Situational Analysis of Small Scale Industry in Punjab
The Punjab Economic Research Institute (PERI) is a statutory body attached to Planning and Development Board, Government of the Punjab, to a mandate to carry out socio-economic research on issues of provincial and national importance and to support planning and development work of Punjab Government.
Situational Analysis of Small Scale Industry in Punjab

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About Punjab Economic Research Institute

The Punjab Economic Research Institute (PERI) is a statutory body attached to Planning and Development Board, Government of the Punjab, with a mandate to carry out socio-economic research on issues of provincial and national importance and to support planning and development work of Punjab Government. It is the oldest economic research institution in the country. The Institute was reorganized by the Punjab Government in 1975 in order to reactivate the Board of Economic Inquiry which had an unbroken record of economic research going back to 1919. The Institute became a statutory body in November 1980.

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Preface

Inclusive growth with equitable opportunities for everyone is the prime concern of the Punjab Government. Small scale industry (SSI) has important role to play in this perspective as it generates more than 60% employment of the total manufacturing sector employment in the province. Understanding the importance of SSI for inclusive growth, various advisory and loan schemes for small businesses, like credit guarantee fund and initiative to promote e-commerce have been announced. It seems that Government understands the importance of SSIs for employment generation. SSIs play a vital role in development of an underdeveloped economy because they reduce the unemployment problems by using low capital to labor ratio, avoid additional costs for development of industrial infrastructure, minimize the investment risks, ensure equitable distribution of income and products, check imbalances between different pocket of economy and maximize the use of locally available raw materials.

Job creation ranks among the top priorities for policy makers in most developing countries. There are many developing countries which are facing high rate of population growth like Pakistan, these economies must produce large number of jobs to keep pace with labor supply and even greater job creation is required for economic development. Government of the Punjab fully recognizes the importance of job creation having said that creating 1 million jobs every year is one of the objectives of Punjab Growth Strategy 2018. The current study provides a holistic view on understanding the role of SSI in job-led inclusive growth. Accordingly, the objectives are to investigate the inconsistency in defining SSI and offer criterion to define, providing analysis of clusters (and agglomeration) and the incentives for promoting industrial led growth under CPEC, analyzing the industrial policy framework and investigating the major constraints of SSI at province level, at cluster level and inside-outside economic zones separately. The institute recognizes the input provided by Planning & Development Department, and Industries, Commerce & Investment Department. At institute level, the study is also reviewed independently by the two relevant eminent economists and public policy practitioners for ensuring the independence and quality of research.

Based on the findings of the study, Government of the Punjab can take various policy initiatives such as introducing soft loan schemes, skill development of the workforce for employment in the SSI, reducing the cost of energy through focusing on the renewable resources, management of industrial parks and clusters at provincial and local government tiers as of China and Singapore. The study also provides an in-depth analysis of various definitions of small scale firms and proposes a unified definition.

Dr. Mumtaz Anwar
Director
Acknowledgment

The study is developed as a part of the Punjab Economic Research Institute’s initiative to conduct research on issues of provincial and national importance. The selection of the topic was made after consultation with the Secretary, Industries, Commerce and Investment Department of the Government of Punjab. Further to it, considering the inclusive growth perspective of the government of Punjab, Vision 2025 of the Government of Pakistan and Sustainable Development Goals, the timing to conduct the study is significantly important in a way that this study can be used as a benchmark to align the policy initiatives and future research requirements in the area.

The authors would like to pay gratitude to Professor Dr. Zafar Mahmood (Director, Research, School of Social Sciences and Humanities, NUST, Islamabad) for his unconditional support, feedback and guidance during the entire course of study. The authors are also thankful to Dr. Muhammad Mujtaba Piracha (Secretary, Industries, Commerce & Investment Department), Mr. Sabih Zaka (Director, Planning, Evaluation & New Initiatives, Punjab Small Industries Corporation) who share their input at conceptual phase of the study.

Dr. Mumtaz Anwar (Director, Punjab Economic Research Institute) provided his support and mentorship without which it would not have been possible to complete the study. The support provided by Mr. Muhammad Irfan Malik (Associate Research Fellow, PERI) for finalizing the methodology and the estimation of determinants of efficiency was remarkable. Last but not the least, we also acknowledge the support provided by all the researchers and staff members of the institute.

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<td>SSI</td>
<td>Small Scale Industry</td>
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<td>SDGs</td>
<td>Sustainable Development Goals</td>
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<td>CPEC</td>
<td>China Pakistan Economic Corridor</td>
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<td>DEA</td>
<td>Data Envelopment Analysis</td>
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<td>SEZ</td>
<td>Special Economic Zones</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>DGP</td>
<td>Data Generating Process</td>
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<tr>
<td>VRS</td>
<td>variable returns to scale</td>
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<td>CRS</td>
<td>constant returns to scale</td>
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<tr>
<td>SME</td>
<td>Small and Medium Enterprise</td>
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<tr>
<td>FDI</td>
<td>Foreign Direct Investment</td>
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<td>OECD</td>
<td>The Organisation for Economic Co-operation and Development</td>
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<tr>
<td>SMEDA</td>
<td>Small and Medium Enterprises Development Authority</td>
</tr>
<tr>
<td>UNIDO</td>
<td>United Nations Industrial Development Organization</td>
</tr>
<tr>
<td>ETDZ</td>
<td>Economic and Technological Development Zones</td>
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<tr>
<td>VAT</td>
<td>Value Added Tax</td>
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<tr>
<td>STPF</td>
<td>Strategic Trade Policy Framework</td>
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<td>ADP</td>
<td>Automotive Development Policy</td>
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Executive Summary

- Why we need to look at the small-scale industry (SSI) as a matter of strategy to inclusive growth in the province and what are the obstacles to deal with are the central questions. How agglomeration or clustering of small-scale firms is helpful in rapid growth in Punjab? What should be the appropriate criteria to define small scale industry?

Introduction

- Punjab Growth Strategy 2018 recognizes the importance of industrialization as a tool for inclusive growth in the province and aims to overcome challenges like unemployment, lower productivities of human and physical capital, stagnant exports and underutilized manufacturing capacity. Vision 2025 of the Federal government also recognizes the importance of small scale firms as an engine of inclusive growth. It is to spot that growth strategies envisioned by the Government of Punjab and Pakistan are in-line with the Goal-9 of Sustainable Development Goals (SDGs) which addresses three aspects: infrastructure, industrialization and innovation.

- Small Scale Industry (SSI) has important role to play as it generates more than 64% of the total manufacturing sector’s employment in Pakistan. Further, it generally requires low level of capital to start with, avoid additional cost associated with the infrastructural development, and minimization of the risks associated with large investments, ensuring equity in income distribution, and to make it feasible to use domestically produced items.

- This study encompasses undercurrents of small scale industry and provides concrete initiatives to trigger inclusive growth in Punjab. It takes lead over the prevailing literature covering the SSI in at least four dimensions; inclusive growth and job creation, agglomeration and CPEC, defining SSI, and its constraints. Timing to conduct this study is more meaningful in CPEC perspective. The study is significant to find out ways through which the potential of SSIs can be used for promotion of exports, generating more employment and efficient allocation of resources from government’s perspective.

Methodology

- We use descriptive tools for finding the constraints of firms, Data Envelopment Analysis (DEA) bootstrap for measuring technical efficiency and cross-sectional analysis for measuring its determinants. Desk review of various definitions of SSI, industrial policy and its historical evolution, the significance of agglomeration or cluster led growth approach in general and in context of CPEC and trade policy is also a part of mainstream analysis. This analysis provide basis for investigating the constraints through descriptive analysis, and measurement of technical efficiency and its determinants leading toward conclusion and policy recommendation.

Job Creation and Inclusive Growth

- Pakistan and the Punjab province have faced serious economic downturn in terms of economic growth and employment generation during the last decade. Out of total share of manufacturing
sector ranging from 20.3 to 21 percent, small scale industry (SSI) contributes only 1.2 to 1.8 % during the last ten years. The economy of Punjab follows almost same pattern. With share of around 8% in gross fixed capital formation, more than 60% of total employment of manufacturing sector is generated by SSI which shows potential of job creation with least utilization of capital, that is, the labor-intensive nature of SSI. It is paramount to mention that more than 96% of the SSI is informal operating through sole proprietor and is not registered which results in non-representation in GDP.

- The role of SSI as a sector for job creation rather than redistribution of the income is a prerequisite to inclusive growth. It provides jobs to the new entrants as well as to the unemployed and underemployed workforce of rural non-agricultural workers. The small scale firms have the largest offer of employment in Punjab.
- Small scale firms contribute more toward employment generation but are less productive and contribute less in GDP in emerging economies than developed economies, because of anti-export bias in policies against SSI. Therefore, it is highly important to develop friendly policies for the small-scale industry so that inclusive growth objective can be achieved decently.
- Four factors for industrial arrangements are crucially very important for achieving the desirous goal of inclusive growth through promoting SSI. These include the criteria for choosing the sector to be advanced, the policy instruments that are accessible, imperatives forced by the span of household markets and the aggregated limit of the different nations in the locale and the political will that exists to send this sort of measure.

**Defining Small Scale Industry**

- Most feasible and widely accepted definition for SSI, specifically considering inclusive growth perspective, is that based on number of employees. The reason being its simplicity, the ease of collection of data and most importantly the pro-poor growth perspective.

**CPEC and Small Scale Industry**

- Government is required to deal with cluster development for tending to the primary driver of cluster stagnation for help in releasing the growth potential of SSI. Several firms operating in the same cluster can share couple of normal issues.
- Active role of local authorities, export promotion strategy by the central government and the involvement of investors looking for availability of cheap labor in China are three primary factors that help China’s success in attracting foreign direct investment for industrial led growth.
- China is a good example from learning point of view in a way that it took the idea of “One Belt, One Road” in place and through focusing on infrastructure, such as development of special economic zones and industrial parks with all facilities available, it attracted foreign investors with distinguishing incentives. Consistency of policies and good management practices are the basic ingredients of Chinese policy. Learning from international experiences under healthy collaboration is an important consideration among the Chinese policy makers. Besides, characteristics of Chinese policy are good planning and maintaining organized workforce.
• Technology transfer, in simple terms, can be defined as “an incidence or a process when technology is moved from one location to another.” When such transitions occur across international borders, it is taken as international technology transfer. However, it is more complicated than domestic technology transfer since it involves a transition between different technical, legal, social and cultural systems of cross-border nature. There are many industries in Pakistan, especially in Punjab, which are looking for technical and skill support that will lead to the productivity enhancement and cost reduction in those sectors such as Textile, Furniture and Cutlery etc.

Constraints of Small Scale Industry

• Punjab has a great economic potential, as pointed out by many economists in the past, but utilizing the potential is sometimes hampered by the constraints like shortage of skilled workforce, corruption, crime and power outage etc. Unless these constraints are not removed, the economy cannot grow sustainably and accordingly the inclusive growth can’t be achieved.
• In 2007, inadequately trained workforce was the biggest constraint faced by SSI in Punjab however, in 2013 electricity became the major constraint faced by small sale sector. Further, the number of power outages show the disruption in the production process, higher the number of power outages faced by a firm means more disruption and vulnerability of the production process.
• The inadequate availability of trained workforce had been a major problem of SSI in the regional economy however the situation is improved in 2013 in comparison with the evidence of 2007. Overall around 40% of fulltime workers have completed secondary school. Further, around 89% of small establishments had no female permanent fulltime worker.
• Lack of availability of relevant training programs and external training agencies, and low quality of available training programs are primary identified reasons of unskilled labor force in SSI.
• Still it is dismal to see that only around 32% of small firms receive support from local chamber of commerce and 35% from industry association.
• According to 29% of the firms, technical assistance in production and quality management is the most important factor that would enhance the exports. 19% of the firms understand that assistance with product design packaging is the most importance factor. 29% firms feel export promotion services as a factor that would contribute most to enhance exports and information on foreign markets is desirous according to 19% of the firms involved in export. According to 36% of the firms, training of workers is important whereas maintenance and repairing is the second most important factor with other factors being technical assistance in production and quality management.

Call for Policy

• The organizations working under the Government of Punjab and Pakistan should follow the same definition of small and medium scale industries. The proposed categorization of small and medium scale industry is “Small Scale firm is considered as that firm which employ 5-19 number of employees and medium Scale firm which employ 20-99 workers.” Adopting this definition
Executive Summary

will help the policy makers to identify and target the firms require facilitation by the policy making institutions, regulatory bodies and the financial institutions.

- The cost of energy or the energy intensity requires significant reduction. This can only be meant through increased reliance on renewable energy resources. What government can do is to provide soft loans to the small scale industrialists for installation of solar systems to generate their own cheaper electricity.

- Though the sustained provision of electricity is near to achieve which will no sooner be the constraint for promotion of SSI but cost of electricity is needed to decrease through more reliance on cost effective resources that is renewables. Thus, there is a need to change the fuel mix for which Government should take measures to attract investors under private and public private arrangements to harvest the potential of renewable energy in the province.

- Inadequacy of trained workforce is needed to control through public private partnerships (PPP), for example, through understanding the needs of industry in the country. Socio-economic profiling and its analysis is also required for preparing the policy initiatives to be taken so that demand for skill set required by the firms may be met through appropriate location of different industries.

- Normally SSIs are indirect exporters in Pakistan and they remain so in the foreseeable future. Therefore, government needs to first develop and modernize SSI and then they should be encouraged to export directly. Further, provision of soft loans to the small-scale industry where the employment is from 5-19 employees is necessary that may be linked with for example specific level of export by the firms during the specific period of getting loans.

- An exclusive industrial policy should be prepared both at federal and provincial levels which may deal with the incentive packages specially at the moment when CPEC is under its way. There is a need to focus on export led growth. For detailed understanding of the policy options to be covered in the industrial policy, there is need to conduct a separate study by focusing on the emerging economies and host countries of Chinese industrial relocation. However, recently an article by Mehmood1 (October, 2017) offers policy options to have win-win situation to establish CPEC SEZs.

- For redesigning of the existent industrial parks in the province, Government should focus on the management practices of industrial parks for which learning the practices by China is important. Different Government tiers should play their specified role like provision of basic utilities should be the responsibility of local government and attracting investors should be the responsibility of provincial government through forming a separate accountable authority. Certain institutions already in place can be reinvigorated.

- Adoption of the latest competitive technology is required to compete in the international market. Government should coordinate with the Chamber of Commerce for motivation of industrialist to improve their learning, skills and innovation. It will significantly improve the efficiency level.

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Key Messages

- Punjab Growth Strategy 2018 recognizes the importance of industrialization as a tool for inclusive growth.
- Goal-9 of Sustainable Development Goals addresses three aspects: infrastructure, industrialization and innovation.
- More than 60% of total employment of manufacturing sector in Punjab is generated by SSI.
- SSIs have been a major source of job creation, economic growth and rapid industrialization in developing countries.
- SSI provides jobs to the new entrants as well as to the unemployed and underemployed workforce of rural non-agricultural workers.
- Active role of local authorities, export promotion strategy by the central government and the involvement of investors looking for availability of cheap but productive labor in China are three primary factors that help China's success.
1.0 Introduction

Why we need to look at the small-scale industry (SSI) as a matter of strategy to inclusive growth in the province and what are the obstacles to deal with are the central questions. As of Punjab Growth Strategy 2018, Vision 2025 of the federal government also recognizes the importance of small and medium scale firms as an engine of inclusive growth. It is to recognize that growth strategies envisioned by the Government of Punjab and Pakistan are in-line with the Goal-9 of Sustainable Development Goals (SDGs) which addresses three aspects: infrastructure, industrialization and innovation.

Pakistan and the Punjab province have faced serious economic downturn in terms of economic growth and employment generation during the last decade. Out of total share of manufacturing sector ranging from 20.3 to 21 percent, SSI contributes only 1.2 to 1.8 % during the last ten years. The economy of Punjab follows almost same pattern. With share of around 8% in gross fixed capital formation, more than 60% of total employment of manufacturing sector is generated by SSI which shows potential of job creation with least utilization of capital, that is, the labor-intensive nature of SSI. Khalid & Rahim (1986) explained that expansion of the industries with small enterprises is also generally thought to be associated with the mobilization of savings and entrepreneurial resources that would otherwise not be productively employed. However, it is paramount to mention that more than 96% of the SSI is informal operating through sole proprietor and is not registered which results in non-representation in GDP. SSIs have been a major source of job creation, economic growth and rapid industrialization in developing countries (Harris and Gibson, 2006; Sauser, 2005; van Eeden, Viviers and Venter, 2004; Arinaitwe, 2002; Yusuf and Schindehutte, 2000; Birch, 1987, 1981).

The role of SSI as a sector for job creation rather than redistribution of the income is a prerequisite to inclusive growth. It provides jobs to the new entrants as well as to the unemployed and underemployed workforce of rural non-agricultural workers. Broersma and Gautier (1997) find larger role of small firms to net job creation than large ones in Netherlands. For the United Kingdom, Barnes and Haskel (2002) found that small firms contribute more to net job creation. Voulgaris, Papadogonas, and Agiomirgianakis (2005) also find that small firms make more jobs on net, utilizing data from Greece. Therefore, it is highly important to develop friendly policies for the SSIs so that it may contribute toward inclusive growth objective positively. However, the significance of single definition in the country is beyond any doubt because of the ease to collect data and the pro-poor growth perspective. In addition, proposing a single definition across organization in the country is important so that policies may target the right kind of firms.

Four factors for industrial arrangements are crucially very important for achieving the desirous goal of inclusive growth through promoting SSI. These include the criteria for choosing the sector to be advanced, the policy instruments that are accessible, imperatives forced by the span of household markets and the aggregated limit of the
different nations in the locale and the political will that exists to send this sort of measure (Peres, 2009).

Extensive dispersal of industrial possession and utilization of development funds organizations, nationalization, privatization, growth of money related institutes, and the vertical (sectoral) industrial policy framework had been the primary policy frameworks of industrial policies of Pakistan at different times. However, it is hard to see the effectiveness of policies primarily due to inconsistency and deficiency on the part of implementation. Further, the non-availability of a specific policy document for SSI in Punjab is another gap. In this perspective, what should be the basic ingredients of industrial policy for SSI in Punjab is an important question to deal with.

How agglomeration or clustering of small-scale firms is helpful in rapid growth in the country or province? What are the basic features of Chinese policy for industrial led growth? The idea of industrial parks or Special Economic Zones propagated by China in late 1970s had been remarkable in a way to achieve job oriented high growth in the economy which needs an in-depth understanding at this stage. The primary difference between China and Pakistan is the industrial approach, that is, Chinese Policy is primarily the export promotion policy while on the other hand, historically, the focus of Pakistan seems to be more on import substitution. Further, active role of local authorities, export promotion strategy by the central government and the involvement of investors looking for availability of cheap but productive labor in China are three primary factors that help China’s success.

For a holistic picture, based on micro evidence, we need to look at the constraints of small scale firms operating inside and outside the cluster in Punjab. The study will identify the existing gaps in the policies or guide for the policy measures for promotion of SSI, job creation and accordingly the inclusive growth. This study encompasses undercurrents of small scale industry and provide concrete initiatives to trigger inclusive growth in Punjab. The objectives are:

- To understand the role of SSI in Job-led inclusive growth.
- To investigate the inconsistency in defining SSIs and providing an appropriate ranking to define SSI.
- To provide analysis of clusters (agglomeration) and the incentives for promoting industrial led growth under CPEC.
- To analyze the industrial policy framework.
- To investigate the major constraints of SSI at Punjab level, at cluster level and inside-outside economic zones.

Chapter 2 highlights the methodology followed in the study. Chapter 3 (Moving Toward Inclusive Growth) discusses in detail productive job creation rather than redistribution of
the income which is actually a prerequisite to inclusive growth. Existing macroeconomic
situation of the country and the Punjab province is examined by focusing on the growth
of GDP and manufacturing sector, employment trends and the export pattern of selected
sectors which shows inconsistency in performance of the economy toward inclusive
growth. This chapter helps understanding the importance of developing friendly policies
for the small-scale industry to achieve inclusive growth objective.

Chapter 4 provides an in-depth understanding of the reasoning to have single definition
of SSI across public sector organizations working either at federal or provincial level. It
enables us to understand definitions by international organizations, Asian and developing
economies, and organizations of Pakistan and Punjab. The ranking of various adopted
criteria is also provided. It is concluded that the most feasible and widely accepted
definition for inclusive growth perspective is that based on number of employees.

Chapter 5 provides insight into the historical evolution and a thorough review of
industrial policy in Pakistan. The diverse implications joined to the expression 'industrial
policy' (a manual for mediation by the government) rely upon the objectives, degrees,
instruments, and the normal outcomes and results for the economy and for the economic
condition where it is connected. It also focuses on the agglomeration and provides
insight, through providing evidence from the literature, on how agglomeration or
clustering is helpful in rapid growth in the country or province. Tax and non-tax
incentives provided by the China and Pakistan are also discussed.

Chapter 6 workout constraints of small scale firms operating in Punjab by using data of
World Bank Enterprise Survey of 2007 and 2013 wherein it is found that inadequacy of
trained workforce is the major constraint of firms in 2007. However more recently, the
problem of firms to have inadequate supply of electricity, that is, the power blackout, has
been highlighted the most important among others like corruption, crime theft and the
less or no support by the local chamber or industry. The constraints are identified for both
type of firms operating inside or outside the clusters. Chapter 7 concludes the study and
provides policy recommendations.
CHAPTER 2
METHODOLOGY

Key Messages

- Descriptive tools are adopted for finding the constraints of firms.
- Data Envelopment Analysis (DEA) bootstrap method and cross-sectional analysis are used for measuring technical efficiency and its determinants respectively.
- Desk review of various definitions of SSI, industrial policy and its historical evolution, the significance of agglomeration or following cluster led growth approach in general and in context of CPEC and trade policy is also a part of mainstream analysis.
- World Bank Enterprise Survey is representative of a country's non-agricultural economy. It covers a broad range of business environment topics including access to finance, corruption, and infrastructure, crime, competition, and performance measures.
- Data of manufacturing firms working in the province of Punjab is used in the study.
- Small scale firms located inside and outside the clusters or Economic Zones also identified to workout constraints separately.
Situational Analysis of Small Scale Industry in Punjab
2.0 Methodology

This chapter provides methodological framework followed in the study. The theoretical foundations of the analysis are based on the concept of inclusive growth, definition of SSI, industrial policy, agglomeration and technical efficiency. These provide insights for situational analysis of SSI in the province and guides on measures to be taken by the Government to create jobs and inclusive growth. Another important consideration is the focus of federal and provincial governments on inclusive growth reflected in Vision 2025 and Inclusive Growth Strategy 2018 respectively.

Punjab Growth Strategy 2018 focuses on private sector led growth. Since SSI employs major share of people, it was only understandable to focus on SSI. In order for sector to grow we had to focus on what’s holding it back. We therefore needed to look at the binding constraints that were holding SSI back. In addition to providing Punjab level solution we also wanted to focus on some important clusters as well. So, focusing the cluster level constraints were also needed. The data set that fulfilled these requirements without compromising on the authenticity of data was The Enterprise Survey conducted by the World Bank.

We use descriptive tools for finding the constraints of firms, Data Envelopment Analysis (DEA) bootstrap for measuring technical efficiency and cross-sectional analysis for measuring its determinants. Further to it, for analyzing the existing macroeconomic situation regarding growth patterns at sectoral level and for overall economy, job creation by different sectors including SSI. Intensity analysis of different production inputs has also been a part. It provides holistic view on the part of lack of inclusive growth both at country and provincial levels. Desk review of various definitions of SSI, industrial policy and its historical evolution, the significance of agglomeration or following cluster led growth approach in general and in context of CPEC and trade policy is also a part of mainstream analysis. This analysis provides basis for analyzing the constraints through descriptive analysis, and measurement of technical efficiency and its determinants leading toward conclusion and policy recommendation.

Enterprise Survey is representative of a country's non-agricultural economy. The survey covers a broad range of business environment topics including access to finance, corruption, infrastructure, crime, competition, and performance measures. Since 2002, the World Bank has collected data for more than 155,000 companies operating in 148 economies. This dataset has the advantage of being comparable with other countries in which this survey is implemented. This study used observations related to Punjab only. Additionally, this survey had the added advantage of having panel observations. Firms were surveyed in 2007 and then same firms were surveyed in 2013. This feature is the basic strength of this data. Enterprise survey also provides information on constraints faced by SSI that were located in Clusters or Economics Zones and those firms that located outside it. No other dataset provided these features. Naturally we adopted this
dataset. Firms interviewed listed the major constraints they faced and also provided solutions to reducing those constraints. Removal of these constraints is key to promoting private sector led growth in Punjab.

The analysis of capacity utilization or technical efficiency is developed within the framework of non-parametric (linear programming) frontier evaluation known as Data Envelopment Analysis (DEA) in which a measure of capacity utilization is determined from data on observed inputs and outputs. Many times, the concept of capacity is closely related to the technological characteristics of the production process. For this reason, DEA has the great advantage that it doesn’t require any priori specification about a particular functional form and this ensures the sufficient flexibility to adapt to the specific characteristics of the observed unit.

In 1998 and 2000, Simar and Wilson identified the severe restrictions with the DEA approach. They explained a number of limitations in their studies such as:

1. Efficiency scores are serially correlated when it is calculated by DEA.
2. DEA does not give any interpretation of data- generating process (DGP).
3. Having uncertainty about what is being estimated in the DEA.

Because of these limitations we use Simar and Wilson (1998, 2000) DEA bootstrap technique that will give reliable and statistically significant results within DEA models. DEA bootstrap technique estimates the efficiency scores/capacity utilization and confidence intervals for individual production efficiency scores by Simar and Wilson (1998). We are employing DEA bootstrap technique to measure the bias corrected estimates of production level.

Input oriented variable returns to scale (VRS) model is used for getting the inefficiency scores because constant returns to scale (CRS) is employed where industries or firms operate at their optimal scale. In the scenario of this study, there is considerable evidence that industries are not working at their optimal scale due to the inclusion of varying sector of firms, imperfect competition and financial constraints. The input-oriented DEA efficiency estimator $\hat{\Theta}_{iVRS}$ for any data set $(x_i, y_i)$ for each industry can be obtained by solving the following linear programing equation.

$$\hat{\Theta}_{iVRS} = \min \left( \theta > 0 \left| \sum_{i=1}^{n} \gamma_i y_i; \theta \sum_{i=1}^{n} \gamma_i x_i; \sum_{i=1}^{n} \gamma_i = 1; \gamma_i \geq 0, i = 1, ... , n \right. \right)$$

In equation (2.1) $x$ and $y$ are observed inputs and outputs and $i=1,..., n$ is the specific industry. The $\theta_i x_i$ is the efficient level of inputs, $\theta$ is the scalar and $\gamma_i$ is the non-
negative vector of constant defining the optimal weights of inputs to outputs. The obtained value of $\hat{\theta}_{iVRS}$ is the technical inefficiency estimate for ith firm. In case of input oriented, inputs should be decreased for getting the higher technical efficiency where $\hat{\theta}_{iVRS}=1$ means that the firm is considered fully efficient while $\hat{\theta}_{iVRS}>1$ means that the firm is inefficient and it needs to reduce the inputs for reducing the inefficiencies.

There are two things to be noted relating to the above equation (2.1). First, in this linear program VRS is assumed and second, Simar and Wilson (2000) observe that $\hat{\theta}_{VRS}$ is the downward biased estimator, as industrial frontier can be underestimated. Due to limitations of DEA, the smooth bootstrap technique of Simar and Wilson (1998, 2000) is applied in this study for getting the bias-corrected efficiencies and their confidence intervals accompanied by the DEA with bootstrapping approach.
CHAPTER 3
MOVING TOWARD INCLUSIVE GROWTH

Key Messages

- Employment generation with the increase in productivity is a prerequisite to inclusive growth.
- Economic growth should be broad-based across sectors and inclusive for the labor at large.
- The micro dimension of growth refers to the significance of structural transformation toward diversification, creative reallocation of jobs and firms, and competition.
- The macro-dimension refers to aggregate economic activity the stable prices, exchange rate, transparent policies and rapid growth in the economy.
- The small-scale industry's sluggishness requires in-depth understanding of the issues or impediments which are responsible for this sluggish behavior.
- Surgical instruments sector manufactures a wide range of medical, surgical and veterinary instruments and exporting 80% to 90% of its production.
- Instead of exporting raw crops, it is economically more viable to promote the export of processed food products such as fruits, vegetables, marine food, and some other agriculture-based industries such as the floriculture and herbal products. Food processing industry can have value added contribution toward economic development.
3.0 Introduction

Punjab Growth Strategy 2018 recognizes the importance of industrialization as a tool for inclusive growth in the province and aims to overcome challenges like unemployment, lower human and physical capital productivities, stagnant or decreasing exports and underutilized manufacturing capacity. Achieving 8% growth rate and creating 1 million jobs every year in the province are two main objectives, defined in the Punjab Growth Strategy. Broad based benefits for all, that is, equitable or pro-poor growth is the strategy which can’t be achieved through trickle-down effect meaning thereby growth must be inclusive. Like Punjab Growth Strategy 2018, Vision 2025 of the Pakistan’s government also recognizes the importance of small and medium scale firms as an engine of inclusive growth. According to the World Bank, inclusive growth concentrates on productive job creation rather than redistribution of the income therefore employment generation with the increase in productivity is a prerequisite to inclusive growth.

Growth in GDP or manufacturing production may not necessarily lead to income inequalities if human resource development, spatial distribution of physical infrastructure and social policies are inclusive in nature. The role of financial intermediaries is highly important in promoting sustainable strategy of inclusive growth through provision of soft loans to the industry. Growth strategy envisioned by the Government of Punjab and Pakistan is in-line with the goal 9 of Sustainable Development Goals which addresses three aspects: infrastructure, industrialization and innovation. Physical facilities, which are crucial for business is provided through infrastructure; employment generation and growth is administered through industrialization, which ultimately results into reduction in income inequality; while technological advancement of industries is triggered by innovation, that further takes to the skills development (Kniivilä, 2007).

3.1 Pursuing Sustained Rapid Growth

Inclusive growth, that let people to add to and benefit from the economic growth, is required for rapid and sustained poverty reduction in the province and country. For long run sustainable growth (for sustained poverty reduction), it should be broad-based across sectors and inclusive for the labor at large. According to Imb and Wacziag (2003), countries specialize late in the development process should keep their economic base diversify in the initial phases of development process. Inclusive growth refers to both micro and macro determinants of growth. The micro dimension of growth refers to the significance of structural transformation toward diversification, creative reallocation of jobs and firms, and competition. It alludes to the significance of both pace and pattern of growth which are correlated and steady with the discoveries of Growth Report: Strategies for Sustained Growth and Inclusive Development (Commission on Growth and

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1 The statement is in line with the OECD Development Assistance Committee’s policy statement on pro-poor growth. Pro-poor growth deals with the welfare of the poor whereas inclusive growth, at large, is related with providing opportunities to the majority of labor force.
Development, 2008). The commission alludes assurance in market and business progress, value and correspondence of chance as fundamental elements of any fruitful growth system. Efficient inequality of chance is harmful in nature for the growth procedure wherein balance of chance alludes to access to assets, markets, and impartial administrative system for people and firms. Macro-dimension refers to aggregate economic activity the stable prices, exchange rate, transparent policies and rapid growth in the economy.

Inclusive growth is a long run phenomenon because it focuses on the productive employment primarily, instead of income redistribution directly, for increase in income level of excluded groups. In the short run, government can make necessary arrangements for income distribution schemes as an interim arrangement but it is not a solution in long run perspective. However, income distribution schemes put fiscal burden on the already stretched budgets therefore such schemes may most often fail to give desired results even in the short run. Even in developed countries, redistribution schemes cannot be the only response to increasing poverty rates (OECD, 2008).

The definition of inclusive growth matches with the pro-poor growth in absolute terms only and not in relative terms. According to the absolute definition, growth is pro-poor as long as poor sect of the society benefit in absolute terms that can happen through direct income redistribution schemes (Ravallion and Chen, 2003). In contrast, growth is pro-poor in relative terms if and only if incomes of poor people grow faster than the population as a whole that leads to decline in inequality. For growth to be inclusive in nature, improvement in productivity and creation of new employment opportunities are necessary ingredients. Ex-ante analysis of the sources of and constraints to sustained high growth is the prime concern of inclusive growth, that is, how can the pace of growth be raised by utilizing the labor force engaged in low productive activities or the labor force excluded from the growth process.

A large body of literature emphasizes high pace of growth over an extended period of time which is a necessary condition and the major factor in reducing poverty (Deininger and Squire, 1998; White and Anderson, 2001; Dollar and Kraay, 2002 and Bourguignon, 2003). For a given level of income inequality, the growth component is more important for poverty reduction in poorer countries (Lopez and Serven, 2004). Realization of sustained and high growth rate, and poverty reduction is possible with the expansion of sources of growth and increasing share of the labor force. Focusing on static analysis, progressive distributional changes are as important as growth in explaining the income growth of the poor (White and Anderson, 2001).
3.2 Existing Macroeconomic Situation

Rapid economic growth with creating more jobs and with the increase in productivity is an essential element of inclusive growth. At country level, real growth rate of small scale industrial production surrounds around 8% during the last ten years. Sectoral share of manufacturing sector mostly remained at less than 14% wherein small-scale industry contributed at less than 2% in GDP. Pakistan’s economy during the last ten years experienced large variations in growth rate, however, it is improving steadily during the last four years. But this growth rate is not backed by the manufacturing production growth and more specifically, the small-scale industry’s sluggishness requires in depth understanding of the issues or impediments which are responsible for this sluggish behavior. The potential impediments or the threat factors for this sluggishness can be inadequate and low skill labor force, unsustainable provision of electricity, cost of energy, macroeconomic instability and cost of financing etc. The detailed analysis is done in chapter 6.

**Figure 3.1 Real Sectoral Growth Rate Trend in Pakistan**

![Real Sectoral Growth Rate Trend in Pakistan](image)

Source: Various issues of Pakistan Economic Survey

**Figure 3.2 Sectoral GDP Trend in Pakistan**

![Sectoral GDP Trend in Pakistan](image)

Source: Various issues of Pakistan Economic Survey
Figure 3.3  GDP Growth Rate Trend in Pakistan

Source: Various issues of Pakistan Economic Survey

Figure 3.4  Real Growth of Manufacturing in Punjab: Trend


Figure 3.5  Distribution of Employed Persons in Manufacturing (Punjab)

Source: Various issues of Pakistan Labour Force Survey
According to official estimates, manufacturing sector in Punjab contributes around 75% of the total industrial output and around 12% of this 75% is being contributed by SSI. The growth rate of SSI remains between 7-8 percent. However, during the first 11 years of this century, according to estimates of Institute of Public Policy, small scale manufacturing sector has shown variations in the growth rate at less than 12% maximum in 2000-01 and minimum at greater than 4% in 2008-09. 16.5% of the labor force is employed in manufacturing sector in Punjab out of which 64.8% of the labor force is employed in SSI only which shows the potential of job creation in this sector.

3.3 Sectoral Analysis

The quality and availability of infrastructure (energy, transport, and broadband) make an important contribution to an efficiency promoting environment. Industrial sectors need a modern public administration, able to deliver efficient and high quality public services. Coordinating clusters and networks improve industrial competitiveness and innovation by bringing together resources and expertise, and promoting cooperation among businesses, public authorities and universities.

Manufacturing industries in Punjab contribute almost 58 percent to the overall industrial productions of Pakistan and account for about 60 percent of value added in the country’s manufacturing sector (Hussain et al., 2012). Punjab is dominated by Small and Medium Enterprise (SME) clusters wherein 90 percent of the private enterprises are SMEs and employ 78 percent of the non-agricultural workforce (World Bank Survey, 2013). Lahore, the provincial capital, is one of the most diversified district with various industries ranging from food, carpets, auto parts, textile, machinery and equipment, furniture and printing. Faisalabad is the textile cluster of the country with concentration...
in light engineering products also. Gujranwala specializes in electronics and textile while Wazirabad is concentrated with the manufacturers of cutlery.

Sialkot is perhaps the most dynamic and competitive of all the industrial clusters in the province. The district is the manufacturing and export hub of the country, concentrating in leather, surgical and sports goods. Finally, three main industries in Sheikhupura district are textile, food and machinery, and equipment including large scale and small scale industries. Some small industrial subsectors within larger clusters of Punjab are analyzed.

**Surgical Instruments**

Surgical instruments manufacturing industry originated in the early 1940s in and around the city of Sialkot. The sector manufactures a wide range of medical, surgical and veterinary instruments and exporting 80-90% of its production. However, there is a lot of potential which needs to explore further that can be proved as a sizable source of foreign exchange earnings through increase in exports. Over 99% of the Pakistan’s surgical instruments production is centered at Sialkot. The sector comprises over 2,500 companies with the labor force ranging from (15-450) per unit. The industry produces an average over 150 million pieces a year with an estimated value of around Rs. 22 billion. Out of the total production, approximately over 95% is exported, which includes 60% of disposable and 40% of reusable surgical instruments, i.e. 100 million instruments annually. The summary of surgical cluster can be viewed in table 3.3.

**Table 3.3 Summary of Surgical Cluster**

<table>
<thead>
<tr>
<th>Total number of units</th>
<th>Approx. 2400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed Capacity</td>
<td>200 Million Pieces/annum</td>
</tr>
<tr>
<td>Total Capital Investment</td>
<td>Rs. 12.0 billion</td>
</tr>
<tr>
<td>No. of workers</td>
<td>100,000-150,000</td>
</tr>
<tr>
<td>No. of people involved (Direct/indirect)</td>
<td>350,000-450,000</td>
</tr>
<tr>
<td>Export</td>
<td>US $ 156 Million</td>
</tr>
<tr>
<td>World market of surgical instrument</td>
<td>US $ 30 billion</td>
</tr>
<tr>
<td>Production</td>
<td>100 million Nos.</td>
</tr>
<tr>
<td>Source of Machinery</td>
<td>Germany, UK, USA and China</td>
</tr>
</tbody>
</table>

Source: Sialkot Chamber of Commerce and Industries

The export size and growth rate of surgical instruments can be observed from figures 2 and 3, and this sector has much place for foreign investors as there is a cake of $34 billion in the world’s market of surgical products; Pakistan has a great potential to exploit the international market of surgical instruments as it has great workforce, talent, skills,
resources, strengths and opportunities to make the way to success. Moreover, there is large scope of triumph in this market with the collaboration of foreign investment.

**Figure 3.7  Surgical Export from Pakistan to the World**

![Surgical Export from Pakistan to the World](image)

Source: PITAD

**Figure 3.8  Export Growth Rate of Surgical Instruments**

![Export Growth Rate of Surgical Instruments](image)

Source: Pakistan Bureau of Statistics

**Leather**

The leather sector is Pakistan's second most dynamic sector after textiles. It contributes 5% to manufacturing GDP, about 7% to export earnings and provides employment to more than 200,000 people (Ghafoor and Zafar, 2013). The leather industry consists of six sub-sectors namely, tanning, leather footwear, leather garments, leather gloves, leather shoe uppers and leather goods. Leather and leather products industry is concentrated
mainly at Karachi, Sialkot, Kasur and Lahore. Pakistan's leather industry is export oriented, as 90 percent of the leather produced is exported abroad either in the form of finished leather or leather products. Leather sector is one of the established indigenous manufacturing sectors that have developed reasonably well but now leather exports are dwindling as it can be observed in the figure 3.9.

**Figure 3.9  Leather Export Growth Rate**

![Graph showing leather export growth rate](image)

Source: Pakistan Bureau of Statistics

The largest concentration of leather garments production in Pakistan is found in Sialkot, which have 52 percent of the total number of units of the province. This sector has potential to attract the foreign investment due to availability of raw materials locally and low wage cost gives the country a competitive edge in the world market.

**Sports**

Sports goods sector is the main export sector of the Sialkot city. The flagship product of the cluster in international market is hand stitched inflatable ball (mostly soccer ball). The city is a proven world center of hand-stitched soccer-ball production, which produce for all major brands (Atkin et al 2015a, 2015b). More than 100,000 persons are directly employed by the sports cluster out of which 60,000 specifically engaged in manufacturing of inflatable balls. Manufacturing of soccer balls is mostly based on manual skills of expert craftsmen barring only a few processes like bladder making and panel cutting. This manual skill in fact gives Sialkot the competitive edge in international markets. Sportswear manufacturing on the other hand is mechanized using good mix of modern technology and intensified labor in the world including China but it is labor intensive in Pakistan. Manual pattern making is being replaced gradually with computerized pattern making. Currently, export growth rate of sports does not show good picture of this sector as it can be observed in figure 3.10.
This Cluster has much potential to attract foreign investment as it produces many products like inflatable balls, sportswear, gloves, protective gear, cricket bats and gear, hockey sticks, exercising equipment and horse riding equipment etc. and it can earn more foreign exchange revenue if its potential is utilized properly.

There is much potential and capacity available in these clusters to attract the foreign investment as we have observed that almost 60% exports of Pakistan based on primary commodities. If processed food products are further developed with the help of international players along with existing players’ then Pakistan will be able to capture the international market. Similarly, surgical sector is earning US $ 156 million in export form by producing on its 50% capacity while the surgical international market is about US $ 30 billion, so this sector can be more developed with FDI as it has much potential. On the other hand, textile sector has capacity to attract the FDI because it is exporting only raw products while it can earn more if it will be able to convert its cotton bales in finished goods like China, India and Bangladesh.

**Food Processing**

Instead of exporting raw crops, it is economically more viable to promote the export of processed food products such as fruits, vegetables, marine food, and some other agriculture-based industries such as the floriculture and herbal products. Although in the food processing subsector of the manufacturing sector (including large scale and small scale), the direct value addition and employment generation is relatively low, it has a greater degree of indirect effects as the agricultural production has a greater degree of linkages with other sectors of the economy. The share of primary commodities and processed and semi-processed products constitute almost 60% of the total exports in Pakistan. There have been some structural changes over time but the contribution of agriculture-based products has more or less sustained its position. Food processing industry can have value added contribution toward economic development.
3.4 Reinforcing Employment Perspective

Advancement of SSI can help in accomplishing numerous targets and, specifically, it can help in diminishing the issue of across the board unemployment. SSI utilizes generally more work escalated methods and can produce employment for the extending work constrain. It can likewise be a critical wellspring of outside trade income, as it seriously utilizes the moderately plentiful factor of creation i.e. work. Different contentions given for SSI are that it is a productive client of the rare factor-capital-and has better linkages with different parts of the household economy.

Small firms utilize an extensive offer of specialists and make most jobs in developing economies. Adapted stories of the development procedure give an imperative part to small present-day fabricating firms, instead of family producing. Small firms are seen as great safeguards of surplus work and are essential in accomplishing the objective of an evenhanded dissemination of pay (Kashyap, 1988). This verbal confrontation about the part of small organizations in job creation began with the work of Birch (1979, 1981) who guaranteed that small firms were the most vital source of job creation in the U.S. economy. Neumark et al. (2011) examined the examples of job creation in the U.S. in light of the National Establishment Time Series, and found that small firms make more jobs. Sleuwaegen and Goedhuys (2002) presumed that small firms have the most astounding growth rates utilizing a panel of firms from Cote d'Ivoire. While the jury is out on which firms make the most jobs, it is important to take note of that over the creating scene, non-agrarian employment in small firms and familiarity are on the ascent (Jütting et al., 2008).

Utilizing Canadian data on the assembling part, Baldwin and Picot (1995) found that net job creation by small assembling firms was more noteworthy than that of large firms. Broersma and Gautier (1997), utilizing firm level data for the Netherlands, set up the pattern that small firms contribute more to net job creation than large ones. For the United Kingdom, Barnes and Haskel (2002) found that small firms contribute more to net job creation. Voulgaris, Papadogonas, and Agiomirgianakis (2005) likewise find that small firms make more jobs on net, utilizing data from Greece. Meller (1981) inferred that in 25 out of 40 producing parts coordinate employment impacts are more prominent than half of the aggregate impact. Large businesses make more aberrant jobs, while small ventures are more work escalated and make more straightforward jobs in respect to both indirect and direct jobs for same industry large firms.

Large firms have a noteworthy employment share; the small scale firms have the largest offer of employment in developing economies. Relative to advanced economies, in developing and emerging economies, the share of self-employment is substantial and ranges anywhere between 20 to 80 percent of total employment (Perry et al., 2007; Gollin, 2008). A larger fraction of firms in these economies are micro (self-employment
ventures) or small (OECD, 2013; Poschke, 2014; Global Financial Development Report, 2014) and small and large firms exhibit greater productivity differences (OECD, 2013). Micro and small firms contribute relatively little to GDP compared to their substantial contribution to total employment. Epstein and Finkelstein (2017) calculated employment share in small firms (% of total employment), small firm contribution to GDP (% of total GDP) and productivity relative to large firms (%) for emerging and advanced economies by using the census-based data for several economies summarized in OECD (2013). The sample year used for these calculations may vary by country due to data availability; the numbers (can be seen in Table 3.4) are simple averages.

Small and medium enterprises (SMEs) have long been recognized as key to economic development (Anderson, 1982; Mead, 1984; Schmitz, 1995). They are the backbone of all economies, constituting the biggest segment of manufacturing sector firms and employment, and their predominance is seen in both developed and developing economies. In the latter, SMEs are particularly significant in that they provide employment and incomes for the poor, especially where SMEs merge into informalized, or non-regulated, forms of production and service delivery (Tendler, 2002), and they help promote local and regional economic development (Parrilli et al., 2013).

Table 3.4  Employment, Contribution to GDP and Productivity of Small Firms

<table>
<thead>
<tr>
<th></th>
<th>Emerging Economies</th>
<th>Advanced Economies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment share in small firms (% of total employment)</td>
<td>53.3</td>
<td>46.0</td>
</tr>
<tr>
<td>Small firm contribution to GDP (% of total GDP)</td>
<td>35.0</td>
<td>41.1</td>
</tr>
<tr>
<td>Productivity relative to large firms (%)</td>
<td>47.0</td>
<td>81.9</td>
</tr>
</tbody>
</table>

Source: Calculations of Epstein and Finkelstein (2017)

Davis et al. (1996) look at job manifestations in large and small U.S. firms and reason that relapse to the mean and estimation blunder prompt the — overstated — statement that most job creation is in small firms. They contend that the deliberately bring down employment levels in initial periods prompt an upwardly one-sided gauge of employment growth in these small firms.

With numerous countries, confronting high rates of populace growth, economies must deliver large number of jobs to keep pace with work supply and much more noteworthy job creation is required for financial development. Mead (1994) demonstrated that small firms assume an alternate part contingent on their level of development and rate of monetary growth. In like manner, small firms create more jobs in nations with low levels of wage. Over the decades, small firms have played their role in creation of disproportionally larger and increasing share of new employment relative to large firms.
as it can be seen that the employment trend in small scale industries is more than 60% of manufacturing employment in case of Punjab province of Pakistan. Even though there are ups and downs in this trend but from 2014 onward the trend has been following an upward trajectory.

The prevalence of informality in developing and emerging economies is well known, with a large majority of informal salaried workers being employed by small firms (Busso, Fazio, and Levy, 2012; Perry et al., 2007). The employment trend in the informal sector of Punjab has been growing at more than double the pace of the formal sector since 2001-02 (Figure 3.11).

**Figure 3.11 Percentage Distribution of Employment in Punjab**

![Percentage Distribution of Employment in Punjab](image)

Source: Various Issues of Pakistan Labour Force Survey

Small scale industries play a vital role in development of an underdeveloped economy, although, in the province of Punjab, it incorporates more than 60% employment of manufacturing sector and there has been no successful transformation evidence available in the world without the active participation of Small scale industries in the economic development.
CHAPTER 4
DEFINING SMALL SCALE INDUSTRY

Key Messages

- The diverse SME definitions among different organizations, including banks and other financial institutions, make it hard to acquire pertinent and steady insights and execution markers on the SMEs sector.
- The European Commission (EC) takes into account number of employees, annual turnover and total assets as three different indicators in defining SMEs in three broad categories.
- Unavailability of a general SME definition is the fundamental test in performing cross country factual examination since the markers to characterize SMEs are not the same for all economies.
- Absence of single SME definition is hugely problematic for recognizing target firms, adjusting improvement programs, gathering significant information and checking advancement of SME part.
- The most commonly used measure is that of employment, due to its simplicity and the ease of collection of data.
4.0 Introduction

There is an agreement among policy formulators, financial analysts, and business specialists that SMEs are drivers of economic growth. A sound SME sector contributes noticeably to the economy through making greater employment openings, creating higher generation volumes, expanding exports and presenting advancement and business abilities. SMEs in Pakistan, as in different countries, are as yet confronting various troubles and obstructions that are blocking and confusing their operations and growth.

The most unmistakable trouble is the endeavors' constrained capacity in getting credit especially in its beginning periods. This is principally because of the apparent high danger of lending to SME extends rather than larger more settled associations. Further, data asymmetry as far as an absence of clear and point by point monetary history with respect to SMEs, and advance application necessity deficiencies (for example, the absence of a long haul marketable strategy) may also be the reasons for not accommodating the SMEs especially small firms to lend money from financial channels. As banks see SMEs as a sector with high credit risk, there are regularly high insurances and enthusiasm on advances forced by banks and monetary establishments on them. SMEs are dealt with a "coordinated" premise which is extraordinarily impacted by the thought of "name lending".

Additionally, the diverse SME definitions among different elements, including banks and other monetary foundations, make it hard to acquire pertinent and steady insights and execution markers on the SMEs sector, for example, add up to credit exceptional to SMEs as a rule or SMEs in particular sectors.

This chapter aims to provide research on the globally available definitions of small, medium and large-scale firms and provides criterion for unified definition that meets the inclusive growth strategy of the Punjab Government. This chapter recommends a unified definition for SSI that is appropriate to Pakistan’s economic structure and business environment considering the inclusive growth and job creation perspective. Eventually, following a unified SSI definition would contribute to the consistency and efficiency of data compilation on SSI in Pakistan especially in Punjab, which in turn would provide researchers and policy makers with valuable statistics to analyze SSI in a more meaningful way.

The structure of this chapter constitutes on: (a) How International Organizations define micro, small and medium firms? (b) The definitional Survey of Asian and selected developing economies. (c) How many definitions prevail in Pakistan? (d) Ranking of significant indicators for defining the unified definition.
4.1 Definition by International Organizations

According to the Organization for Economic Cooperation and Development (OECD), the characteristics of SMEs reflect not only the economic patterns of a country but also the social and cultural dimensions. These varying patterns are obviously reflected by several definitions and criteria of SMEs adopted by countries. Different countries utilize distinctive criteria to characterize small, medium and large-scale firms, for example, number of workers, contributed capital, deals, industry sort or a mix of any of the two.

The European Commission (EC) takes into account the number of employees, annual turnover and total assets as three different indicators in defining SMEs in three broad categories can be seen in Table 4.1. It is ensured that definition allows enterprises to be treated fairly and it incorporates all types of micro, small and medium firms, and every firm necessarily requires to follow the employees’ threshold level to fall in any of these three categories.

<table>
<thead>
<tr>
<th>Employees</th>
<th>Turnover</th>
<th>Total Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro</td>
<td>&lt; 10</td>
<td>≤ € 2 million</td>
</tr>
<tr>
<td>Small</td>
<td>&lt; 50</td>
<td>≤ € 10 million</td>
</tr>
<tr>
<td>Medium</td>
<td>&lt; 250</td>
<td>≤ € 50 million</td>
</tr>
</tbody>
</table>

Source: Authors’ Own Compilation

Multilateral Investment Guarantee Agency (MIGA) and International Finance Corporation (IFC) define small firms which follow two of the following three conditions: (a) < 50 Employees (b) < $3 million total assets (c) < $3 million total annual sales. Similarly, medium enterprises are those that meet two of the following three conditions: (a) < 300 Employees (b) < $15 million total assets (c) < $15 million total annual sales. While the criteria which is used in the economies of Asia Pacific Economic Cooperation (APEC) is number of employed persons. APEC defines SMEs in three categories i.e. (i) Micro firms which employ less than 5 workers including self-employed managers, (ii) Small firms employ 5-19 workers, (iii) Medium firms which employ 20-99 workers. On the other hand, United Nations Industrial Development Organization (UNIDO) tried to make general distinction between self-employment, micro, small and medium sized businesses as European Union does i.e. (a) Self Employed, (b) Micro 2-9, (c) Small 10-49 and (d) Medium 50-249. The World Bank carries worldwide enterprise survey and conducted last survey in 2013. It defines small and medium scale firms in this survey as “Small Scale firm which employ 5-19 number of employees and medium Scale firm which employ 20-99 workers.”

---

4.2 Prevailing Definitions in Developing Economies

Most of the developing countries follow number of employees’ criterion to define firms of different scale.

Table 4.2 Definition of Manufacturing Firms in Developing Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Micro</th>
<th>Small</th>
<th>Medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armenia</td>
<td>1-5 Employees</td>
<td>6-50 Employees</td>
<td>51-100 Employees</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>Employees &lt;40</td>
<td>Annual Turnover &lt; AZN 200,000</td>
<td></td>
</tr>
<tr>
<td>Bahrain</td>
<td>1-9 Employees</td>
<td>10-19 Employees</td>
<td>20-99 Employees</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>Fixed capital &lt; of</td>
<td>Fixed capital of Tk.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tk. 15 million</td>
<td>15-100 million</td>
<td></td>
</tr>
<tr>
<td></td>
<td>excluding the value</td>
<td>excluding the value of land</td>
<td></td>
</tr>
<tr>
<td></td>
<td>of land and building</td>
<td>and building</td>
<td></td>
</tr>
<tr>
<td>Brunei</td>
<td>1-9 Employees</td>
<td>10-100 Employees</td>
<td></td>
</tr>
<tr>
<td>Myanmar</td>
<td>10-50 Employees</td>
<td>51-100 Employees</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Capital Investment</td>
<td>Capital Investment 1-5 million</td>
<td></td>
</tr>
<tr>
<td></td>
<td>up to 1 million</td>
<td>kyat</td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>1-10 Employees</td>
<td>11-50 Employees</td>
<td>51-100 Employees</td>
</tr>
<tr>
<td></td>
<td>US $50,000 Assets</td>
<td>US $50,000-250,000 Assets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>excluding land</td>
<td>excluding land</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>Employees &lt;300</td>
<td>300-2000 Employees</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Assets &lt; ¥ 40</td>
<td>Total Assets ¥ 40 million-400</td>
<td></td>
</tr>
<tr>
<td></td>
<td>million</td>
<td>million</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Business Revenue</td>
<td>Business Revenue ¥ 30 million-300</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt; ¥ 30 million</td>
<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>Rs. 2.5 million</td>
<td>Rs. 50 million</td>
<td>Rs. 100 million</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Employees ≤3</td>
<td>5-19 Employees</td>
<td>20-99 Employees</td>
</tr>
<tr>
<td>Japan</td>
<td>1-20 Employees</td>
<td>20-300 Employees</td>
<td>Up to ¥ 300 million</td>
</tr>
<tr>
<td>Jordan</td>
<td>1-4 Employees</td>
<td>5-19 Employees</td>
<td>20-99 Employees</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Employees&lt; 50</td>
<td>51-250 Employees</td>
<td></td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>1-15 Employees</td>
<td>16-50 Employees</td>
<td>51-200 Employees</td>
</tr>
<tr>
<td></td>
<td>Turnover &lt; 150,000</td>
<td>Turnover &lt; 500,000</td>
<td>500,000-20,000,00,soms Turnover</td>
</tr>
<tr>
<td></td>
<td>soms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laos</td>
<td>1-9 Employees</td>
<td>10-99 Employees</td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>Employees&lt;5</td>
<td>5-50 Employees</td>
<td>51-150 Employees</td>
</tr>
<tr>
<td></td>
<td>Annual sales</td>
<td>Annual sales</td>
<td></td>
</tr>
<tr>
<td></td>
<td>turnover&lt;</td>
<td>turnover is b/w RM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RM250,000</td>
<td>250,000-RM 10 million</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
### Defining Small Scale Industry

<table>
<thead>
<tr>
<th>Country</th>
<th>Definitions</th>
</tr>
</thead>
</table>
| **Philippine**                         | 1-9 Employees Asset size up to P3,000,000  
10-99 Employees Asset size P3,000,000-P15,000,000  
100-199 Employees Asset size P15,000,000-P100,000,000 |
| **Korea-Republic**                     | Employees<10  
Employees<50  
Employees<300 Capital Worth ≤ $8 million |
| **Turkey**                             | 1-9 Employees Annual turnover≤ YTL 1 million  
10-49 Employees Annual turnover≤ YTL 5 million  
50-249 Employees Annual turnover≤ YTL 25 million |
| **Ukraine**                            | Employees< 50  
Employees< 50 Annual gross income<70 million UAH |
| **UAE**                                | Employees<20 Annual Turnover≤ AED 10 million  
Employees<100 Annual Turnover≤ AED 100 million  
Employees<250 Annual Turnover≤ AED 250 million |
| **Yemen Republic**                     | 1-9 Employees  
10-99 Employees  
100-499 Employees |
| **West Bank and Gaza**                 | 2-4 Employees  
5-9 Employees  
10-25 Employees |
| **Virgin Islands (U.S.)**              | 1-9 Employees  
10-19 Employees  
20-49 Employees |
| **Venezuela, Bolivarian Republic**     | 1-50 Employees Annual turnover 100,000 tax units  
51-100 Employees Annual turnover 250,000 tax units |
| **Tanzania**                           | 1-4 Employees Capital Investment in machinery up to 5 million (TShs)  
5-49 Employees Capital Investment in machinery 5-200 million (TShs)  
50-99 Employees Capital Investment in machinery 200-800 million (TShs) |

Source: Authors’ Own Compilation

### 4.3 Definitional Framework in Pakistan

Since, SMEs assume an imperative part in the domestic market and are continuously moving towards coordinating into worldwide value chains, it might be helpful to try endeavors towards planning all-inclusive meaning of SME. It would facilitate the outline
of advances, speculations, gifts and measurable research (Kushnir, 2010). Unavailability of a general SME definition is the fundamental test in performing cross-country factual examination since the markers to characterize SMEs are not the same for all economies (OECD, 2004). What is small or medium in one country may not be small or medium in another country. Furthermore, a portion of the components concerning SME definition could be exogenous to every economy. For instance, in Korea any venture if not greater than a Chaebol (large multinational firm) is viewed as small or medium; while, in Taiwan, there is no presence of Chaebols (Castel-Branco, 2003). Further, the inaccessibility of steady markers of SME definition likewise obstructs cross-country examinations of SME Loaning Patterns (Ardic et al., 2011).

Different organizations in Pakistan have their own definition for SMEs. A completely independent and clear definition is required for observing the development of Pakistan's SME economy and for building up benchmarks against different nations to recognize territories of mediation and support (SMEDA, 2006). Absence of single SME definition is hugely dangerous for recognizing target firms, adjusting improvement programs, gathering significant information and checking advancement of SME part (SMEDA, 2007). A well composed definition gets clarity in the vision of creating SME arrangement and advancement in executing support programs (SMEDA, 2006). The Government and business organizations think that it is hard to cover the SME sector completely with support programs because of the huge size of this segment and a similar case exists in numerous countries too. Also, where SME advancement is concerned, SME definition turns out to be on a very basic requirement to create related strategy structure and administrative measures. The unavailability of a specific, uniform lawful system for the advancement of SMEs hampers their operations (SMEDA, 2006).

The decision of SME definition may rely upon different variables like a nation's business culture, population measure, industry categories, and worldwide monetary incorporation level. It could likewise be the consequence of organizations campaigning for a specific definition, with which their endeavor could meet all requirements for a focused government SME bolster program. Such issues are basic in embracing an all-inclusive definition. It additionally delivers the inquiry with respect to whether it is legitimate to receive one definition. It can be compelling to quantify SMEs on single parameter, for example, number of employees, sales turnover or worth of assets; yet with alteration of the size of every economy (Kushnir, 2010). Besides, because of heterogeneous nature of SMEs and the monetary condition they work in, making a general definition may not be realistic (OECD, 2004).

Since, SME approach is a "division particular arrangement", it is reasonable that the assignment of its definition is a perplexing activity (SMEDA, 2006). SMEs can be specifically or by implication influenced with changes in existing enactments like work law, charge control, money related law, export directions, keeping money framework
directions, and so on. Further, the world in which SMEs exist is dynamic and thusly, creating SME arrangement for any economy can't be a one-time action. To guarantee fruitful results from the arrangement over the long haul, general audit of approach in view of partners' anticipated practices is required. (SMEDA, 2006).

Since, making SME arrangement is the duty of an administration body, such as SMEDA. Along these lines, the part of political interventions in the issue of SME definition can't be concealed. Government and policymakers, notwithstanding the significance of SME area for financial development, explicitly stress overseeing enormous multinational associations for concerns, for example, mergers, worldwide methods of insight, "investor esteem administration", outlining macroeconomic fund and making business strategies (Loecher, 2000). Past strategies have dependably been confined to expansive undertakings, disregarding the development of SME segment in Pakistan (SMEDA, 2006). Considering the assorted structures of shifting industry sorts and considering the diverse needs of all partners, setting up one single broad definition is perplexing. Specifically, complex comprehension of the structure of every individual modern segment, for instance, the example of between firm linkages and the esteem chain underway (Sevilla and Soonthornthada, 2000). Since, each economy has diverse structure, culture and political framework hence variety exists in characterizing SMEs among economies. This is the very reason that annuls having one all around settled upon definition (Kushnir, 2010).

One of the effective cases where a bound together SME definition has been received is that of Thailand. Prior in the 90s, Thailand was additionally confronted with the topic of building up a brought together SME definition (Allal and Finnegan, 1999; Thongpakde, Puppahavesa, and Pussarangsri, 1994). Different paradigms were deals per annum, net settled resources, number of representatives and enlisted capital (Allal and Finnegan, 1999). While, after an informal meeting of their Ministry of Industry with different partners like other government offices, services, divisions, banks, private segment etc; a typical definition in view of estimation of settled resources was set up on December 8, 1998 which was later affirmed by the Cabinet on December 22, 1998 (Allal and Finnegan, 1999; Sevilla and Soonthornthada, 2000).

In spite of the amazing steps, couple of associations have made toward characterizing the SMEs sector in Pakistan (including Punjab), none of the definitions shows a panoptic view on the SME sector in Punjab; most definitions were produced for a specific reason or sector. There is nothing inappropriate with various definitions being utilized for various purposes, however extreme caution must be practiced so that policy alternatives may focus on the small and medium size structures in a more productive manner. This won't just empower the economy to develop quick yet additionally make jobs in the economy through which guaranteeing comprehensive growth can be made conceivable.
Table 4.3  Definitions used by Various Institutions of Pakistan

<table>
<thead>
<tr>
<th>Institution</th>
<th>Micro</th>
<th>Small</th>
<th>Medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME Bank</td>
<td>NA</td>
<td>Employees up to 50</td>
<td>51-250 Employees</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Annual Sales</td>
<td>Annual Sales</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Turnover up to Rs.150 million</td>
<td>Turnover Rs.150 million-Rs.800 million</td>
</tr>
<tr>
<td>Pakistan Bureau of Statistics</td>
<td>NA</td>
<td>Employees &lt; 10</td>
<td>NA</td>
</tr>
<tr>
<td>State Bank of Pakistan (SME Prudential Regulations)</td>
<td>NA</td>
<td>Employees up to 20</td>
<td>21-250 Employees</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Annual sales</td>
<td>Annual sales</td>
</tr>
<tr>
<td></td>
<td></td>
<td>turnover up to Rs. 75 million</td>
<td>turnover Rs. 75 million-Rs. 400 million</td>
</tr>
<tr>
<td>Punjab Industries Department</td>
<td>NA</td>
<td>Fixed assets with Rs. 10 million</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>excluding cost of land</td>
<td></td>
</tr>
<tr>
<td>Punjab Small Industries Corporation</td>
<td>NA</td>
<td>Fixed investment up to Rs.20 million</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>excluding land and building</td>
<td></td>
</tr>
<tr>
<td>Ministry of Industries &amp; Production of Industries &amp; Production</td>
<td>SME is one which fulfils the criteria: (a) Employee up to 250, (b) Paid up capital up to Rs. 25 million, (c) Annual Sales up to Rs.250 million</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ Own Compilation

A guide “Effective Policies for Small Business” is published by OECD and UNIDO as a follow-up to the work of the Transition Economies Forum on Entrepreneurship and Enterprise Development in 2004. It is argued in this guide that “the most commonly used measure is that of employment, due to its simplicity and the ease of collection of data. Turnover and assets employed can also be measured but both are problematic. Relatively small firms (in employment terms) can have a large turnover as a result of buying in large quantities of components. There are also major problems in consistent monitoring of value of assets. A more satisfactory measure would be that of added value but this is difficult to calculate”. The discussion in the chapter provides in depth review of the definition of SSI by various countries and international organizations which provided basis for the ranking of different available definition. It is found that the most significant definition is based on the number of employees, that is, SSI should be defined on the basis of number of employees.
It is important to note that most of the developing countries follow the criterion of number of employees for defining small scale firm. The reasons are obvious. First, this is the most suitable measure having said that accessibility or identification to decide the nature of firm, whether it is small scale or not, is easy in comparison to capital investment, sales or total assets. Firm can deceive the government to get policy benefits if it is categorized on basis other than number of employees. Second, understanding the structure and volume of economy is important before defining small scale firms. The focus of developing economies is more toward creating employment than any other consideration which is primarily the true spirit of inclusive growth as argued in the previous chapter. The volume of developing economies like Pakistan or Punjab, more specifically, is not comparative to developed economies in any dimension. World Bank also follows the definition of number of employees. Third, this definition is more suitable for cross country and cross regional comparisons. Therefore, we recommend that all the relevant organizations in Pakistan, whether provincial or federal, should follow the definition of number of employees.
CHAPTER 5
INDUSTRIAL POLICY, AGGLOMERATION AND CPEC

Key Messages

- The frequent changes in industrial policy have kept the industrial sector relatively backward compared to the developments in other large Asian economies.
- Specific policy for SSI which may target the specific small-scale sectors at country and province level is also not available. However, developing clusters for SSI at various locations in Punjab is mandated to PSIC.
- Government may follow an approach to cluster development aimed at addressing the main causes of cluster stagnation and help unleash their growth potential.
- There are many industries in Pakistan, especially in Punjab, which are looking for technical and skill support that will lead to the productivity enhancement and cost reduction in those sectors such as: Textile, Furniture and Cutlery etc.
- Few initiatives taken up by the Industries, Commerce and Investment Department, Government of the Punjab are:
  - An e-registration portal has been set up to make registering businesses easier.
  - A one-window facility is being set up to make the setting up and operating of industry more streamlined.
  - An intelligence unit is being set up to bridge the data gap.
  - A credit-guarantee fund is being set up to make it access to finance easier for businesses.
  - An initiative to promote e-commerce is also being launched.
5.0 Introduction

Traditionally it was believed that government drives economic development but for the growth to be sustainable, private sector has to lead the economy. Small and medium enterprises have important role in economic development for developing and emerging economies. In many economies, SSI form bulk of the employment out of the total industrial employment. SMEs are labor intensive and thus lead to more equitable distribution of income than large enterprises. Development from small enterprises is required to provide foundation for long term sustainable increase in standard of living since it provides support to other sectors of economy especially large-scale manufacturing. These small firms help to secure sustainable livelihood of people living in rural areas. Further, the creation of backward and forward linkages of the small firms with the industrial and agriculture sector forms the basis of resilient economy.

5.1 Industrial Policy and Economic Development

There is no accord on the meaning of industrial policy (IP) past the way that it is a manual for government mediation (or 'non-lack of bias') in the economy. Many characterize it as a manual for government intervention to specifically advance certain assembling sectors (at that point 'picking champs') with the point of urging a nation to "challenge" its relative favorable position and to build up its "dormant" similar preferred standpoint (e.g., Amsden 1989; Chang 2002; Lin and Chang 2009).

The diverse implications joined to the expression 'industrial policy' rely upon the objectives, degrees, instruments, and the normal outcomes and results for the economy and for the economic condition where it is connected. Glykou and Pitelis (2011) point out that modern policy refers to measures taken by government to influence industry in a way that accomplishes a more extensive government objective. Rodrik (2004) clarifies that the assignment of industrial policy is as much about evoking data from the private sector on significant externalities and their conceivable cures as it is tied in with actualizing proper approaches.

Cohen (2006) recognizes three ways to deal with industrial policy, each of which compared to a specific range inside modern policy: (a) the neoclassical approach, where the civil argument is over market disappointments; (b) the basic approach, where the verbal confrontation is over the conditions for worldwide aggressiveness; and (c) the businesslike approach, where the level headed discussion is over the pragmatic conditions for improving open and private performers ready to confront the difficulties of the new economy.

Sharp (2001) guarantees that industrial policy is a wide arrangement of strategies, and that science and innovation approaches are covering subsets of this more extensive policy (see figure 1). She underlined that most strategies are, somehow, went for enhancing
modern execution inside, as far as growth of significant worth included and profitability; and remotely as far as exchange execution. Consequently, industrial policy does not exist in a vacuum, it is generally coordinated into a pretty much reliable arrangement of approaches seeking after various yet correlative goals. Also Cimoli et al. (2009) and Latsch (2008) exhibit the comparable idea that modern policy is an arrangement of strategies went for enhancing the worldwide intensity of residential firms, ventures or sectors.

**Figure 5.1  Industrial Policy and the Complex of Subsets around Science and Technology Policy**

Source: Sharp (2001)

Each country has an industrial policy and there is nothing extraordinary about the idea. Rodrik (2008) mentions the objective fact that most governments complete different types of industrial policy, regardless of the possibility that they call it by different names. Industrial Policy has additionally been portrayed as a procedure including "discourse" between the state and the private sector to produce data for recognizing and expelling the
coupling requirements to development (Rodrik 2007). Industrial strategies are nearly connected with specific structures, economic imperatives, and political configurations. Thus, there can be no broad hypothesis of industrial policy, and there is no 'ideal way' of amassing under late development (Saad-Filho 2012).

We are not going in the detail what policy makers finished up the particular kind of policy yet it is sensible to portray that what number of sort of IP structure exists in writing. Ambroziak (2017) clarifies that IP could be as sectoral arrangements (Vertical approaches) which routed to the execution of an individual economic sector, total strategies (otherwise called even approaches) which routed to the acknowledgment of economic targets that influence all sectors. Mill operator et al. (1984) recognizes two methodologies unified (that IP ought not be viewed as an inclination for focal arranging over some romanticized model of free enterprise, but instead a method for making the best of an unavoidably defective marketplace) and decentralized (that legislature has an essential duty to advance economic growth through sound macroeconomic and microeconomic arrangements). Another arrangement is proposed by Neuman (1990) i.e. helpful (government's Industrial policy needs to plan a way of economic development and build up a modern structure which is esteemed to improve economic welfare) and transformative (no administration can foresee the business visionaries in regards to the possibilities without bounds, nor is an administration ready to seek after economic welfare by embracing non-fanatic strategies). Another depiction of Industrial policy recognizes uninvolved and dynamic methodologies. As indicated by Schneider (2015), simple IP concerns government activities to decrease the expenses of working together and depends on the supposition that business will react, while a dynamic IP is sought after where a legislature has assumptions about coveted moves in private conduct, utilizes appropriations to actuate such moves, and sets up execution benchmarks which, if not met, will make the administration pull back the sponsorships.

There are two inverse positions getting from two diverse ways to deal with IP: liberal (neoliberal) and Keynesian (structuralist). According to Lall (2004), the neoliberal position is the best system for all countries and in all circumstances, is to change and not do much else. Coordination into the worldwide economy, with the designation of assets driven by free markets, will give nations a chance to understand their normal near favorable position. Then again, the Keynesian structuralist see puts more confidence in the capacity of governments to actualize powerful intercessions.

In spite of the fact that Hobday (2009) and others are cognizant about drawing oversimplified lessons from the accomplishment of the recently industrialized economies (NIEs), these economies had particular IPs in common. It was broke down that accentuation was given to (i) send out advancement, (ii) fascination of remote direct speculation (FDI), (iii) the burden of macroeconomic approaches to support reserve funds and particular diverting of credit to firms, (iv) the reception of broad instruction and
abilities development projects to encourage the limit of their economies to ingest outside innovation and skill, including required specialist preparing plans; (v) the formation of investment assets, and (vi) coordination of integral ventures (see Chang 2009).

Industrial arrangements are at the center of specialization or diversification systems, in view of four factors: (a) the criteria for choosing the sector to be advanced; (b) the policy instruments that are accessible; (c) imperatives forced by the span of household markets and the aggregated limit of the different nations in the locale; and (d) the political will that exists to send this sort of measure (Peres, 2009).

5.2 Instruments of Industrial Policy

What are the most well-known instruments or apparatuses utilized as a part of IP? It is notable from writing that practically every nation began its policy activity from the infant industrial protection (additionally portrayed as import substitution industrialization), endowments, interest in human capital and innovation, send out advancement, and the fascination of FDI. Cimoli et al. (2006) arrange different IP instruments as indicated by the space wherein the point is to help the learning procedures of people and firms and influence market rivalry. Seven areas with some cover between instruments are distinguished. These are abridged in Table 5.1 by Naude (2010).

According to Perez and Primi (2009), governments can assume four roles in these domains, namely a regulatory role, a production role, a consumer role and a financing role.

5.3 Practice of Industrial Policies in Developing Countries

Reardon et al. (2003) clarifies how the fast increment in worldwide retail chains in developing nations is turning into the reason for swarming out of numerous neighborhood conventional retailers and small-scale makers. So, it is important to confine the economic flexibility of the business financial specialists to maintain a strategic distance from the dangerous social outcomes. Altenburg (2011) said the contextual analysis of Vietnam that how it does economic necessities tests on a case-by-case premise to decide whether, where and when outlets of universal retailers get a working permit, contingent upon the nearby retail circumstance. What's more, these tests are in accordance with the WTO increase bargain as long as they execute in straightforward way.

Industrial approaches in low and lower-center pay nations need to react to the critical requirement for extra and more gainful salary and employment openings. There have to ingest such untalented workers, for example, in instant of clothing as Altenburg (2011) said the instance of Vietnam that how it lessened neediness by using this piece of clothing sector in light of the fact that such ventures request loads of incompetent specialists.
### Table 5.1 Domains and Instruments of Industrial Policy

<table>
<thead>
<tr>
<th>Domain</th>
<th>Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Economic Signals and Incentives</strong></td>
<td>Intellectual property rights, Price regulations, Exchange rate policy (e.g., undervaluation), Monetary (interest rate) policy, Countercyclical fiscal policy, Tax breaks</td>
</tr>
<tr>
<td><strong>Learning and improving technological capabilities</strong></td>
<td>Education and training policies, Foresight exercises (to identify national research priorities), Labour training subsidies and/or tax breaks, Skills formation and upgrading schemes, International educational and research collaboration, Incentives for foreign direct investment</td>
</tr>
<tr>
<td><strong>Selective industry support</strong></td>
<td>Impose import tariff and/or quotas, Provide export subsidies/credit/support, Establish special economic zones, Use of state-owned enterprises/privatization, Create public utilities providing inputs (e.g., electricity), Directed finance/subsidies, Provide public guarantees, Direct state procurement policy</td>
</tr>
<tr>
<td><strong>Selection mechanisms</strong></td>
<td>Entry and exit regulations for firms, ‘Live and let die’ principle (Political will to end support to failing firms), Introduce anti-trust and competition policy, Support national trading companies, Preferential access to finance, Long-term development finance</td>
</tr>
<tr>
<td><strong>Distribution of information</strong></td>
<td>Collective action mechanisms, Promotion of standards, Use of consultative forums, Use of business chambers, Encouraging firm cooperation/firm linkages, Marketing of export industries, Dissemination of successful experiences</td>
</tr>
<tr>
<td><strong>Improving productivity of firms and entrepreneurs</strong></td>
<td>Providing or subsidizing management training, Firm (SME) monitoring and assistance Infrastructure, funding and management for incubators and cluster formation, Promotion of public-private partnerships, Location marketing and enhancement, Upgrading of economic Infrastructure, Creation of venture capital funds</td>
</tr>
</tbody>
</table>

Source: Naude (2010)

Rodrik (2004) emphasized that “it is increasingly recognized that developing societies need to embed private initiative in a framework of public action that encourages
restructuring, diversification, and technological dynamism beyond what market forces on
their own would generate.”

Clustering is the alluring wonder of developing nations which is embraced from the
created world as Collier and Venables (2007) depicted the circumstance of Africa that in
1980s its economic changes slacked Asia and no African country was given the
speculation atmosphere and now various African urban communities offer sensible
venture atmospheres, however they can't rival Asian urban communities that have
practically identical speculation atmospheres since the Asian urban areas have built up
clusters of firms in the new fare sectors. Such clusters give firms in the cluster with the
upsides of shared information, accessibility of expert data sources and a developing pool
of experienced work. Until the point when African urban areas can build up such clusters,
firms situated in Africa confront costs that will be over those of Asian contenders, but
since costs are presently higher individual firms have no motivating force to move.
African urban communities can build up such clusters, firms situated in Africa confront
costs that will be over those of Asian contenders, but since costs are at present higher
individual firms have no incentive to move.

5.4 Evolution of Thinking about Industrial Policy in Pakistan

Industrialization of the outskirts has dependably been a dubious subject, in the focuses, as
well as in the fringe nations themselves (Raul Prebisch, 1959). The idea of industrial
approaches embraced by states has changed after some time, in parallel with the more
extensive changes in the worldwide economic condition. Industrial policy is considered
to have developed in the twentieth century in light of the fall of unhindered commerce
and the Great Depression (Morelli, 2012).

There are five unmistakable methodologies with respect to industrial arrangements which
have left a durable effect on the structure of industry in Pakistan. At the season of
freedom, pioneers had tremendously worried about the Indian states of mind and it
happened when Indian government hindered the exchange of assets that fell in the class
of what was known as the "Sterling Balances". So, they embraced the policy of
independence and empowered private administration during the time spent
industrialization, if impetuses to private business visionaries to put resources into the
generation of utilization merchandise, and gave the fledging private sector assurance
from outer rivalry. It supported the development of private venture and growth of shopper
businesses.

The Ayub time was the time of industrialization. He used the previously mentioned
approach yet with two distinct ideas i.e. i) more extensive dispersal of industrial
possession and ii) development fund organizations, for example, PICIC and IDBP were
utilized for financing (World Bank speculation was additionally used through these
partnerships) however the focus remained on large scale industry. Development thinking around then was agreeable to utilizing freely claimed development fund enterprises to stimulate the pace of industrialization. A vital outcome of this policy was to empower the foundation of small units in the zones other than Karachi, which by then had developed as the industrial focal point of the country.

During Bhutto regime, the large-scale ventures were nationalized which abruptly expanded the nearness of general society sector in industry (around 75%). So, the outcome was the presentation of a few twists into the administration of the economy and broad defilement that has kept on tormenting the country right up till the present time.

Industrial growth under Zia regime was impressive as manufacturing sector growth over 1977-88 averaged over 9% as compared to 3.7% in 1972-77. Large scale manufacturing grew even faster than the small scale. The main reasons behind this rapid growth in industry were:

1. Large public-sector investments which started in Bhutto’s regime resulted in major increases in steel, cement, fertilizer and vehicle production.
2. Incentives for manufactured exports were strengthened by the introduction of a flexible exchange rate policy after 1982, by increasing the standard rates of rebate of custom duty and sales tax for exports. The export subsidies ranging from 7.5% to 12.5% were extended to all important manufactured exports.
3. The investment climate for the private sector was improved by providing guarantees against future nationalization, clearer demarcations of activities between the public and the private sector and additional tax concessions.

Private sector investment in manufacturing grew by 9.5% per annum during 1978-83. The revival of private industrial sector was particularly important for addition to capacity in traditional industries such as cotton textiles which have quick pay off. The manufactured exports boom of the 1980’s was narrowly linked to the expansion of raw cotton production which in turn made possible a major expansion of cotton textiles. Over 60% of the increase in real value of exports over the decade was attributable to cotton, cotton textiles and garment exports.

The Government of 1990s stepped up with regards to bring back the private sector as the pioneer in economic development by privatizing a portion of the state's economic resources, specifically large banks and large enterprises. In any case, privatization did not prompt a blasting of industrial movement on the parts of the large proprietors of advantages in the sector. There was no consideration given to R&D change. Also, the Government was hesitant to include in industrial administration straightforwardly. So, the activity of SMEDA was taken and it was set up in 1998. Along these lines, the change of their product offering, presentation of new advancements and new administration rehearses were given in this program.
During Musharraf’s period, the government additionally gave extensive space to the financial sector to take an interest during the time spent industrialization by settling on decisions made on the premise of market contemplations. The amount of room for maneuver allowed to the private sector did not develop enough confidence among the entrepreneurial class to stand on its own feet and deal with the changes occurring in the globe economic system without government intervention.

Currently, Government of Pakistan is following the vertical (sectoral) industrial policy framework that there are different sectoral policies as it can be gauged from Strategic Trade Policy Framework (STPF) 2015-18 and Automotive Development Policy (ADP) 2016-2021. The frequent changes in industrial policy have kept the industrial sector relatively backward compared to the developments in other large Asian economies. Non-availability of specific policy for SSI which may target the specific small scale sectors at country and province level is also not available. However, developing clusters for SSI at various locations in Punjab is mandated to PSIC.

5.5 Why Agglomeration or Cluster Based Industrialization?

When many firms locate near each other they network with each other. Horizontal cooperation with other SMEs can lead to economies of scale that may be beyond the reach of individual firms. Vertical integration with other SMEs and with large scale enterprises allows these businesses to specialize in their core activities and also participate in external division of labor as well. Growth of small enterprises in a concentrated geographical area favors the growth of institutions that provide technical managerial and financial services. Thus, there are multitude of benefits of many firms locating near one another.

It has been seen that as firms expand over time, they tend to locate in a small pocket of spatial area more commonly known as clusters. These clusters are critical engines in the economic structure of national and regional economies. Porter (1998), who is the most frequently cited supporter of cluster policy, defines clusters as “Geographic concentrations of interconnected companies and institutions in a particular field, linked by commonalities and complementarities.” Most Recently Cortright (2006) defined cluster as “An industry cluster is a group of firms and related economic actors and institutions, that are located near one another and that draw productive advantage from their mutual proximity and connections.”

Clusters can form through various processes. They may emerge as a result of production process whereby firms present in an area engage in activities that they have a comparative advantage in and as a result benefit from scale economies that result in lower costs for firms’ input. Secondly clusters will form around skills that are present in the
regional labor market. Thirdly demand for goods may drive cluster creation and lastly clusters emerge because of history of area and its social norms/networks.

Cluster theory and its application and cluster-based economic development policy, have been in the forefront of regional economic development theory and practice during the past decade. Cluster theory suggests that firms located in a geographically defined cluster benefit which results in growth in economic output for the region. These benefits occur as a result of co-location or geographic proximity that, in turn, creates lower input costs for firms through agglomeration economies and knowledge spillovers that produce innovation and increased productivity. Consequently, firms in clusters that generate these benefits will be more competitive, and regions with effective clusters will experience greater growth (Phelps, 2004).

There are many different processes through which positive externalities of clusters may occur. According to Rosenthal and Strange (2004), these positive externalities include labor market pooling, worker-matching (more workers mean better matching), input-sharing, supplier specialization through the growth of supplier and subsidiary industries, development of a common infrastructure, reduction in transportation costs (Glaeser), niche consumer markets, knowledge spillovers (which may result more from social network interaction) and competition. Bergman and Feser (1999) give examples of propinquity based accumulation economies as “increased market power through brokered buying and selling, the better availability and use of specialized repair facilities, shared infrastructure, reduced risk and uncertainty for aspiring entrepreneurs, and better information.” Literature clearly shows that Clusters exist and they provide economic benefits. Presence of clusters instead of isolated industries is better to allow cluster stakeholders to overcome limitations and reap opportunities which are beyond their individual reach.

A country could guarantee adjusted development by developing diverse clusters found everywhere throughout the regions or provinces. Smaller speculation could be adequate for building up a collecting unit in a cluster where all regressive and forward linkage businesses are accessible. In this way, cluster development could be a capable device for comprehensive and supportable growth of an economy.

Economic development specialists take a glance at the cluster thought as a promising new policy approach. Cluster activities alone are less viable, in the event that they are not some portion of a general way to deal with enhance intensity on the national as well as territorial level. There is a need to concentrate on cross cluster issues that influence the entire economy. A sound macroeconomic, political, legitimate, and social setting makes the potential for aggressiveness, however, is not adequate. Intensity at last relies upon enhancing the microeconomic ability of the economy and the advancement of nearby organizations and neighborhood rivalry.
Government may follow an approach to cluster development aimed at addressing the main causes of cluster stagnation and help unleash their growth potential. Hundreds of enterprises share few common problems in a cluster and it is worthwhile to solve a problem for hundred enterprises than that of a smaller group or few scattered entities. Mills et al. (2008) provides some cluster based initiatives. He proposes intra and inter cluster networking with focus on research and innovation. This can be done by focusing on specific sectors that may generate maximum benefits for example in terms of employment. In order to improve competitiveness of sectors, government may prioritize the infrastructure investment required to improve the business environment.

Researchers have looked at agglomeration for the case of Pakistan. Burki & Khan (2011) found out that agglomeration of firms has reduced technical in-efficiency of firms. Additionally, agglomeration is determined by road density which is proxy for connectivity. Azhar & Adil (2016) also found that district level agglomeration has positive effect on socio economic outcomes and again regional connectivity played an important role in effecting socio economic development of a district. This fact is also supported in literature that regional connectivity has positive effect on sustained economic growth through reduction in transport costs and economies of scale due to increased market accessibility.

5.6 Developing Industrial Parks under CPEC

Industrial parks are defined as “a tract of land developed and subdivided into plots according to a comprehensive plan with or without built-up factories, sometimes with common facilities for the use of a group of industries” (UNIDO, 1997). Based on specialization, industrial parks can be free trade or export processing zones, research parks, technology parks or eco-industrial parks under the arrangement of private, public or public-private partnership on a piece of land which is not in use (brown land) or a new area (green). Private sector can be attracted to develop the park on cost-recovery based system wherein government may play its role as policy maker and regulator only. Another formation can be that government may also run core functions at its own along with regulatory affairs. However, the types of incentives for the private investors depend on the targeted sectors and obstacles thereof.

If the focus of the country is on export-led growth strategy, then export processing zones can be developed that may offer duty free access to the firms/investors to import plant and equipment. These types of zones or industrial parks help in attracting foreign and domestic investors. But, increased competition may create problems for the local industry because of investment by the industrially more advanced and innovative investors at least in the short run. Technology parks normally aim to provide support services, technical consultancy and advisory services to the local firms. Industrial parks help in learning
about new technologies, attracting foreign and domestic investment and derive demand for technical education thus lead to more employment in the country.

One of the main advantages of industrial parks is the provision of institutional setup and infrastructure with all required facilities that may be critically important for innovation, learning and growth. Sharing of common facilities and services in the industrial parks also help in reducing cost and provide a common place to the buyers, sellers and producers which results in emergence of new norms and behavior of entrepreneur. To transform the industrial parks as growth hub, it is necessary to ease the development of clusters in line with the innovation system (available in the region) and suitable working environment.

The potential threat is the bad management of industrial parks that may result in poor working environment, traffic problems and pollution thus remain unsustainable. A caution is also need during the planning phase of the industrial parks, that is, ensuring the availability of level playing field to the market players. Therefore, the desirable public policy should be the development of sustainable-ecofriendly industrial parks that may bring environmental, social and economic benefits for the local community with optimal use of scarce resources and learning opportunities in the production process.

Pakistan, specifically Punjab having large amount of potential resources, can be proved as one of the most attractive places for market based global economic activity in the presence of good infrastructure in the form of Gawadar Port and road linkages initially with China and with other countries in the long run under China Pakistan Economic Corridor. Having unemployed skilled and unskilled labor, untapped natural resources, technologically lagging far behind China, low foreign direct investment and weak institutions, there is lot of potential to utilize. China in this respect is a good example being followed everywhere in the world.

Three factors help China’s success: active role of local authorities, export promotion strategy by the central government and the involvement of investors looking for availability of cheap labor in China. Special Economic Zones (SEZs) were liberalized, having administrative autonomy, in terms of exports, imports, foreign investment, manufacturing and banking. These zones were treated as focal points both by the domestic and foreign investors. Some specific sectors were targeted to promote exports such as textiles, light industrial products, electronic goods and machinery. The instruments adopted for targeting the sectors were higher exchange retention rights and production network for exports. Rights to foreign exchange were in more favor of the provinces in comparison to the center government on export proceeds.

The creation of production network for exports was meant through bringing market leaders of the targeted sectors into a network and provided support in terms of guaranteed
power and raw material supplies, subsidies to upgrade technology, higher exchange retention rights and access to transportation on preference. The basic intention was to enhance both quantity and quality of exports. Further, the remarkable performance of export promotion policy is closely linked with the large foreign direct investment flows. Liberal credit policy and availability of export credit (in domestic currency), for fixed investment and working capital by the Bank of China along with providing foreign currency loans contributed toward export promotion positively. China’s system has largely been decentralized at provincial level in terms of implementing the policy.

China is producing an extended range of products, from textiles to locomotives, computers, jet planes, television set, cars and washing machines etc. Key elements of China’s journey to industrialization includes SEZs, Economic and Technological Development Zones (ETDZs), need based industrialization, promoting investment for production of specific components within country (import substitution), export oriented investment by the private sector and targeted to produce products important for global value chain. The mixed market structure is adopted by China where government participate actively in production of goods thus playing its role actively in mobilization of resources. China sets an example to work out its own recipe and sets priorities accordingly.

Management committees are managing the ETDZs which play their role as an arm for the provincial or local government thus objects to manage the municipal affairs of the ETDZs. Their main duties are to look after the deliverance of municipal affairs (like garbage collection, fire brigade and police, for the resident enterprises), working of budget and financial statements of respective industrial parks to ensure fiscal health, planning for improvement of infrastructure, protection of labor and entrepreneur’s rights. In addition, each ETDZ has its own Development Company which attract FDI as its main task. All the ETDZs, irrespective of being national, provincial or local, work in a competitive environment to attract more and more investors. It naturally created surge for distinguished features in terms of services being provided in every industrial park. The provision of infrastructure, both country-wide and within industrial parks had been the primary initiative by the respective governments to attract foreign investment. In addition, the tax and non-tax incentives, in China, play important role in attracting the investment. These include:

- Income Tax Treatment: China offered a specialized income tax treatment to the enterprises operating in SEZs and ETDZs. It offered zero percent enterprise income tax for first two years and for next three years, half of the normal tax rate.
- EIT Tax meant for Export Promotion: Enterprises that export at least 70% of their production will be liable to pay reduced 15% EIT rate only.
- Returning the paid income tax on reinvesting profits: China offers an incentive to payback the paid income tax to the enterprises on reinvestment (either enhancing
the enterprise or building a new enterprise within the facility of industrial park) of profits earned.

- **Net Operating Loss carrying forward option:** China offers the provision of carrying forward the net operating loss for five years.

- **Special treatment of custom duties and VAT:** China offers an incentive to the foreign enterprises in the form of exemption of VAT and custom duties on import of raw material, intermediate products and components necessary for manufacturing the goods to be exported.

- **Non-Tax incentives:** China also offers many schemes/incentives to the foreign companies’, interested to invest in industrial parks like training and hiring programs, employee housing, subsidies on land acquisition financed by government. All these non-tax incentives are to be negotiated with respective provincial and local governments.

- **Layout and Location of Industrial Parks:** Greenfield zones located outside the urban area with a size of 2,500 to 10,000 acres with new infrastructure were developed wherein the network of highways was developed by the federal government.

- **Level Playing Field:** China has introduced level playing corporate tax regime in 2007-08 wherein the distinction between domestic and foreign enterprises is removed with a common effective rate of 25%.

The Chinese model of best economic practices gives Pakistan many options to become a global trade hub. It will result in dealing with the challenge of alleviating poverty through raising per-capita income, increasing productivity of domestic firms, enhancing development of an economic system based on competitive exports and high technology sector, training of labor force and management of FDI inflows. China’s support for Pakistan has been instrumental in the latter’s new advances, particularly in the realms of defense technologies, trade, infrastructure, and most recently in the energy sector. CPEC can encompass cooperation in various areas such as construction, economic and technical cooperation, textile, minerals and many other aspects of development.

Technology transfer, in simple terms, can be defined as “an incidence or a process when technology is moved from one location to another.” It can take place within a single firm where a technology used in one plant or location and is transferred to another. It may take place within a country from one firm to another i.e. from machinery, process, and product suppliers to user firms, from commercial and state research and development centers and universities to business firms and licensed and bought into the market by individuals and organizations. When such transitions occur across international borders, it is taken as international technology transfer. However, it is more complicated than domestic technology transfer since it involves a transition between different technical, legal, social and cultural systems of cross border nature. The technology transfer process is different.
from “technology diffusion” as transfer is a "purposive movement of established technology" and diffusion is an “unplanned movement of technology” mainly by imitation processes. There are many industries in Pakistan, especially in Punjab, which are looking for technical and skill support that will lead to the productivity enhancement and cost reduction in those sectors such as: Textile, Furniture and Cutlery etc.

Pakistani textile sector exports mainly textile raw materials or grey cloth while Bangladesh, India and China through final products are earning larger amounts for value addition. However, China is the world’s largest producer and exporter of textile and apparel, accounting for one-fifth of the world’s total production (Li and Fung, 2012) whereas China export 40% of total world’s textile exports (International Trade Statistics). The textile industry in China plays a significant role to support the national economy by taking part in output, employment and investment. China is doing best due to its latest technology. If China provides technical assistant and transfer its technology in textile sector then Pakistan, specifically Punjab being textile hub, succeeds in converting around nine to ten million cotton bales into finished good. Resultantly, the textile exports would increase many times. So, there is need of technical assistance from China in textile sector to convert raw products into finished goods for harvesting the real potential of textile sector.

At present, quality furniture is being produced mainly at Chiniot, Gujrat and Rawalpindi (Districts of Punjab). Pakistan has the potential to export US$1 billion worth of furniture annually in the international market but there is lack of modern technology while China is using latest technology in furniture clusters as started from 1980s, Chinese furniture industry has experienced a rapid development and five furniture zones has been formed i.e. pearl river delta furniture zone, Yangtze river delta furniture zone, Bohai Sea Surrounding Area, Northeast zone and the west zone. These zones have perfect furniture industry chain and up to now, no competitors could match their scale. These zones utilize modern technology and all zones are highly export oriented. Therefore, Pakistan’s furniture industry can be transformed from cottage to a modern industry through training, upgrading supplies and imports, setting up a woodworking institute including testing labs of international standards with the assistance of Chinese in Pakistan, especially in Punjab as it have much potential to expand in technology and enhancement of labor skills.

It is economically more viable to promote the export of processed food products rather than exporting raw crops such as fruits, vegetables, marine food, and some other agriculture-based industries such as the floriculture and herbal products. Although the direct value addition and employment generation in the food processing subsector of the manufacturing sector is relatively low, it has a greater degree of indirect effects as the agricultural production has a greater degree of linkages with other sectors of the economy. With a growing population and rapidly developing middle class, Pakistan is an ideal target market regarding food processing. There is only need of technological
revolution for the enhancement of this sector as quality ingredients are available. Therefore, Chinese food manufacturers can provide technical assistance as they have launched new strategies, including employing high quality ingredients, introducing new technologies, and diversifying product lines. It is expected that this trend of introducing new technologies and more creative food innovations will improve the long-term prospects for Pakistan’s food industry.

Pakistan is bestowed with all kinds of resources which also include mineral resources. Pakistan possesses a large number of industrial rocks, metallic and non-metallic which have not been evaluated and it is contributing only 3% in GDP. This is due to application of outdated management techniques, inadequate capital and antique technical know-how. Punjab, being second largest (area-wise) province of the country, has vast mineral potential like coal, salt, iron ore, limestone, gypsum, silica sand and fire clay etc. and Government of Punjab is willing to follow a road map on mineral exploration projects.

This sector needs to be explored further to contribute in the GDP and wellbeing of the people of this country. Therefore, it needs technical assistance which can be taken from China because Chinese mineral bureau has a Post-doctoral Workstation and 22 enterprises of mining, survey and drilling. They also hold a number of high-grade aptitude, such as Regional Geological Survey, Solid Mineral Exploration, Geophysical Prospecting, Geochemical Prospecting, Geological Survey Remote Sensing, Preventing and Controlling Geological Disasters, Hydrological, Engineering, Environmental Geological Survey and many advance equipment. So, they can provide technical assistance in mineral exploration as well as train our labor in this regard.

According to Douglas North, “Institutions have been devised by human beings to create order and reduce uncertainty in exchange...they determine the transaction and production costs and hence the profitability and feasibility of economic activity. Institutions provide the incentive structure of the economy; as that structure evolves, it shapes the direction of economic change towards growth, stagnation or decline. Therefore institutional arrangement is significantly important in success of industrial parks which actually reflect a model and the inclination of investors is primarily based on the model. Pakistan as a country had good record of industrial growth prior to 1970s. However, the nationalization policy of the government of Pakistan in early 1970s and special focus on agriculture are two primary factors, responsible for low industrial growth in the country, in addition to inconsistency of policies. However, the deregulated policy of the government of early 1990s was a positive initiative but unfortunately due to high cost of doing business augmented with less focus on infrastructure development, political and

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institutional instability had been the obstacles in the way of FDI wherein the international environment for investment was highly competitive.

Few initiatives taken up by the Industries, Commerce and Investment Department, Government of the Punjab are:

- An e-registration portal has been set up to make registering businesses easier.
- A one-window facility is being set up to make the setting up and operating of industry more streamlined.
- An intelligence unit is being set up to bridge the data gap.
- A credit-guarantee fund is being set up to make it access to finance easier for businesses.
- An initiative to promote e-commerce is also being launched.
CHAPTER 6
CONSTRAINTS OF SMALL SCALE INDUSTRY IN PUNJAB

Key Messages

- At a glance, it can be observed that in 2007, inadequately trained workforce was the biggest constraint faced by SSI in Punjab however, in 2013 electricity became the major constraint faced by small scale sector.

- Since 2013, the Governments of Punjab and Pakistan took many initiatives to reverse the demand supply gap

- While industrial sector has shown nominal growth over the years, it could have been much more in absence of cyclical fluctuations elicited by energy price shocks and in the absence of power blackouts.

- 40% more output could have been produced by these firms had there been sustained supply of power.
6.0 Introduction

For an economy to grow, a government has to remove the binding constraints faced by the economy or the specific sector. We first looked at the constraints that small firms in Punjab faced. We employed data collected by the World Bank in its Enterprise Survey published in 2007 and 2013. This survey was conducted on enterprises working in Pakistan however, we segregated the data for firms operating in Punjab. Pakistan has great economic potential, as pointed out by many economists in the past but utilizing the potential is sometimes hampered by the constraints like shortage of skilled workforce, corruption, crime and power outage etc. Unless these constraints are not removed, the economy cannot grow sustainably and accordingly the inclusive growth can’t be achieved.

We know that small and medium enterprises contribute significantly in employment generation in rural as well as urban areas of Punjab. Thus, it has the potential to play an important role in the geographical equity all around the province. Pockets of spatial inequality arises when an area does not have its population working in small businesses there. We see slump in sectors in the economy because of the constraints they face and if we remove those constraints then the economy can grow faster indeed at a macro scale GDP of Pakistan may increase at a faster rate.

We have looked at the constraints faced by small industry in Punjab. We go a step further and look at the constraints faced by the clusters of small industries. Primarily, we look at Food; Textiles; Garment; Leather; and Machinery & Equipment clusters. Also, we look at how constraints vary according to those firms that operate in Export Processing Zones and Industrial Parks compared with those that operate outside of these areas. The analysis will help to identify policy recommendations to the Government of Punjab. These clusters based constraints are identified in 2007 position and then in 2013. The careful handling of data is very important to reach on right conclusion the following table depicts the distribution of data in the Enterprise Survey conducted by the World Bank.

6.1 Identification of Constraints and Analysis

At a glance, it can be observed that in 2007, inadequately trained workforce was the biggest constraint faced by SSI in Punjab however, in 2013 electricity became the major constraint faced by small scale sector. If we go into the details of these constraints we see that 97.88 % of the small firms faced electricity shortage during the period of survey. In 2011-2012 small firms on average faced 126.9 number of power outages with standard deviation of 116.7 power shortages. The maximum number of outages faced by a firm was 600. The number of power outages shows the disruption in the production process, higher the number of power outages faced by a firm means more disruption and vulnerability of the production process. A survey conducted by SDPI (2013) also
validates the findings of enterprise survey. In which 56% respondents said that overcoming energy crises was the single most important priority in improving business climate.

**Figure 6.1  Major Constraints of Small Industry in Punjab in 2007 (%)**

Source: The Enterprise Survey by The World Bank (2013)

**Figure 6.2  Major Constraints of Small Industry in Punjab in 2013 (%)**

Source: The Enterprise Survey by The World Bank (2013)
As a matter of practice, onetime power outage may take many hours to initiate the production process again wherein wastage of raw material, the working hours of labor and other resources increase the production cost and make the product less competitive in the market. It decreases the overall production of the economy, curtails the employment, decreases the earning of foreign exchange and lower the growth rate. However, since 2013, the Governments of Punjab and Pakistan took many initiatives to reverse the demand supply gap which will be actualized during the next few months. The problem of cost of electricity still needs to be resolved for which there is need to increase reliance of renewable resources (water, solar and wind) instead of thermal sources.

The vulnerability of Pakistan’s economy to energy price shocks is a common knowledge. So far, there has been no coherent policy to deal with such shocks. Given the critical nature of reliance on energy, an energy price shock puts pressures on already depleting foreign reserves and creates an issue of circular debt. Particularly the textile sector which had long enjoyed the status of Queen in the industry has been observed to shift their units to Bangladesh.4 While industrial sector has shown nominal growth over the years, it could have been much more in absence of cyclical fluctuations elicited by energy price shocks and in the absence of power blackouts. Had there been an adequate long-term policy by government to cope with it is an important question to deal with.

The volatile price dynamics of fossil fuels and widening demand-supply gap of electricity calls for urgent search of cost effective, environment friendly and reliable energy resources. These factors result in an increasing interest of economies to develop renewable resources. Policy makers globally have largely recognized the significance of relationship between energy production and economic progress. That being the case, it is also an agreed fact that economic development and energy reinforce each other. Affordable and sustainable energy supplies not only bring prosperity for the population at large but also help eradicate poverty through various direct and indirect channels. Pakistan as a country is not an exception.

The cost of energy has correlation of 13% with inefficiency meaning thereby increase in cost of energy makes the firm less efficient. Further to it, small scale firms operating in Punjab are more energy intensive than firms operating in Pakistan and other countries with 20% energy intensity in comparison with 14% of Pakistan. Vision 2025, while accepting energy security as a challenge, aims to achieve Sustainable Development Goal 7 “Ensure access to affordable, reliable, sustainable and modern energy for all” by 2025. However, availability of affordable energy will remain a dream until and unless fuel mix which has dominant share of non-renewables is changed out-rightly, that is, renewables

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4 As per survey reports, due to energy crisis more than 40% of textiles industry and 200,000 power looms have shifted to Bangladesh during the five preceding 2012 (Sohail, 2012)
should dominate the fuel mix so that vision 2025 may be accomplished and competitiveness can be ensured.

The duration in hours of power shortages faced by firms that were questioned during the time these questions were filled. We can see that not only number of power outages was large in magnitude but the duration in hours of power outages was also high. It is no surprise that 47.10 % of small firms owned a generator in 2011-2012. Average loss estimated as a result of power outages was around 40%. This means that 40% more output could have been produced by these firms had there been sustained supply of power. This represents the opportunity cost of load shedding.

Inadequately trained labor force was the biggest constraint in 2007 faced by small firms. This problem paints even gloomier picture if we look at training and education together. Average number of education of a typical permanent fulltime production worker employed 6.9 years in 2013. Around 89% of small establishments had no female permanent fulltime workers whereas the average education of female workers was 7.5 years. This showed that female employment was low in small scale sector but they had better average education level as compared to their male counterparts. Overall around 40% of fulltime workers have completed secondary school.

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<th>Table 6.1 Principle Reasons for the Lack of Training Programs</th>
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<td>Training as Constraint</td>
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<td>Lack of external agencies that can provide training</td>
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<td>Lack of relevant training programs relevant to their establishment</td>
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<tr>
<td>The quality of available training program is low</td>
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<td>High cost of training programs</td>
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<td>Unaware of training programs</td>
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Source: The Enterprise Survey by The World Bank (2013)

Nearly all of the respondents informed that they received no training program. Though half of these firms said that they do not need training program, of those that wanted training 36% said there is no availability of relevant training program related to their establishment work. They also showed concerns about lack of external agencies that can provide training. Table 6.1 shows detailed response related to training program question. Still is dismal to see that small firms receive little support from local chambers or industry. Approximately 32% of small firms receive support from local chamber of commerce and 35% from industry association.
We thought it to be useful to see if constraints faced by small firms vary if they locate within Export Processing Zones or Industrial Parks etc. On average, the biggest constraints faced by small firms remained electricity. The ratio of constraint varied between the two categories. The 66% firms in export processing zones/Industrial Parks said that electricity was the biggest obstacle they faced compared to the 77% that faced this problem outside these zones. Another major constraint within special zones was crime, theft and disorder (7.37%). However, corruption was the second most important constraint for firms inside these zones. Surprisingly 3.5% more respondents faced this problem in the special zones as compared to outside it. This is opposite to one would expect from special zones which are supposed to provide one window solutions and where ideally incidence of corruption should be lower. Crime, theft and disorder was again higher in the zones then outside it.
6.2 Constraints of Major Clusters of Punjab

We also use panel data to see how constraint of same firm changed over time in Punjab. We use data for 2007 and 2013 from manufacturing module of the World Bank. The following graphs show how constraints of Food cluster changed from 2007 to 2013. This cluster follows the pattern of rest of clusters since the major constraint of 2007 remains inadequately trained labor force and for 2013 electricity was the major constraint. The cost financing constraint was faced by 22% of firms in 2007 but overtime, this constraint dissipated and corruption became the second greatest constraint in 2007 but this issue was faced by only 7% of the firms. Government of Punjab introduced skills development program through various Technical and Vocational Training Institutes which fulfilled the gaps in the skills of workers of specific industries.
There is a huge difference between the top two major constraints of textile. In 2007, 71% firms faced inadequately educated workforce as the biggest issue, however in 2013, 85% reported that electricity was the single biggest issue. Electricity was such huge constraint for textiles since this sector is heavily dependent on electricity. Load shedding reduces the output of firms.
The garments sector followed similar trends of textile cluster in terms of major constraints in 2007 and 2013. Corruption can be seen as the second major constraint in 2013.

Constraints faced by cluster differed from other clusters especially in 2007. Tax administration was reported as the major constraint in 2007 followed by cost of financing.
and inadequately educated workforce. However, in 2013, electricity remained the major constraint though the number of affected firms was lower in this sector than other sectors. In 2013 political instability and crime, theft and disorder was the second most important constraint in this sector. For 15% of the firms, crime, theft and disorder is the major constraint in 2013.

**Figure 6.11  Major Constraints of Small Industry (Garments) in Punjab in 2013**

![Major Constraints of Small Industry (Garments) in Punjab in 2013](image)

Source: The Enterprise Survey by The World Bank (2013)

**Figure 6.12  Major Constraints of Small Industry (Garments) in Punjab in 2007**

![Major Constraints of Small Industry (Garments) in Punjab in 2007](image)

Electricity was the most important constraint in 2013 followed by corruption. The major constraint in 2007 was similar to other industries i.e. inadequately educated labor force. For firms working in machinery and equipment sector, inadequately educated labor force, electricity, corruption and tax rate are few of the major constraints. Tax administration and the existence of informal industrial units are also major constraints among 10% of the firms.

Figure 6.13  Major Constraints of Small Industry (Leather) in Punjab in 2013

![Pie chart showing major constraints in 2013]

Source: The Enterprise Survey by The World Bank (2013)

Figure 6.14  Major Constraints of Small Industry (Leather) in Punjab in 2007

![Pie chart showing major constraints in 2007]

Firms involved in export were asked about the most important business service that would increase exports or facilitate entering export market. According to 29% of the firms, technical assistance in production and quality management is the most important factor that would enhance the exports whereas 19% of the firms understand assistance with product design packaging the most importance factor. The 29% firms feel export
promotion services as a factor that would contribute most to enhance exports and information on foreign markets is desirous according to 19% of the firms involved in export. According to 36% of the firms, training of workers is important whereas maintenance and repairing is the second most important factor with other factors being technical assistance in production and quality management.

6.3 Factors Affecting Efficiency

This section draws attention toward sources of inefficiency or efficiency for small scale firms working at various locations in Punjab. Innovation causes reduction in inefficiency as a matter of theory because more innovation leads the employees more efficient in the production process yielding high production as less cost. High competitiveness as a result increases the market share of firms, generates more employment and profits for the firms. However, our results show insignificant impact of innovation on inefficiency. Small scale firms are not capable enough to provide more opportunities to employees.

The results are supported by the fact that around more than 87% of the small-scale firms in the data set do not adopt innovation as a business strategy and ultimately have insignificant impact on inefficiency or efficiency. However, it does not mean in any way that innovation is not important for improvement in efficiency. More innovation means more efficiency. It yields an important consideration that firms should be innovative enough to increase efficiency, that is, innovation as a matter of business strategy should be adopted for which the culture of R&D must be adhered.

Tax rate has ever been deteriorating for firms doing business at small scale. Taxes at multiple layers in developing countries born by the small scale firms result in decrease in profits because of increase in cost of administering business (Carnahan, 2015). The results show that increase in tax rate causes more inefficiency on the part of small scale firms. It calls for rationalizing the taxes on small scale firms in Punjab.

Human capital and skills, measures by average wage rate offered to production workers, have negative impact on inefficiency, as expected. It shows that with the increase in the quality of human capital, efficiency of small scale firms increases. The results are in line with the literature such as Kravtsova (2008) and Mujaddad and Ahmad (2016).

Industrial parks negatively influence the efficiency as shown in results in table below. It is important to understand that management and collaboration mechanism in models followed for development of industrial parks has an important role to play for improving efficiency. As an example, for successful models of industrial parks, Chinese models are greatly successful because of the provision of all the basic infrastructure, living standards, working environment and the tax incentives for the foreign investors whereas consistency of policies and collaboration with foreign partners are basic ingredients. On the other hand, lack of sufficient funds having no collaboration with foreign partners and no
special investment incentives in the form of relaxation in taxes are the basic features of industrial estate models of Pakistan.

Development of industrial parks can be proved as a success story for improvement in efficiency in Punjab if the industrial parks are designed considering the models of China. This is also important to note that evidence available with the enterprise survey we are working with (as shown above) depicts more corruption and crime in industrial parks.

Thompson (2007) and Brachet and David (2011) suggest that due to depreciation in employee and firm level experience, firms reveal negative effect of learning or age of firms on efficiency. The results depict positive influence of age of firms on inefficiency or negative effect of age of firms on efficiency which may be due to depreciation of mixture of employee and firm level experience over time. Less innovation overtime results in lagging behind the more innovative firms which are more focused on learning. Further, decay in skill and high labor turnover also yields negative impact of age of firm on efficiency (Brachet and David, 2011).

Capital, proxy for economies of scale, shows its positive impact on inefficiency which depicts that firms are operating at less than their potential, that is further production capacity is available with the available capital. The evidence shows an average efficiency level of 56% meaning thereby the possibility of increase in output by 44% with the same set of available inputs.

The importance of industry is well recognized in the literature to create jobs in the economy and achieving inclusive growth targets. However, the constraints, such as inadequately educated workforce, cost of financing, non-availability of electricity, expensive energy, tax rates, tax administration, corruption and political instability are important to deal with for achieving the desired targets. This chapter focused on finding the constraints through descriptive analysis wherein the constraints for SSI as a whole, for firms operating outside and inside the industrial parks and at sectoral level for the year 2007 and 2013 are worked out.

The analysis also considered the significant changed patterns, if any, like the problem of non-availability of electricity is not at critical stage of the year 2013. Another important dimension of the analysis is the identification of factors affecting the efficiency of firms through DEA bootstrap method. It supplemented the analysis through providing different dimensions as well. Age of firms (the experience of firms) theoretically should improve the efficiency level. However, if learning overtime deteriorates like skill level depreciates and technology become obsolete compared with new firms then it will put negative impact on level of efficiency of the firms which is actually the case in Punjab.
Table 6.2  Regression Results of Determinants of Technical Inefficiency

<table>
<thead>
<tr>
<th>Inefficiency</th>
<th>Coef.</th>
<th>Robust Std. Err.</th>
<th>T</th>
<th>P&gt;t</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation</td>
<td>-.1797887</td>
<td>.2449179</td>
<td>-0.73</td>
<td>0.465</td>
<td>-.6682621 .3086847</td>
</tr>
<tr>
<td>Tax Rate</td>
<td>.1549562</td>
<td>.058473</td>
<td>2.65</td>
<td>0.010</td>
<td>.0383354 .271577</td>
</tr>
<tr>
<td>Average wage</td>
<td>-.0000435</td>
<td>.0000103</td>
<td>-4.21</td>
<td>0.000</td>
<td>-.0000641 -.0000229</td>
</tr>
<tr>
<td>Industrial Park</td>
<td>.3757537</td>
<td>.1726796</td>
<td>2.18</td>
<td>0.033</td>
<td>.031355 .7201523</td>
</tr>
<tr>
<td>Age of firms</td>
<td>.0161869</td>
<td>.0068062</td>
<td>2.38</td>
<td>0.020</td>
<td>.0026124 .0297613</td>
</tr>
<tr>
<td>Capital</td>
<td>.1025549</td>
<td>.045885</td>
<td>2.24</td>
<td>0.029</td>
<td>.0110401 .1940696</td>
</tr>
<tr>
<td>Intercept</td>
<td>-.5823082</td>
<td>.7105948</td>
<td>-0.82</td>
<td>0.415</td>
<td>-1.999545 .8349284</td>
</tr>
</tbody>
</table>

Source: Authors’ own calculations by using the data of Enterprise Survey 2013

Table 6.3  Overall Significance Level of Model

<p>| | | |</p>
<table>
<thead>
<tr>
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<th></th>
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</thead>
<tbody>
<tr>
<td>F (6, 70)</td>
<td>6.69</td>
<td></td>
</tr>
<tr>
<td>Prob &gt; F</td>
<td>0.0000</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ own calculations by using the data of Enterprise Survey 2013

Another important finding is the negative effect of industrial park on efficiency of small scale firms which is justified through inappropriate management of the industrial parks or the lack of vertical and horizontal integration among the firms operating inside the industrial park. The small scale firms in Punjab are experiencing diseconomies of scale and their capacity is under-utilized.
CHAPTER 7
CONCLUSION AND POLICY RECOMMENDATIONS

Key Messages

- The constraints such as, inadequately educated workforce, cost of financing, non-availability of electricity, expensive energy, tax rates, tax administration, corruption, less or no support by the local chamber of industry and political instability are important to deal with for achieving the desired target of job creation and inclusive growth.

- Learning overtime seems to be deteriorated like skill level depreciates that put negative impact on level of efficiency of the firms which is actually the case in Punjab.

- The negative effect of industrial park on efficiency of small scale firms is justified through inappropriate management of the industrial parks or the lack of vertical and horizontal integration among the firms operating inside the industrial park.
7.0 Conclusion

Inclusive growth with equitable opportunities for everyone is the prime concern of Punjab government. SSI has important role to play in this perspective as it generates more than 64% employment of the total manufacturing sector employment in Pakistan. Further, it requires low level of capital to start with. Government of Punjab had taken many initiatives to promote small scale industries in the province. During the last few years, various advisory and loan schemes for small businesses, like loan scheme for Hand Looms and Craft Bases Textile, have been announced. It seems that Government understands the importance of SSIs for employment generation. However, multiple government institutions have been meant for the same primary purpose, i.e., promotion of SSIs. It may lead to overlapping of functions and a source of creating inefficiencies to come with the result oriented initiatives.

The positive spillovers of agglomeration and development of small scale firms are evident while looking at literature. According to Krugman (1991), firms can incur benefit of saving transportation cost through establishing the production unit closer to the areas of high demand and where supply of raw material and other services is optimum. It is also beneficial for the workers in terms of getting higher wages by firms working in clusters. Dumais et al. (2002) and Glaeser (2010) along with others provide evidence about the preference of firms to locate near customers and suppliers. It is also a source of constant supply of skilled labor (Marshal, 1890).

Most of the SSIs in the province are operated under informal arrangement therefore are not considered as contributing sect in GDP which make the GDP unrepresentative of the actual situation. Another important consideration is its reflection in the labor participation. Thus, GDP and unemployment rate are not aligned. While looking at the literature, it is hard to find any study that may focus Punjab to evaluate the small-scale Industry separately. The study uses firm level data and also depicts the reality of working of various stakeholders, the government organizations, firms and labor. This study is taking lead over the prevailing literature covering the SSI in all dimensions. Timing to conduct this study is more meaningful in CPEC perspective. The study will be significant to find out ways through which the potential of SSIs can be used for promotion of exports, generating more employment and efficient allocation of resources from government perspective.

SSI is an important factor to determine the level of development of an underdeveloped economy by focusing on the reduction of unemployment, deploying lower capital to employment ratios, avoidance of the additional cost associated with the infrastructural development, and minimization of the risks associated with investments, ensuring equity in income distribution, and to make it feasible to use domestically produced items. This
segment of the economy of Pakistan is highly significant as it covers 64% employment in the sector of manufacturing in Pakistan.

Countries in the process of development mostly focus on policies pertaining to employment generation. There are several developing countries which are experiencing higher level of population growth rates e.g. Pakistan. As with the increasing growth rate of population, the supply of the labor also increases, so the policy makers need to focus on job creation strategies to cater the issue of unemployment, even more for triggering the economic growth (as one of the objectives of Punjab Growth Strategy 2018 is to create 1 million jobs every year). Over the decades, small firms have played a greater role in production of job opportunities than the large firms as it can be seen the employment trend in small scale industries which is more than 60% of manufacturing employment in case of Punjab province of Pakistan. In the countries with low income economy like Pakistan, the role of small scale firms is relatively higher. It is also evident that there an inverse association between size of the firm and its efficiency, mainly for being efficient on technical grounds to inter firm collaboration and sub-contracting networks (Piore and Sabel, 1984). A few countries have successfully strengthened their small firm sector (e.g., India, Korea and the Philippines) and others appeared to be involved in alike agendas.

Growth in manufacturing production or GDP may not necessarily lead to income inequalities if human resource development, spatial distribution of physical infrastructure and social policies are inclusive in nature. Existing macroeconomic situation of the country and the Punjab province is also examined by focusing on the growth of GDP and manufacturing sector, employment trends and the export pattern of selected sectors which shows inconsistency in performance of the economy toward inclusive growth. While looking at the productivity and efficiency (or intensity) of the small, medium and large-scale sectors separately, it is found that SSI is least capital intensive, most capital productive, least productive in terms of wage rate and least energy efficient (most energy intensive) both at country and province levels. However, labor is more productive than medium scale industry and less labor productive than large scale firms at country level. But, labor productivity increases with the size of firms operating in Punjab. Export of food group, textile and leader sectors has ever been inconsistent in terms of growth and worked below potential most of the time. It is also evident that small scale firms contribute more toward employment generation but are less productive and contribute less in GDP in emerging economies than developed economies. Therefore, it is highly important to develop friendly policies for the small-scale industry so that inclusive growth objective can be achieved decently. It will not only provide jobs to the new entrants but will also provide an opportunity to the unemployed workforce in agriculture sector to get employment in more productive sectors.

Most feasible and widely accepted definition for SSI, specifically considering inclusive growth perspective, is that based on number of employees. The reason being its
simplicity, the ease of collection of data and most important is the pro-poor growth perspective. Relatively small firms (in employment terms) can have a large turnover as a result of buying in large quantities of components. There are also major problems in consistent monitoring of value of assets. A more satisfactory measure would be that of added value but this is difficult to calculate. Therefore, the proposed categorization of small and medium scale industry is “Small Scale firm is considered as that firm which employ 5-19 number of employees and medium Scale firm which employ 20-99 workers.” Adopting this definition will help the policy makers to identify and target the firms require facilitation by the policy making institutions, regulatory bodies and the financial institutions.

The primary difference between China and Pakistan is the industrial approach, that is, Chinese Policy is primarily the export promotion policy while on the other hand, Pakistan focused on import substitution policy. It is concluded that government is required to deal with cluster development for tending to the primary driver of cluster stagnation for help in releasing the growth potential of SSI. Several undertakings share couple of normal issues in a cluster and it is advantageous to tackle an issue for hundred endeavors than that of a smaller gathering or few scattered substances. Active role of local authorities, export promotion strategy by the central government and the involvement of investors looking for availability of cheap labor in China are three primary factors that help China’s success. China is a good example from learning point of view in a way that it took the idea of “One Belt, One Road” in place and through focusing on infrastructure, it attracted foreign investors with distinguishing incentives. Consistency of policies and good management practices are the basic ingredients of Chinese policy. Learning from international experiences under healthy collaboration is an important consideration among the Chinese policy makers.

The diverse implications joined to the expression 'industrial policy' which is primarily a manual for mediation by the government rely upon the objectives, degrees, instruments, and the normal outcomes and results for the economy and for the economic condition where it is connected. Evidence from literature provides four factors for industrial arrangements in the countries. These include the criteria for choosing the sector to be advanced, the policy instruments that are accessible, imperatives forced by the span of household markets and the aggregated limit of the different nations in the locale and the political will that exists to send this sort of measure. Five phases of industrialization in the country includes more extensive dispersal of industrial possession and utilization of development fund organizations, for example, PICIC and IDBP for financing. The third approach was nationalization of the private firms by Bhutto in 1970 and the fourth approach in 1990s was reversal of Bhutto’s approach. During Musharraf's period, the government additionally gave extensive space to the money related sector to take an interest during the time spent industrialization by settling on decisions made on the premise of market contemplations. The current phase of industrialization in the country is
the vertical (sectoral) industrial policy framework, that is, there are different sectoral policies as it can be gauged from Strategic Trade Policy Framework (STPF) 2015-18 and Automotive Development Policy (ADP) 2016-2021. Further, it is proposed that government of the Punjab should follow four features to make the policy inclusive. These include cluster development, establishment of small industries cluster, decentralization of industrial policy on district level of Punjab and encouragement of private investment.

The constraints, such as inadequately educated workforce, cost of financing, non-availability of electricity, expensive energy, tax rates, tax administration, corruption, less or no support by the local chamber of industry and political instability are important to deal with for achieving the desired target of job creation and inclusive growth. Learning overtime seems to be deteriorated like skill level depreciates that put negative impact on level of efficiency of the firms which is actually the case in Punjab. Another important finding is the negative effect of industrial park on efficiency of small scale firms which is justified through inappropriate management of the industrial parks or the lack of vertical and horizontal integration among the firms operating inside the industrial park. The small-scale firms in Punjab are experiencing diseconomies of scale and their capacity is under-utilized.

Policy Recommendations

The Government of the Punjab should focus on industrial led growth with special emphasis on SSI due to the prevailing potential of job creation for which following initiatives need to be taken or focused.

1. The organizations working under the Governments of Punjab and Pakistan should follow the following definition of small and medium scale industries. The proposed categorization of small and medium scale industry is “Small Scale firm is considered as that firm which employ 5-19 number of employees and medium Scale firm which employ 20-99 workers.” Adopting this definition will help the policy makers to identify and target the firms require facilitation by the policy making institutions, regulatory bodies and the financial institutions.

2. The cost of energy or the energy intensity requires significant reduction. This can only be meant through increased reliance on renewable energy resources.

3. Though the sustained provision of electricity is near to achieve which will no sooner be the constraint for promotion of SSI but cost of electricity is needed to decrease through more reliance on cost effective resources that is renewables. Thus, there is need to change the fuel mix for which the Government should take measures to attract investors under private and public private arrangements to harvest the potential of renewable energy in the province. Further, the government
should provide soft loans to the small scale industrialists for installation of solar systems to generate their own cheaper electricity.

4. Inadequacy of trained workforce is needed to control through Public Private partnerships for example through understanding the needs of industry in the country. Socio-economic profiling and its analysis is required for preparing the policy initiatives to be taken so that demand for skill set required by the firms may be met through appropriate location of different industries.

5. Provision of soft loans to the small-scale industry where the employment is from 5-19 employees is necessary that may be linked with for example specific level of export by the firms during the specific period of getting loans.

6. A specific industrial policy should be prepared both at federal level and provincial level which may deal with the incentive packages specially at the moment where CPEC is under its way. There is a need to focus on export led growth instead of import substitution. For detailed understanding of the policy options to be covered in the industrial policy, there is need to conduct a separate study by focusing on the emerging economies and host countries of Chinese industrial relocation.

7. For redesigning of the existent industrial parks in the province, the Government should focus on the management practices of industrial parks for which learning the practices by China is important. Different government tiers should play their specified roles, like provision of basic utilities should be the responsibility of local government and attracting investors should be the responsibility of provincial government through forming a separate accountable authority.

8. Adoption of latest competitive technology is required to compete in the international market. The Government should coordinate with the Chamber of Commerce for motivation of industrialist to improve their learning, and improvement of skills and innovation. It will significantly improve the efficiency level.
References


References


Change in Entrepreneurial Technology, IZA Discussion Paper 7991.


References

Institute of Public Policy, Beaconhouse National University (2012). The State of the Economy: The Punjab Story


Survey conducted by SDPI (2013) also validate the findings of enterprise survey. In which 56% respondents said that overcoming energy crises was the single most important priority in improving business climate.


