth chapter, analytical analysis of investment climate of Punjab and Haryana is given. In chapter sixth, an attempt has been made to pinpoint the inter-relationship between investment climate, industrial growth and profitability of sample firms of Punjab and Haryana. Seventh chapter deals with total factor productivity of sample firms and investment climate of Punjab and Haryana. The last chapter summaries the findings and brings out the policy implications.

**Data Base and Methodology**

To fulfill the above said objectives, a substantial sized sample of firms from various industrial groups has been taken. The sample consists of 180 firms, out of which 90 firms are of Punjab and rest 90 firms are of Haryana. Secondary data pertaining to sample firms had been taken from the Prowess Database and Various Reports of Center for Monitoring Indian Economy (CMIE), and Confederation of Indian Industry (CII). For the desired analysis, time series data, for individual firm, had been taken from the year 1993 to 2007. Various statistical and econometric techniques employed in the study are: Growth Rates, Factor Analysis, Regression Analysis, Data Envelopment Analysis (DEA), Malmquist Index, along with other techniques like: ratios and percentages.

**An Overview of Industrial Sectors of Punjab and Haryana States**

The study presents an economic overview of the states through various indicators like: industrial profiles of the states, investment and FDI inflows, economic position of the states, industrial performance, labor regulations and industrial relations, exports, tax receipts, credit availability, days to get a power connection, physical infrastructure etc. From the industrial profiles of the states, it becomes clear that Haryana has higher industrial output as compared to Punjab. Net value added, value of output, capital formation, fixed capital and profits are higher in Haryana as compared to Punjab. Investment and FDI inflows were also higher in Haryana as compared to Punjab as on March 2010. Compound Annual Growth rate of GSDP was 11.8 percent of Punjab; whereas, it was 14.5 percent of Haryana in 2009-2010. The study found that in 2007, 49 man days are lost in Punjab, whereas, in Haryana, 48 man days are lost due to industrial disputes. As per India Labor Report 2009, rank of Punjab was 12 and it was 7 of Haryana according to Labor Law Environment Index. The study found that industrial exports from
Punjab were worth $ 3.7 billion in 2008-09, whereas, the figure was $7.1 billion in Haryana. Composition of tax receipts showed that in Punjab, rate of stamp duty, registration fees, land revenue, direct taxes, state excise duty are higher than Haryana. The study also found that less number of days are required in Punjab to get a power connection as compared to Haryana. On the other hand, less number of days are required to get loan sanctioned in Haryana as compared to Punjab. In case of physical infrastructure, teledensity was found significantly higher in Punjab as compared to Haryana. Number of post offices and telephone exchanges were also found higher in Punjab as compared to Haryana. Thus, it becomes clear from the above discussion that physical infrastructure is found better in Punjab as compared to Haryana. Whereas, tax rate of direct tax, stamp duty, excise duty is found higher in Punjab as compared to Haryana.

**Investment Climate Through Various Indicators in Punjab and Haryana**

This Chapter examines the possible determinants of investment climate. From theoretical background various factors were found which can affect the investment climate such as access to finance, infrastructure, courts and crime, trade, innovation and technology, entry and exit of firms, labor and human capital, good governance, ownership pattern, regulatory and administrative barriers to firm operations, physical security, contract enforcement, property rights, corruption and regulatory burden, costs and risks etc. From the primary as well as secondary sources, it was found that infrastructure is found better in Punjab as compared to Haryana. Whereas, the performance of institutions is found better in Haryana as compared to Punjab. From the category of inputs, it was found that labor regulations, bank services and skill shortage were main growth bottlenecks in Punjab.

Further, different indicators of structure and performance of the sample firms of Punjab and Haryana, have also been analyzed, to have an idea about the investment climate in these states. Frequency distribution of average gross sales of sample firms of Punjab and Haryana showed that maximum number of firms of Haryana(30 out of 90 firms) fall in the highest category of sales revenue being more than Rs. 200 crores. In case of average
gross fixed assets of the firms of Punjab and Haryana, it was observed that maximum number of firms of Haryana (25 out of 90 firms) were in the highest category of gross fixed assets being more than Rs. 200 crores. Frequency distribution of average borrowings and depreciation revealed that maximum number of firms of Punjab were in the highest category (more than 60 crores in case of borrowings and more than 6 crores in case of depreciation) as compared to Haryana. Similarly in case of average net profits, again maximum number of firms of Haryana fall in the highest category of more than Rs. 6 crores. Further, the cost structure of firms of Punjab and Haryana has also been compared. Frequency distribution as per tax paid by the firms out of their cost shows that maximum number of firms of Punjab pay higher rate of tax as compared to the firms of Haryana. Larger number of firms of Punjab fall in the highest category in terms of interest paid, raw material expenses, power expenses as compared to the firms of Haryana. Whereas, the frequency distribution as per advertisement and marketing expenses showed that maximum number of firms of Haryana were in the highest category. Further, factor analysis has been applied to examine the factors defining the investment climate of both the states. The factors have been divided into three categories i.e. infrastructure factors, cost factors and productivity related factors. It was found that in Punjab cost factors affected the investment climate or in other words, it can be said that high cost adversely affected the investment climate of Punjab state. On the other hand, better performance of infrastructure and productivity related factors have positive impact on the investment climate of Haryana state.

**Investment Climate, Industrial Growth and Profitability of Punjab and Haryana**

The study also examined the relationship between investment climate, industrial growth and profitability of the sample firms. All the two indicators of industrial growth (i.e. growth rate of gross sales as well as the growth rate of gross fixed assets) revealed that in case of growth rate of gross sales, maximum number of firms of Haryana were having high growth rate. Compound growth rate of gross fixed assets revealed that maximum number of firms of Haryana were also having high growth rate of gross fixed assets, indicating that industrial growth rate is higher in Haryana as compared to Punjab.
Further, composite investment climate index has been constructed by applying factor analysis from the selected variables like: gross sales, gross fixed assets, depreciation, borrowings, net profits, tax paid, raw material expenses, power expenses, interest and advertisement and marketing expenses etc. It was found that investment climate index of both the states fluctuated over the entire study period (1993-2007). But the performance of Haryana was better as compared to Punjab in case of investment climate index. To study the relationship between investment climate index and industrial growth, regression analysis has also been applied. Investment climate index during the whole study period had been considered as independent variable and dependent variables were growth rate of gross sales and gross fixed assets. The regression coefficients show that in Punjab, one percent increase in investment climate index leads to an increase in the growth rate of gross sales by 0.29 percent. On the other side, one percent increase in investment climate index leads to an increase in the growth rate of gross sales by 0.48 percent in Haryana. Secondly, in case of gross fixed assets, regression coefficients shows that one percent increase in investment climate index leads to an increase in growth rate of gross fixed assets by 0.09 percent in Punjab and 0.11 percent in Haryana and it is positively and significantly related to dependent variable.

In the next section, relationship between investment climate and profitability has been analyzed. Two measures of profitability have been used in the study. First measure (P₁) is the profitability margin i.e. profit before taxes as percent of gross sales, second measure (P₂) is the profitability rate i.e. profit before taxes as percent of gross fixed assets. Analysis of extent of profitability (P₁) revealed that maximum number of firms of Punjab were in the highest category of profit margin. On the other hand, maximum number of firms of Haryana were in the highest category of profit rate (P₂). It becomes clear from the above analysis that profit margin is higher in Punjab, whereas profit rate is higher in maximum number of firms of Haryana. In order to study the relationship between investment climate and profitability, regression analysis has been applied. Here, again investment climate index had been considered as independent variable, whereas, profitability is considered as dependent variable. It can be observed that in case of Punjab and Haryana regression coefficients were significant at 5 percent level of significance, and are positively related to dependent variable. It means that the profitability of firms of
both Punjab and Haryana depends on investment climate along with marketing strategies. Since the growth and profitability of the firms, is positively related to investment climate index, so the improved investment climate of Punjab and Haryana will be a win-win situation for their industrial development.

**Investment Climate and Total Factor Productivity**

This chapter examined the relationship between investment climate index and total factor productivity. First of all, an attempt has been made to study the determinants which affect total factor productivity. From theoretical background, various factors like: education and training, economic structure, technical progress, demand intensity, export oriented trade policy and liberalized foreign direct investment policy were found which can affect total factor productivity of a firm. Here, Malmquist index has been constructed to find out technical change, efficiency change, and total factor productivity change over the study period. Trends of all the above said variables with their growth rates over the study period have been discussed. It becomes clear that 47 firms (out of 90) of Punjab registered a negative total factor productivity growth. On the other hand, 23 firms (out of 90) of Punjab registered worth less than 5 percent growth rate and 20 firms (out of 90) of Punjab recorded worth more than 5 percent growth rate of total factor productivity. While examining the position of firms of Haryana in terms of total factor productivity growth, it becomes clear that 47 firms (out of 90) of Haryana registered a negative growth rate, while 18 firms (out of 90) had worth less than 5 percent growth rate. It can be observed that 25 firms (out of 90) of Haryana registered worth more than 5 percent growth rate of total factor productivity over the study period (1993-2007). If we look towards the firms of Punjab, technical change is the major factor behind the change in total factor productivity. On the other hand, in the firms of Haryana, factor behind the change in total factor productivity was efficiency change.

To examine the relationship between total factor productivity and investment climate, regression analysis had been done. Here, investment climate index had been considered as independent variable and total factor productivity growth had been considered as dependent variable. It was found that investment climate index is positively and significantly related to total factor productivity growth of both the states, so the need of the hour is to pay attention towards improving the investment climate.
Implications

It can be implied from the analysis that the investment climate index in both the states fluctuated over the study period. However, on an average there was bit improvement in it. This means that current policies have started bearing fruits by injecting the competitive forces in the industrial sector of Punjab and Haryana. But still a lot of homework needs to be done.

1. According to our study, the investment climate index of Punjab is not as good as of Haryana. The main reason is the high cost of production in the firms of Punjab as compared to Haryana.

2. The high entry tax on industrial raw materials entering Punjab state increases the cost of production of all units located there and further, their competitiveness is eroded. To improve the investment climate in Punjab, there is urgent need to withdraw entry tax.

3. Since power expenses are one of the most important determinant of investment climate, it is suggested that to solve the problem of power cuts in Punjab, the frequency and length of outages should be reduced by improvements in the public grid, through expanded generation capacity or tackled inefficiencies in the transmission and distribution. So that high cost of captive power can be saved.

4. Tax rate is found higher in Punjab, which also discourages new investments in Punjab. So, there is urgent need to reduce the state's tax rate.

5. There is urgent need to build synergy between the agricultural and industrial sector, so that to some an extent the cost of raw material in some agro-based units can be reduced.

6. The fiscal concessions granted by the government of India to the neighbouring hill states have led to the movement of industrial activity away from Punjab to these states e.g. Himachal Pradesh and Jammu. Haryana having the proximity to New Delhi, has an edge over Punjab in terms of industrial activity. So, there is a great need for radical transmission in the business environment in the Punjab state by making the industrial policy regime and the government administration more investor friendly, more prompt and more transparent.
7. The government of Punjab should set up an effective single-window clearance for industrial approvals and it can also be helpful in reducing corruption.

8. States should set up a high empowered administrative reforms commission which can suggest radical reforms in administration, so as to make significant improvement in the investment climate.

9. A concentrate and broad-base policy at the state level supplemented by micro-industrial programs is of utmost necessity to revive the investment climate of manufacturing sector of both the states.

10. Policies favoring establishment of Special Economic Zones should be implemented which help the firms to reduce their costs and to become more competitive.

11. A general improvement in the state-highways and road-linkages can also change the scenario of investment in the industries of both Punjab and Haryana.

12. In our study, in Punjab, technological change is found as a major factor behind the change in total factor productivity as compared to efficiency change. Therefore, to improve the total factor productivity level there should be improvement in the efficiency level. To improve efficiency level, there is need for providing vocational education to endrew the youth with skills.

13. To improve total factor productivity level in the states, it is suggested that a strong R&D wing should be encouraged through effective policy frame by the government to evaluate the adaptability of modern technique and to develop indigenous industry to improve the efficiency of input use and to increase productivity.

14. Both the states should also develop tax/subsidy regime that helps to overcome genuine externalities and market failures on the demand and supply side.

15. The role of governments remains crucial in developing a regulatory framework for industry that is effective and fair.

16. Growing inefficiencies in the use of resources is also the main cause of difference in the investment climate of Punjab and Haryana. Therefore, it is suggested that industrial sector needs a minute assessment of its performance, where the role of learning effect is significant to improve the efficiency of input utilization.