

# “An Investigation of Firm Heterogeneity in the Constraints to Development and Growth in Pakistan”

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## **Abstract**

This study considers the importance of firm characteristics in explaining the degree of business constraints facing Pakistani firms in the Investment Climate Survey. We quantify how firms with differing characteristics experience particular problems. After controlling for other factors, the largest differences in responses to business constraints occurs among firms that vary by manufacturing industry, and among firms operating under different ownership structures or selling in different markets. In some cases, firm size and firm location also play an important role. The age of the firm generally does not lead to significant differences. These results are important, because they will guide policymakers to develop more specific approaches to fostering the investment climate, which better account for the heterogeneity of firms.

**Keywords:** Pakistan, Investment Climate, Business Constraints

**JEL No.:** O53, L6, M0

## **1. Introduction**

What is the key to a country's economic development? This question has produced great controversy and a wide variety of answers. In recent years, the answers have increasingly emphasized the microeconomic institutions of a country: is there a strong legal system to promote property rights, is corruption under control, can financial institutions play their role as intermediaries between savers and investors, and so forth? In this new analytical framework, macroeconomic stability is not sufficient for development. It is along these lines that the most multilateral development institutions now place an increasing focus on improving the business or investment climate. A country cannot be expected to grow and flourish if potential entrepreneurs see no incentive to taking risks and expanding their businesses. Risk taking must provide the potential for rewards, but rewards can be almost nonexistent without the appropriate microeconomic institutions.

In order to analyze the investment climate, the World Bank commissioned surveys for 53 countries. In the case of Pakistan, an Investment Climate Assessment (ICA) survey was administered in 2002 in conjunction with the Small and Medium Enterprise Development Authority (SMEDA), Pakistan. This survey of 956 firms is the most extensive for Pakistan and will be the subject of our analysis. It is not the only survey of Pakistani businesses though, as more limited surveys were used to understand business constraints in World Bank (2001a), SMEDA (2002), and Bari et al. (2002), among others.

Of course, the businesses of Pakistan are not homogenous units. They vary along a number of important dimensions, including their size, location, exporter status, type of production, age, and type of ownership. However, while previous studies have made attempts to understand business constraints in Pakistan, they have not included a systematic effort to understand the heterogeneity of Pakistani firms relating to these various constraints. Many discussions of policy reform tend to imply a one-policy-fits-all approach. Some of

these studies make initial attempts along these lines by tabulating their results based on firm size or geographical region. But this is not sufficient to understand the differences in constraints and we are often left to wonder what characteristic of the firm (its size or its location) is driving the difference in firm responses.

Our goal in this paper is to provide a more systematic analysis of how the characteristics of a firm affect its responses to questions about various business constraints, in order to contribute to the discussion of reform efficacy in Pakistan. We accomplish this by using an ordered probit analysis. The reported degree of constraint facing a business is the dependent variable to be explained by a number of underlying firm characteristics, including firm size, province, exporter status, type of firm production, firm age, and the type of firm ownership. This regression analysis makes it possible to know whether firm size, for example, leads to significantly different responses about firm constraints after controlling for the other firm characteristics. By knowing this, we can gain more insight when interpreting the cross-tabulations of business constraints by different firm characteristics. This will allow for a more detailed analysis of Pakistan's business or investment climate, and perhaps even uncover further areas for reforms in the Pakistan economy.

As shared above, for the purpose of this paper, the Investment Climate Survey 2002 dataset has been analyzed and our analysis proceeds as follows.<sup>2</sup> In Section 2, we provide background about previous studies of the Pakistan business climate, as well as motivate how the trend toward microeconomic institutional focus developed. Section 3 follows with a description of the Pakistan ICA and summary statistics for the sample firms. Section 4 explains the methodology of the ordered probit model approach. Section 5 provides the

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<sup>2</sup> In 2006, the World Bank and SMEDA began work on the Investment Climate Assessment II for Pakistan. This survey is expected to be released in 2008, but it has not yet been cleared for use by private researchers. Subsequent research will consider this survey as well. It will be interesting to study the ICA II, because questions about business constraints are asked several times to check for consistency in the answers, and firms are also asked to rank the biggest three constraints and the three most needed reforms.

results, and Section 6 follows with conclusions and policy recommendations. Briefly, our findings suggest that a firm's characteristics plays an important role in determining its responses to different business constraints in Pakistan. Firms that differ by export status, by the type of sub-manufacturing industry, and by firm ownership status, provide significantly different responses about the degree of business constraints. Exporters enjoy better conditions, as do firms in the sports goods, leather goods, and electronics industries. Meanwhile, private limited companies face additional burdens than other types of firm ownership structures. In some cases, firm size and firm location also play an important role. Medium size firms generally face more difficult conditions, as do firms in Sindh or Punjab. Finally, firm age does not generally play much role in determining firm responses.

## **2. Background**

During the 1980s and 1990s, the World Bank (WB) and the International Monetary Fund (IMF) designed the Structural Adjustment Program (SAP) to assist economic development by providing credit for debt-ridden countries. Under World Bank and IMF conditionality, the SAP dominated economic policy planning in many developing countries. A typical SAP facility required the recipient country to restructure its economy in order to reduce deficits and yield financial resources required to pay debts. The prescribed macroeconomic framework included "structural" reforms to deregulate the economy, liberalize trade and investment, and privatize state enterprises. These were coupled with short-term stabilization measures, including cutbacks in government expenditures, increased interest rates, and currency devaluation. The widespread failure of SAP in most of the low and middle income countries to yield sustainable moderate growth, as discussed in World Bank (2001b), prompted a paradigm shift even within the World Bank toward a broader economic development approach. Policy makers realized that alongside deregulation, trade

liberalization, and fiscal discipline, microeconomic incentives are equally important to firm development and to stimulate private sector growth.

As such, the World Bank has increasingly focused on microeconomic incentives in recent years. James Wolfensohn, then president of the World Bank, developed the New Development Framework in 1999. His approach de-emphasized macroeconomic issues and moved the focus to fighting corruption, to creating an effective justice system, and to promoting a supervised financial system. There is only so much that macroeconomic stability can provide if a country's institutions are not designed to effectively facilitate investment and growth.

The World Bank's *World Development Report 2005* describes the World Bank's efforts to understand the investment climate in low and middle income countries. The report analyzes survey data from 26,000 firms in 53 developing countries, in order to examine the relationship between the investment climate and growth. These surveys are conducted with local partners in each country, in order to include local input for policy reforms. The purpose of these investment climate surveys is to identify areas for policy reform that can reduce the burden on business and encourage them to invest and expand, with the idea that such growth will lessen poverty for everyone. The World Bank seeks to define how certain economic policy measures have the ability to unleash the growth potential of a country or otherwise restrain it from growing.

The World Bank, in collaboration with the Small and Medium Enterprise Development Authority (SMEDA) of Pakistan, produced an investment climate assessment for Pakistan in 2003. The World Bank (2003) concluded that Pakistan needs to focus on microeconomic reforms to reduce business costs by providing better services in the areas of "power, telecom, tax administration, access to finance, and law and order" (p. iv). The World Bank's assessment focused on comparing various summary statistics from the survey to the

situation in other comparable countries, mainly China, Bangladesh, and India. More detailed work was recently published as Dollar, Hallward-Driemeier, and Mengistae (2005). Table 1 compares the percentage of firms ranking a constraint as major or severe for these four countries. Generally, Bangladesh faces a more severe situation than Pakistan, but Pakistan's firms have more complaints than those in China or India. While such analysis is important, as a comparison to international benchmarks is needed to be able to quantify the severity of problems in Pakistan, there are still plenty of insights beyond the scope of the World Bank's assessment remaining to be learned from the survey results.

**Table 1: Investment Climate Indicators in Four Countries  
(Percentage of Firms Ranking Constraint as Major or Very Severe)**

<b>CONSTRAINT</b>	<b>Pakistan</b>	<b>Bangladesh</b>	<b>China</b>	<b>India</b>
Tax administration	47.0%	50.7%	26.7%	26.4%
Tax rates	46.8%	35.8%	36.8%	27.9%
Financing	40.8%	45.7%	22.3%	19.2%
Economic policy uncertainty	40.4%	45.4%	32.9%	20.9%
Corruption	40.3%	57.9%	27.3%	37.4%
Electricity	39.3%	73.2%	29.7%	28.9%
Crime, theft and disorder	21.4%	39.4%	20.0%	15.6%
Labor regulations	15.8%	10.8%	20.7%	16.7%
Skills & educ. of avail. Workers	13.0%	19.8%	30.7%	12.5%

Source: For Pakistan, own calculations from Pakistan ICA. For others, World Bank (2004b).

While the World Bank's assessment is able to use the most comprehensive survey available for Pakistani businesses, there have also been other analyses of the business situation. Of these, Bari et al. (2002) is the most thorough, though they rely on a more limited survey of 54 firms to base their conclusions. These authors develop the notion of a "binding constraint" as a way to target the problems most affecting firm growth and investment, noting the need to focus on microeconomic as well as macroeconomic problems. They also do their best to obtain a good representation of firm sizes in several manufacturing and retail sectors. The binding constraints they observe include issues related to financing, infrastructure,

government regulation, human resources, market regulations, and macroeconomic uncertainty.

In a separate study, World Bank (2001a) uses a larger survey of 500 firms to identify the severity of constraints based on firm perceptions. Their two-tiered approach first identifies the top ten problems experienced by firms in their efforts to grow, and then further investigates seven of these constraints. The analysis is limited to the presentation of summary statistics based on enterprise perception. Nevertheless, the unique feature was the larger representation of smaller size firms in the survey from the all major economic sectors, including industry, trade, and services.

Finally, a key early paper that helped begin the debate on SME policy in Pakistan is SMEDA (2002). They survey 333 firms in order to develop a set of policies for micro, small and medium enterprises. They give special attention to the necessary legislation and administrative steps for compliance. The distinctive contribution of this study is to identify important issues related to labor welfare and taxation laws. The study further helps to clarify the complications faced by smaller firms in their attempts to comply with these laws. The study maintains an overall focus on three broad issues, which included labor laws, business credit or enterprise financing, and taxation.

### **3. Data Description**

We will provide a more detailed analysis of business constraints in Pakistan, using the Investment Climate Survey of Pakistan 2002. The data consists of 956 firms interviewed in Pakistan by the Small and Medium Enterprise Development Authority of the Government of Pakistan in collaboration with the World Bank between May and November 2002. The firms were sampled randomly from a sample frame drawn from the directories of registered businesses published by each of the four provincial government labor departments. The published directories were updated in 2000 and disaggregated in terms of employment and

industrial sub-sectors. This allows the survey sample to be fairly representative of industrial activity in Pakistan's twelve largest cities for seven manufacturing industries chosen in terms of their contribution to GDP. The ICA is the largest dataset available, and care was taken to make it representative of Pakistan's business enterprise population as described in Pakistan's Economic Census of 2001. Because of its size and scope, the dataset is rich enough to allow an extensive look at the heterogeneity of firms, and how this heterogeneity contributes to firm responses about business constraints.

**Table 2: Description of Survey Data**

	<b>Number of Firms</b>	<b>Percent of Firms</b>
<b>Firm Size</b>		
Micro	126	13.2%
Small	560	58.6%
Medium	141	14.7%
Large	129	13.5%
<b>Province</b>		
Sindh	239	25.0%
NWFP	76	7.9%
Punjab	580	60.7%
Baluchistan	61	6.4%
<b>Exporter Status</b>		
No Exports	777	81.3%
Exports	179	18.7%
<b>Type of Production</b>		
Textiles	342	35.8%
Garments	136	14.2%
Leather and leather products	40	4.2%
Food processing	151	15.8%
Electronics & electrical equipment	101	10.6%
Chemicals	138	14.4%
Sports goods	46	4.8%
Other	2	0.2%
<b>Firm Age</b>		
0-5 Years	96	10.0%
6-10 Years	285	29.8%
11-15 Years	228	23.8%
16 + Years	347	36.3%
<b>Firm Ownership</b>		
Publicly listed company	32	3.3%
Private held, limited company	486	50.8%
Partnership	167	17.5%
Sole Proprietorship	255	26.7%
Other	16	1.7%

Source: Own calculations from Pakistan Investment Climate Assessment.

Table 2 provides summary statistics for the firm characteristics in the survey sample. Firm size includes four categories based on the number of workers employed at the firm.<sup>3</sup> Micro firms employ 1 to 9 workers, while small firms employ 10 to 49 workers, medium firms employ 50 to 99 workers, and large firms have 100 or more workers. Micro firms account for 13.2 percent of the sample. Meanwhile, small firms represent 58.6 percent of the total, medium firms another 14.7 percent, and large firms account for 13.5 percent. With regard to Pakistan's four provinces, Punjab accounts for 60.7 percent of the firms in the survey, while 25 percent are in Sindh, 7.9 percent in NWFP, and 6.4 percent in Balochistan.<sup>4</sup> Meanwhile, 18.7 percent of the firms in the survey export at least some of their product.

Furthermore, the firms surveyed are involved in a variety of manufacturing industries. These industries include textiles (35.8 percent), food processing (15.8 percent), chemicals (14.4 percent), garments (14.2 percent), electronics and electrical equipment (10.6 percent), sporting goods (4.8 percent), leather and leather products (4.2 percent), and two other firms that were not classified. With regard to firm age, 10 percent of firms are between 0 and 5 years old, while 29.8 percent of firms are 6 to 10 years old, 23.8 percent of firms are 11 to 15 years old, and 36.3 percent of firms are at least 16 years old. Finally, the formal ownership structure of the firm is also important. In this regard, the more formal firms, publicly listed or privately held limited companies, together make up 54.1 percent of the surveyed firms. Sole proprietorships and partnerships provide 44.2 percent of the sample, and other categories represent another 1.7 percent.

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<sup>3</sup> These firm size definitions are based on the continuing discussions for the proposed SME Policy of Pakistan. For details, please see *SME Issues Paper* and SME policy task force reports as available on the website [www.smepolicy.net.pk](http://www.smepolicy.net.pk)

<sup>4</sup> The results of the Economic Census of 2005 also suggest similar geographic patterns of industrial establishments, though we find that Sindh and Baluchistan are overrepresented. Punjab is home to six of the most industrialized cities and 68.4 percent of Pakistan's 583,000 industrial establishments. Sindh, the home of Pakistan's largest industrial city Karachi, includes 13.9 percent of industrial establishments, while there are 16 percent in NWFP, and 1.4 percent in Baluchistan.

## 4. Methodology

Our goal is to understand the constraints facing Pakistani business. The business constraints in Pakistan will be considered along several different lines. Important among these are the size of the firm, the location of the firm, whether the firm is an exporter, the type of goods produced by the firm, the age of the firm, and the type of firm ownership. We attempt to understand these constraints through a system of self-reporting in the Investment Climate Assessment (ICA) of Pakistan. The ICA asked firms to rank seventeen different business obstacles on a scale with five categories ranging from “No Obstacle” to “Very Severe Obstacle.” Table 3 shows how the 956 firms responded to each constraint. The list of constraints is provided in descending order for the sum of the “major obstacle” and “very severe obstacle” categories. We consider the results of the survey questions asking how severely constraining are various possible impediments to Pakistani business. This discussion will allow for a characterization of the problems most affecting business in Pakistan.

**Table 3: Firm Responses to Business Obstacles**

<b>Constraints</b>	<b>None</b>	<b>Minor</b>	<b>Moderate</b>	<b>Major</b>	<b>Very Severe</b>
Tax administration	24.40%	11.20%	17.40%	17.30%	29.70%
Tax rates	25.40%	9.40%	18.40%	15.30%	31.50%
Financing Costs (int. rates)	26.30%	13.10%	17.40%	13.60%	29.60%
Economic policy uncertainty	29.50%	11.20%	18.90%	14.20%	26.20%
Corruption	28.60%	12.00%	19.10%	15.10%	25.20%
Electricity	21.30%	20.10%	19.30%	16.60%	22.70%
Access to Financing (collateral)	29.60%	12.50%	19.60%	15.90%	22.40%
Macro-economic instability	30.40%	13.60%	21.60%	14.60%	19.90%
Customs & trade regul.	43.80%	14.10%	17.70%	12.70%	11.70%
Anti-competitive practices	37.20%	19.60%	21.80%	8.70%	12.80%
Crime, theft and disorder	44.80%	17.40%	16.40%	10.20%	11.20%
Access to Land	46.40%	16.80%	15.70%	10.10%	11.10%
Labor regulations	43.80%	17.40%	23.00%	10.20%	5.70%
Business permits	52.60%	17.30%	15.40%	8.00%	6.70%
Skills & educ. of avail. workers	48.30%	19.90%	18.90%	7.60%	5.30%
Transportation	46.40%	23.60%	19.90%	6.50%	3.70%
Telecommunications	53.90%	25.60%	12.90%	4.20%	3.50%

Source: Own calculations from Pakistan Investment Climate Assessment

Note: Constraints in the shaded part of the Table are "binding," as defined in Section 4.

We employ the concept of “binding constraint” to identify those constraints which produce the largest complaints from firms. Following the approach of Bari et al. (2002), we

use two criteria for determining a binding constraint: the median firm response must identify the constraint as at least a “moderate obstacle,” and at least 30 percent of firms must identify the constraint as a “major obstacle” or a “very severe obstacle.” Both criteria identify the first eight constraints listed in Table 3 as binding, from “Tax Administration” to “Macroeconomic Instability.” At the cutoff point there is a large drop, as while 34.4 percent of firms identify macroeconomic instability as a severe or major constraint, only 24.3 percent of firms provide the same answer for customs and trade regulations. Binding constraints are of more interest, because these constraints suggest the areas where reform could produce the most benefit. It may be less effective to devote policy resources to areas where firms do not complain as loudly. We see that tax issues, financing issues, policy uncertainty, corruption, electricity, and macroeconomic instability produce the largest concerns for firms. Customs and trade regulations, anti-competitive practices, crime, land, labor and business regulations, the skills of the labor force, transportation, and telecommunications are not constraining firms to as large of degree. In comparison, SMEDA (2006) identifies the business environment, access to finance, human resource development, and support for technology as four of the most important areas for SME policy.

To understand the nature of the binding constraints, as well as the other constraints, we wish to determine what characteristics of a firm lead it to respond in a particular way. For example, it will be enlightening to know if small firms complain much more strongly than large firms about the access to financing. The overwhelming benefit of our approach is that we can control for other firm characteristics to make these conclusions. We will know that it is because firms are small that they answer in some particular way, and not because, for example, small firms tend to manufacture particular goods or be located in particular regions, and it is these other factors that are driving the firm’s response. Such knowledge can guide

policymakers to design more appropriate policies responding to the specific needs of Pakistani firms.

An ordered probit model provides a natural approach for determining the significance of particular firm characteristics in answering about the degree of a constraint. Our dependent variable, the measure of constraint severity, includes five ordered categories. Ordinary least squares is not appropriate because there is no reason to believe that the differences between categories will be equal. We cannot observe the true severity of a constraint, which we call variable  $y^*$ . Each of the ranking categories refers to a range of actual severity. As the constraint grows for a firm, the constraint will reach a threshold and move to the next higher category. An ordered probit model provides a way to model this phenomenon. We seek to estimate:

$$y^* = \alpha + \beta X + \varepsilon, \text{ and we observe } y, \text{ where } y = \begin{cases} 0, & \text{if } y^* \leq \delta_1 \\ 1, & \text{if } \delta_1 \leq y^* \leq \delta_2 \\ 2, & \text{if } \delta_2 \leq y^* \leq \delta_3 \\ 3, & \text{if } \delta_3 \leq y^* \leq \delta_4 \\ 4, & \text{if } \delta_4 \leq y^* \end{cases} \quad (1)$$

In the above expression,  $y^*$  is the unobserved true underlying severity of the constraint,  $X$  is a matrix of explanatory variables,  $y$  is the observed constraint ranking, and the  $\delta$ s are the unknown threshold values that cause firms to decide their answer for  $y$ . We consider these constraints as a linear function of firm characteristics  $X$ , which include size, location, export status, type of production, firm age, type of firm ownership. The ordered probit approach uses maximum likelihood to determine the role of the explanatory variables. The value of using this approach is that it allows us to examine whether a particular firm characteristic results in different answers about the severity of a constraint, after controlling for the effects of other explanatory variables.

## **5. Analysis of the Constraints on Business**

The framework used in this paper explains the business constraints for firms in Pakistan along six specific firm characteristics, in order to provide the basis for a deeper policy discussion. We identify those characteristics of firms that produce statistically significant differences in their answers about the severity of business constraints. The main emphasis will be on binding constraints, though the discussion also includes limited analysis of other constraints. Table 4 provides the results of the ordered probit regressions. Tables 5 through 10 follow by showing the percentage of firms identifying a constraint as “Major” or “Very Severe,” disaggregated by a particular firm characteristic. These tables incorporate information from the ordered probit regression to identify which constraints produce statistically significant differences in the responses of firms disaggregated by the particular category. These tables also identify the binding constraints as they apply to each of the firm characteristics.

### **5.1 Firm Size**

The relationship between firm size and business constraints has been studied in the literature. Bari et al. (2002) indicates that SMEs have generally faced greater challenges than their larger counterparts in Pakistan’s recent history, on account of the heavily regulated industrialization policy. Large firms held advantages because they were in better positions to obtain limited government licenses and investment incentives. Large firms also had greater access to finance, because credit and interest rate controls left banks with little reason to loan to the riskier small firms. Fixed costs in dealing with government regulators and administrators also worked to put a greater burden on smaller firms.

After controlling for other firm characteristics, we find evidence that firm size matters at the 5 percent level of significance for the degree of constraint facing firms with regard to the binding constraints of tax issues, electricity, and access to financing (see Table 5).

**Table 4: Ordered--Probit of Constraints on Firm Characteristics**

	Binding Constraints								Non-Binding Constraints								
	Tax Administration	Tax rates	Cost of Financing	Economic policy uncertainty	Corruption	Electricity	Access to Financing (e.g. collateral)	Macro-economic instability	Customs and trade regulations	Anti-competitive practices	Crime, theft and disorder	Access to Land	Labor regulation	Business licensing and operating permits	Skills and education of available workers	Transportation	Telecommunications
<b>Firm Size (Omitted Condition is "Large Firm")</b>																	
Overall p-value	0.0262*	0.0000**	0.7003	0.0596	0.5249	0.0159*	0.0265*	0.2651	0.0641	0.1105	0.0013**	0.0076**	0.0044**	0.4576	0.4582	0.5511	0.0281*
Micro Firm	-0.3593*	-0.6885**	-0.0073	-0.1671	-0.1801	-0.2606	0.1001	-0.1641	-0.5220**	-0.0099	-0.4576**	0.4649**	-0.5386**	0.0406	-0.1813	-0.0662	-0.4794**
Small Firm	-0.0505	-0.2306	0.1007	-0.2241	-0.0724	-0.0963	0.3091*	-0.1336	-0.3207**	-0.1132	-0.4399**	0.4326**	-0.2289	0.1661	-0.0821	0.0009	-0.2889*
Medium Firm	0.0779	0.1293	0.0699	-0.3693**	0.0324	0.1854	0.2472	-0.2722*	-0.0934	-0.2969*	-0.5084**	0.3659*	-0.0411	0.0826	0.0497	-0.1498	-0.1464
<b>Province (Omitted Condition is "Sindh")</b>																	
Overall p-value	0.2201	0.0614	0.0488*	0.3255	0.5349	0.0009**	0.0000**	0.7189	0.0046**	0.2524	0.0051**	0.0000**	0.0606	0.0044**	0.0031**	0.0847	0.4223
NWFP	0.0487	-0.0337	-0.4426**	0.2507	-0.0295	0.1262	-0.7807**	-0.0359	0.1821	0.2933	-0.2071	-1.1439**	-0.3575*	-0.5160**	-0.5957**	-0.1399	-0.0882
Punjab	0.0225	-0.0557	-0.0772	0.0386	0.0145	-0.1789	-0.0516	-0.0846	-0.2300*	0.0398	-0.1398	-0.6174**	-0.0069	-0.1662	-0.0291	-0.1249	-0.1184
Baluchistan	-0.2898	-0.4333**	-0.0365	0.1974	-0.2112	-0.5373**	-0.2206	-0.1544	-0.3041	-0.0287	0.3583*	-0.3523*	-0.2565	0.108	0.13	0.2355	-0.2591
<b>Exporter Status (Omitted Condition is "Non-exporter")</b>																	
Overall p-value	0.0006**	0.0040**	0.0000**	0.8351	0.0070**	0.5582	0.0019**	0.2594	0.5369	0.0148*	0.2475	0.5844	0.0045**	0.0310*	0.7697	0.0662	0.2324
Exporter	-0.3774**	-0.3153**	-0.4774**	-0.0224	-0.2945**	-0.0611	-0.3331**	-0.1205	-0.0688	-0.2694*	-0.1299	0.06	-0.3178**	-0.2491*	0.0316	-0.2050	-0.1349
<b>Type of Production (Omitted Condition is "Textiles")</b>																	
Overall p-value	0.0000**	0.0000**	0.0000**	0.0000**	0.0000**	0.0051**	0.0000**	0.0000**	0.0000**	0.0000**	0.0000**	0.6997	0.0000**	0.0009**	0.0361*	0.0125*	0.0018**
Garments	-0.1331	-0.1706	-0.0739	0.0382	-0.1629	-0.1132	-0.1243	-0.01	0.0468	0.0763	0.0153	-0.0566	-0.0847	-0.1695	0.0043	0.0196	-0.2289
Leather	-1.4174**	-1.2257**	-0.8074**	-0.9682**	-0.8473**	-0.3121	-0.4312*	-0.554**	-0.7407**	-0.5382*	-0.6656**	-0.0068	-0.6226**	-0.5173*	0.1709	-0.2764	-0.6800**
Food Proc.	0.2715*	0.1678	0.0597	0.037	0.2051	0.173	0.1119	-0.0571	0.0521	0.2609*	0.0785	-0.0058	0.0786	-0.1825	-0.3657**	-0.1675	0.0613
Electronics	-0.2885*	-0.6186**	-0.2631*	-0.3459**	-0.1074	-0.0337	-0.1637	-0.2516	-0.1942	0.0955	0.0897	0.1353	-0.3690**	-0.1598	0.0497	0.0402	0.074
Chemicals	-0.0743	-0.0585	-0.0352	-0.051	0.0175	-0.064	-0.0073	-0.0217	0.1197	0.1684	0.0409	0.0666	0.1763	0.0056	0.0483	-0.1549	0.0413
Sports Goods	-2.0439**	-1.4757**	-1.4185**	-1.3818**	-1.7798**	-0.6394**	-1.1207**	-1.108**	-1.0756**	-1.8205**	-2.1028**	-0.2388	-1.4861**	-1.1451**	-0.1175	-0.7372**	-0.6702**
<b>Firm Age (Omitted Condition is "0-5 Yr.")</b>																	
Overall p-value	0.0041**	0.4788	0.4549	0.2875	0.7489	0.0588	0.4084	0.0030**	0.1080	0.1390	0.2605	0.0751	0.0636	0.2922	0.0821	0.821	0.3997
6-10 Yr.	0.3014*	0.072	0.1276	0.2281	0.1174	0.1018	-0.0057	0.4813**	0.1571	0.144	0.219	-0.2240	0.0517	0.2393	0.0092	-0.1018	0.1919
11-15 Yr.	0.4611**	0.1849	0.2158	0.1375	0.1059	0.0189	0.148	0.3036*	0.3302*	0.2778*	0.0548	0.0205	0.2695	0.2414	0.1	-0.132	0.1445
Over 15 Yr.	0.4372**	0.1489	0.1678	0.2209	0.142	0.2444	0.0961	0.3908**	0.2053	0.2600	0.1008	-0.0411	0.0453	0.1495	-0.1449	-0.1014	0.2322
<b>Firm Ownership (Omitted Condition is "Sole Proprietorship")</b>																	
Overall p-value	0.0012**	0.0238*	0.0000**	0.0266*	0.0007**	0.7831	0.0000**	0.0063**	0.0003**	0.0001**	0.0107*	0.0357*	0.0056**	0.0241*	0.0419*	0.0642	0.1099
Publicly Listed Co.	-0.017	-0.2847	0.3654*	-0.179	-0.0394	-0.1085	0.139	0.1768	0.1918	0.0574	-0.0071	0.177	0.302	0.5261*	0.4970*	0.5923**	0.3392
Private limited Co.	0.2956**	0.2125*	0.4876**	0.1221	0.1912*	0.0452	0.4302**	0.2292*	0.3579**	0.3391**	0.2018*	0.2521*	0.3472**	0.3102**	0.2655**	0.2479*	0.0914
Partnership	-0.0556	0.0261	0.2521*	-0.118	-0.2479*	0.0635	0.1727	-0.0694	-0.0316	-0.1128	-0.1589	0.0062	0.2180	0.155	0.2579*	0.1486	0.2769*
Other	-0.1323	-0.4054	-0.3793	0.6446	0.0254	-0.188	-0.1401	0.5688*	0.1121	0.4750	0.1043	0.2772	0.0951	0.4002	0.3401	0.468	0.2885
Observations	953	954	953	954	953	954	953	953	948	954	953	953	954	952	953	953	952

Note: \* significant at 5%; \*\* significant at 1%

For nonbinding constraints, firm size matters for crime issues, access to land, labor regulations, and telecommunications. Interestingly, some issues do not produce answers that differ in a statistically significant way by firm size, including financing costs, economic policy uncertainty, corruption, macroeconomic stability, customs and trade regulations, anticompetitive practices, business licensing and operating permits, skills and education of the labor force, and transportation. But regarding tax issues and electricity, medium firms express the strongest complaints, followed by large firms, small firms, and micro firms, once we control for other factors. In fact, micro firms generally have fewer complaints, as their only binding constraints are financing costs and economic policy uncertainty. Meanwhile, for access to finance, small firms complain most, followed by medium, micro, and large firms.

**Table 5 - Percentage of Firms Identifying Constraint as "Major" or "Very Severe" by Firm Size**

	<b>Micro</b>	<b>Small</b>	<b>Medium</b>	<b>Large</b>
<b>Tax administration</b>	34.9%	<b>47.7%</b>	<b>53.2%</b>	<b>49.6%</b>
<b>Tax rates</b>	29.4%	<b>45.9%</b>	<b>59.6%</b>	<b>54.3%</b>
Financing Costs (int. rates)	<b>33.3%</b>	<b>45.5%</b>	<b>41.8%</b>	<b>44.2%</b>
Economic policy uncertainty	<b>41.3%</b>	<b>39.2%</b>	<b>38.3%</b>	<b>46.5%</b>
Corruption	33.3%	<b>39.4%</b>	<b>45.4%</b>	<b>45.0%</b>
<b>Electricity</b>	33.3%	<b>38.9%</b>	<b>48.2%</b>	<b>38.0%</b>
<b>Access to Financing (collateral)</b>	33.3%	<b>40.7%</b>	<b>39.0%</b>	31.8%
Macro-economic instability	27.8%	<b>33.3%</b>	<b>34.0%</b>	<b>45.7%</b>
Customs & trade regulations	13.5%	22.4%	<b>30.5%</b>	<b>36.4%</b>
Anti-competitive practices	26.2%	21.5%	12.1%	26.4%
<b>Crime, theft and disorder</b>	17.5%	19.7%	19.9%	<b>33.3%</b>
<b>Access to Land</b>	16.7%	22.0%	23.4%	18.6%
<b>Labor regulations</b>	7.9%	14.3%	22.7%	22.5%
Business permits	11.1%	15.4%	16.3%	13.2%
Skills & educ. of avail. workers	9.5%	12.2%	20.6%	11.6%
Transportation	10.3%	10.6%	7.1%	10.9%
<b>Telecommunications</b>	6.3%	6.8%	6.4%	14.0%

Note: Own calculations from Pakistan ICA. The constraint name is in boldface if the ordered probit analysis identifies statistically significant differences at the 5 percent level in the answers of firms varying by the firm characteristic. The percentage is in boldface if the constraint is binding for the sub-category, where binding constraints are identified as those with a median response indicating the constraint is at least "Moderate", and at least 30 percent of firms identify the constraint as "Major" or "Very Severe."

First consider the issues of tax administration and tax rates. Micro firms complain about these issues much less than their larger counterparts. In fact, tax issues are not a binding constraint for micro firms. Regarding tax administration, the responses of small and medium firms are not statistically distinguishable from the responses of large firms. With regard to tax rates, we find evidence that micro and small firms do complain to a lesser degree in a statistically significant way, than do medium or large firms. We can observe some justification for this through further exploration of the data along three parameters: the amount of entrepreneurial time spent in dealing with tax regulators, average fines paid during a year, and average bribes paid to the regulators. We find evidence in the ICA that larger firms must devote significantly more resources in absolute terms for dealing with taxation issues, while small firms are most burdened as a percentage of sales. Micro firms can more easily escape the targets of the government tax authorities.

Access to financing is an important issue, as it is seventh in the list of binding constraints, and here it is the case that large firms complain least and small firms complain most. Access to financing is only a binding constraint for small and medium firms. In a topic deserving much greater attention, we indeed find evidence that firm size has a direct bearing on a firm's ability to get financing from formal channels; larger firms enjoy easier and greater access to formal financing than their smaller counterparts in the ICA. It is puzzling why micro firms do not voice loud complaints despite having the least access to formal financing though. For example, more than half of large firms had at least one loan from a bank at the time of the survey, while this is true for only 2.3 percent of micro firms. There are several possible explanations. Micro firms believe that they will not be entertained by the financial institutions, and hence they are discouraged to apply in the first place and

then effectively find other sources of financing. Also, micro firms assign low probability to their survival in a highly uncertain economic policy environment and avoid taking any additional liabilities in the absence of effective bankruptcy procedures.

There are four other constraints with statistically significant differing answers regarding firm size that are not binding in nature. These are related to crime, access to land, labor regulations, and telecommunications. The most likely targets of theft and crimes are the large enterprises. Limited financial resources have translated into the larger complaints by the micro, small and medium enterprises about the access to land. Unlike the usual perception that labor regulations are a real source of trouble for the smaller firms, see SMEDA (2002) and SMEDA (2004), our analysis suggests otherwise, as the bigger a firm is, the more it tends to complain about labor regulations.

Revisiting the discussion above, our analysis suggests that conditions for the SME manufacturing sector in Pakistan can improve if reform efforts focus on: a) improving both tax rates and tax administration to respond better to SMEs' unique conditions, b) ensuring the supply of electricity from the national grid, and c) deepening the formal financing to reach out to smaller firms. To make the business environment even more conducive for micro and small manufacturers, giving access to land should be considered. However, any intervention in other areas is likely benefit larger enterprises more than the SMEs.

## **5.2 Firm Location**

Table 6 provides evidence that, after controlling for other firm characteristics, the province in which a firm is located affects its business constraints. Firms in Sindh and NWFP tend to voice louder complaints than those in Punjab and Balochistan.

The subset of binding constraints in which firm location plays an important role in producing different responses, with at least 5 percent significance, include the cost of financing, electricity, and access to financing. With regard to the costs of financing and access to financing, the complaints are loudest in Sindh, though the responses in Punjab, Balochistan, and Sindh do not differ significantly from one another. However, financing issues are an area in which complaints from NWFP are significantly lower, once we control for other firm characteristics. As for electricity, the degree of complaints is significantly less in Balochistan than the other regions. NWFP experiences the biggest problems with electricity, followed by Sindh and Punjab. We find justification for this in the survey, as the median percentage of merchandise value lost due to electricity problems follows the same ordering. In NWFP, the median firm estimates that it loses 5 percent of its merchandise on account of electricity problems. Because different regions have different experiences with electricity, there are grounds for a deeper analysis of the arrangement of electricity production and supply in the four regions.

**Table 6 - Percentage of Firms Identifying Constraint as "Major" or "Very Severe" by Region**

	<b>Sindh</b>	<b>NWFP</b>	<b>Punjab</b>	<b>Balochistan</b>
Tax administration	<b>54.4%</b>	<b>56.6%</b>	<b>43.6%</b>	<b>39.3%</b>
Tax rates	<b>54.8%</b>	<b>59.2%</b>	<b>42.7%</b>	<b>39.3%</b>
<b>Financing Costs (int. rates)</b>	<b>50.6%</b>	<b>40.8%</b>	<b>40.3%</b>	<b>44.3%</b>
Economic policy uncertainty	<b>39.7%</b>	<b>56.6%</b>	<b>38.4%</b>	<b>41.0%</b>
Corruption	<b>41.4%</b>	<b>47.4%</b>	<b>39.4%</b>	<b>34.4%</b>
<b>Electricity</b>	<b>43.5%</b>	<b>52.6%</b>	<b>38.8%</b>	13.1%
<b>Access to Financing (collateral)</b>	<b>46.4%</b>	23.7%	<b>36.9%</b>	<b>37.7%</b>
Macro-economic instability	<b>39.3%</b>	<b>40.8%</b>	<b>31.5%</b>	<b>34.4%</b>
<b>Customs &amp; trade regulations</b>	28.5%	<b>39.5%</b>	20.9%	21.3%
Anti-competitive practices	13.4%	<b>39.5%</b>	23.0%	14.8%
<b>Crime, theft and disorder</b>	23.8%	15.8%	18.7%	<b>42.6%</b>
<b>Access to Land</b>	38.1%	3.9%	16.3%	21.3%
Labor regulations	16.7%	10.5%	16.6%	11.5%
<b>Business permits</b>	19.7%	5.3%	13.0%	23.0%
<b>Skills &amp; educ. of avail. workers</b>	12.1%	9.2%	12.6%	24.6%
Transportation	10.0%	11.8%	9.0%	18.0%
Telecommunications	7.5%	6.6%	7.6%	9.8%

Note: The Note in Table 5 explains how to interpret this table.

The regional location of firms also produces statistical significance for some non-binding constraints as well. For instance, customs and trade regulations are less of a problem in Balochistan and Punjab than in NWFP and Sindh. Meanwhile, access to land is a bigger problem in Sindh than in other regions. This constraint points to possible opportunities for substantially improving the investment climate by establishing new industrial zones in Sindh. Complaints about access to land are particularly low in NWFP once we control for other factors. As for the issues of crime, business permits, and worker skills, Balochistan experiences the biggest problems, followed by Sindh, Punjab, and NWFP.

### **5.3 Access to export markets**

Exporting firms overwhelmingly have fewer complaints than firms serving only the domestic market, as shown in Table 7. At the 5 percent level of significance, our analysis regarding market access has confirmed significantly lower complaints for exporters with five of the eight binding constraints. For the other constraints, exporters complain less, but not significantly less. In general, exporters complain less with regard to tax issues, financing issues, and experiences with corruption. In fact, the only constraint identified as binding by exporting firms in the survey is electricity. As for nonbinding constraints, exporters complain significantly less about anti-competitive practices, labor regulations, and business permits.

For practical reasons, exporting firms can complain less because they enjoy special incentive packages in areas such as taxation, financing, and other regulations.<sup>5</sup> Briefly, exporting firms are not required to pay sales tax (VAT), and income tax is governed by a presumptive tax regime, which allows exporters to settle their income

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<sup>5</sup> For details on incentives, please visit [www.tdap.gov.pk](http://www.tdap.gov.pk)

tax liability by paying tax at a rate ranging between 0.75 percent and 1.25 percent of sales. This arrangement takes away both of the top ranking constraints for exporters, and it allows them to internalize the costs of taxation as a fixed operating cost.

**Table 7 - Percentage of Firms Identifying Constraint as "Major" or "Very Severe" by Market Access**

	<b>Non- Exporters</b>	<b>Exporters</b>
<b>Tax administration</b>	<b>51.2%</b>	29.2%
<b>Tax rates</b>	<b>50.6%</b>	30.3%
<b>Financing Costs (int. rates)</b>	<b>47.2%</b>	25.8%
Economic policy uncertainty	<b>43.2%</b>	28.1%
<b>Corruption</b>	<b>43.3%</b>	27.0%
Electricity	<b>41.4%</b>	<b>30.9%</b>
<b>Access to Financing (collateral)</b>	<b>42.1%</b>	21.3%
Macro-economic instability	<b>37.0%</b>	23.0%
Customs & trade regulations	25.5%	19.1%
<b>Anti-competitive practices</b>	23.1%	14.0%
Crime, theft and disorder	22.7%	15.2%
Access to Land	22.0%	16.9%
<b>Labor regulations</b>	17.0%	10.7%
<b>Business permits</b>	16.1%	8.4%
Skills & educ. of avail. workers	13.5%	10.7%
Transportation	11.0%	6.2%

Note: The Note in Table 5 explains how to interpret this table.

The arrangement for financing is also unique for exporters. The central bank of Pakistan allows exporters to have access to an export refinancing fund, available through all commercial banking channels without a requirement of furnishing any physical collateral. Additionally, the export refinancing rates are pegged to the average six-month Treasury bill rates plus a certain percentage for covering operational costs. This arrangement has allowed exporters to enjoy increased access to financing at the lowest possible market interest rates. There are some limitations, however, because commercial banks can occasionally demand additional collateral for riskier clients. Corruption and uncertainty about regulations and policy is also reduced because of lessened contact between exporters and regulators. In general, our analysis confirms the effectiveness of said incentives resulting in relatively better scores from exporters against those constraints.

## 5.4 Manufacturing sub-sector

Does the type of product a firm produces matter for its well-being in the Pakistani business environment? Are some industries able to offer better investment opportunities than others? The answer to these questions is yes, as shown in Table 8. After controlling for other factors, the sub-manufacturing industry of the firm is an important determinant of its constraints. In fact, overall responses are different at the sub-manufacturing level for all of the constraints except for access to land. Among textiles, garments, leather goods, food processing, electronics, chemicals, and sports goods, business conditions in Pakistan tend to most favor the sports goods industry, followed by leather manufacturers and electronics manufacturers. To be precise, the sports goods and leather goods industries do not experience any binding constraints. Meanwhile, the food processing industry complains most loudly, though the responses from textiles, garments, and chemicals are also relatively close.

**Table 8 - Percentage of Firms Identifying Constraint as "Major" or "Very Severe" by Industry**

	Textiles	Garments	Leather	Food Processing	Electronics	Chemicals	Sports goods
<b>Tax administration</b>	<b>51.2%</b>	<b>49.3%</b>	7.5%	<b>62.9%</b>	<b>38.6%</b>	<b>50.0%</b>	2.2%
<b>Tax rates</b>	<b>53.5%</b>	<b>50.7%</b>	7.5%	<b>62.3%</b>	25.7%	<b>51.4%</b>	2.2%
<b>Financing Costs (int. rates)</b>	<b>47.7%</b>	<b>41.9%</b>	10.0%	<b>54.3%</b>	37.6%	<b>48.6%</b>	2.2%
<b>Economic policy uncertainty</b>	<b>43.9%</b>	<b>41.9%</b>	15.0%	<b>51.7%</b>	32.7%	<b>42.8%</b>	4.3%
<b>Corruption</b>	<b>43.3%</b>	<b>35.3%</b>	10.0%	<b>52.3%</b>	<b>39.6%</b>	<b>46.4%</b>	2.2%
<b>Electricity</b>	<b>42.4%</b>	<b>33.8%</b>	17.5%	<b>53.6%</b>	<b>37.6%</b>	<b>37.7%</b>	15.2%
<b>Access to Financing (collateral)</b>	<b>42.7%</b>	<b>33.8%</b>	17.5%	<b>47.0%</b>	<b>36.6%</b>	<b>40.6%</b>	4.3%
<b>Macro-economic instability</b>	<b>38.9%</b>	<b>38.2%</b>	10.0%	<b>39.7%</b>	26.7%	<b>37.7%</b>	0.0%
<b>Customs &amp; trade regulations</b>	22.8%	30.9%	7.5%	30.5%	19.8%	<b>30.4%</b>	2.2%
<b>Anti-competitive practices</b>	16.4%	18.4%	12.5%	<b>31.1%</b>	30.7%	28.3%	2.2%
<b>Crime, theft and disorder</b>	20.5%	18.4%	7.5%	25.2%	24.8%	30.4%	0.0%
Access to Land	26.3%	20.6%	0.0%	21.9%	19.8%	18.1%	10.9%
<b>Labor regulations</b>	14.9%	16.2%	5.0%	21.2%	8.9%	25.4%	0.0%
<b>Business permits</b>	17.0%	14.0%	7.5%	15.9%	11.9%	16.7%	2.2%
<b>Skills &amp; education of avail. Workers</b>	15.2%	14.0%	12.5%	7.3%	12.9%	15.9%	4.3%
<b>Transportation</b>	10.8%	10.3%	5.0%	11.9%	8.9%	11.6%	0.0%
<b>Telecommunications</b>	7.3%	5.1%	2.5%	8.6%	11.9%	10.9%	0.0%

Note: The Note in Table 5 explains how to interpret this table.

Given these results, the industrial sectors can be classified in two groups based on their relative perceptions about the business environment. The first group comprises sports goods, leather goods, and electronics. While sports goods and leather goods are well ahead, the case of electronics is more split, since they are better off than the textiles, garments, chemicals and food processing industries, but only for the first four binding constraints, from tax administration to economic policy uncertainty. For the rest of the binding constraints, from corruption to macroeconomic instability, their experience is no different.

The second group includes textiles, garments, chemicals, and food processing. It is interesting that textile and garment manufacturers voice loud complaints. SMEDA (2005) and the World Bank (2004a) predict declining returns for the textile and garment industries in Pakistan, with regard to the abolition of textile quotas and increased competition from other regional players, such as India, Bangladesh, and China. Food processing firms voice the loudest complaints, though tax administration is the only area which has any statistical significance for this sector, besides anticompetitive practices in the list of nonbinding constraints. On the other hand, in terms of the availability of skilled labor, food processing is the only industry which enjoys better conditions.

The survey results identify issues which have direct bearing on the industrial policy of Pakistan. The results imply potential opportunities for improving investment conditions substantially for the textiles, garments, chemicals and food processing industries by placing them at the core of possible future industrial policy. Given the fresh investment by the textile and the garment sectors to the tune of USD 4 billion, it is all the more important to understand reasons for the differences at the sub-manufacturing level for evolving a more conducive business environment.

## 5.6 Firm Age

It is interesting that firm age is not an important factor for determining how firms view potential business constraints, once we control for other factors (see Table 9). The only two constraints with differential responses are tax administration and macroeconomic instability. With regard to tax administration, the largest constraints are felt by firms between 11 and 15 years old, while the young firms are least affected again. As for macroeconomic stability, the youngest firms are least affected; macroeconomic stability is not a binding constraint for firms between 0 and 5 years old. The biggest complaints come from firms between 6 and 10 years old.

**Table 9 - Percentage of Firms Identifying Constraint as "Major" or "Very Severe" by Firm Age**

	0-5 Years	6-10 Years	11-15 Years	Over 15 Years
<b>Tax administration</b>	<b>42.7%</b>	<b>48.4%</b>	<b>50.9%</b>	<b>44.7%</b>
Tax rates	43.8%	49.1%	46.0%	46.4%
Financing Costs (int. rates)	37.5%	46.3%	45.1%	40.9%
Economic policy uncertainty	39.6%	42.5%	39.4%	39.5%
Corruption	36.5%	40.0%	41.2%	40.9%
Electricity	38.5%	36.5%	36.3%	44.1%
Access to Financing (collateral)	33.3%	38.6%	40.7%	37.8%
<b>Macro-economic instability</b>	26.0%	<b>38.9%</b>	<b>34.1%</b>	<b>33.1%</b>
Customs & trade regulations	18.8%	22.8%	27.4%	25.1%
Anti-competitive practices	17.7%	18.2%	25.7%	22.2%
Crime, theft and disorder	15.6%	23.9%	22.6%	19.9%
Access to Land	19.8%	15.8%	23.5%	24.2%
Labor regulations	12.5%	14.0%	18.6%	16.4%
Business permits	10.4%	15.8%	15.0%	14.7%
Skills & educ. of avail. workers	13.5%	14.0%	17.3%	9.2%
Transportation	14.6%	8.8%	9.3%	10.4%
Telecommunications	8.3%	8.1%	7.1%	7.5%

Note: The Note in Table 5 explains how to interpret this table.

As for why young firms complain the least, the answer may be related to survey bias in the ICA sample. As an illustration of this bias, a sample of 279 manufacturing firms from Directories of Labour Year Book 2000, Karachi – Government of Sindh, were contacted one year after publication, and it was discovered that some 85 businesses were either closed or not traceable. This suggests a degree of severity in business conditions for new entrants that cannot be picked up

entirely in the sample due to the lag between obtaining sources for choosing the sample and actually interviewing the selected firms.

## 5.7 Ownership Structure

Previous analysis, such as SMEDA (2002), indicates that ownership structure does matter for the development and the growth of a firm. Ideally, more formalized structures should lead to better business services delivery from the business support institutions and should result in better business conditions for firms. This is not the only possibility, however, as Osama (2004) suggests that corporatization provides no additional advantages for taxes, access to business support services, or financing. Instead, a limited liability structure is more expensive on account of tax rates and fixed operational costs associated with additional paper work.

**Table 10 - Percentage of Firms Identifying Constraint as "Major" or "Very Severe" by Firm Ownership**

	<b>Publicly held limited liability</b>	<b>Privately held limited liability</b>	<b>Partnership</b>	<b>Sole Proprietorship</b>
<b>Tax administration</b>	<b>40.6%</b>	<b>57.6%</b>	29.9%	<b>39.1%</b>
<b>Tax rates</b>	<b>40.6%</b>	<b>57.4%</b>	<b>33.5%</b>	<b>36.4%</b>
<b>Financing Costs (int. rates)</b>	<b>34.4%</b>	<b>52.9%</b>	<b>34.1%</b>	33.2%
<b>Economic policy uncertainty</b>	<b>34.4%</b>	<b>44.2%</b>	26.9%	<b>41.1%</b>
<b>Corruption</b>	34.4%	<b>48.4%</b>	24.0%	<b>36.8%</b>
Electricity	<b>40.6%</b>	<b>42.4%</b>	<b>38.9%</b>	<b>34.0%</b>
<b>Access to Financing (collateral)</b>	21.9%	<b>45.9%</b>	<b>31.7%</b>	30.8%
<b>Macro-economic instability</b>	<b>40.6%</b>	<b>40.1%</b>	25.1%	27.7%
<b>Customs &amp; trade regulations</b>	28.1%	<b>31.9%</b>	15.0%	15.0%
<b>Anti-competitive practices</b>	21.9%	25.3%	10.2%	20.6%
<b>Crime, theft and disorder</b>	21.9%	27.2%	14.4%	14.6%
Access to Land	18.8%	25.7%	13.8%	17.0%
<b>Labor regulations</b>	21.9%	18.3%	15.0%	11.1%
<b>Business permits</b>	12.5%	16.3%	12.0%	13.4%
<b>Skills &amp; educ. of avail. workers</b>	12.5%	15.0%	11.4%	9.9%
<b>Transportation</b>	15.6%	12.3%	5.4%	7.5%
Telecommunications	15.6%	8.8%	6.0%	5.5%

Note: The Note in Table 5 explains how to interpret this table.

The survey shows that firm ownership structure is very important in determining the degree of constraint reported by businesses. Table 10 shows that

ownership is statistically significant for all binding constraints except for electricity. Private limited companies report the largest complaints for all of the statistically significant binding constraints. Private limited companies and sole proprietors are only comparable for economic policy uncertainty and electricity. On the other hand, publicly listed companies have lesser complaints than the sole proprietary concerns for most of the binding constraints. In cases where publicly listed companies claim a higher degree of binding constraint, which include cost of financing, access to finance, and macroeconomic instability, the results are not statistically significant. Firm ownership continues to play a statistically significant role in explaining the responses to seven of the nine nonbinding constraints. Again, in these cases, the complaints of private limited companies are the largest by a statistically significant degree. The complaints of sole proprietorships, publicly listed companies, and partnerships follow, but are generally not distinguishable from one another, except for the case of workforce skills, where sole proprietorships complain significantly less.

The survey data confirms the fact that privately held companies spend more days dealing with regulators and pay more to government regulators in terms of fines and bribes. Being a corporate entity in Pakistan does not offer any incentives in terms of dealing with tax authorities, qualifying for better tax rates, negotiating lower interest rates or better access to finance, dealing with corruption, or fighting macroeconomic instability. Sole proprietary concerns can more easily escape from regulatory oversight without losing any advantages in terms of access to business services or resources. This has important implications for developing the formal economy of Pakistan, and not letting firms slip into the informal economy. The State Bank of Pakistan (2001) estimates that the informal economy was close to 32 percent of the total between 1996 and 2000. The magnitude of the informal economy makes

it difficult for the government to adequately plan and provide effective business services. As we understand, it has its roots in ownership structure of the firms and any effort to improve conditions for privately held firms will help to improve the investment climate.

## **6. Conclusions and Policy Recommendations**

This study confirms that a one-size-fits-all policy is not appropriate for improving the conditions of Pakistan's manufacturing firms. A number of different firm characteristics are found to play important roles in determining business constraints. First, while existing research, such as SMEDA (2002) and SMEDA (2004), discusses firm growth vis-à-vis firm size, it does not recognize a need for different mechanical processes based on firm size. The analysis of responses in this research sketches a different picture. While confirming heterogeneity with regard to the aforementioned constraints, the results suggest that smaller firms are better off in quantitative terms. The efforts of the smaller firms and micro firms in particular are devoted in escaping regulatory burden, using bribes and gifts to regulators as a tool. Large firms tend to use similar tools for reducing their official tax liabilities and remain within the regulatory environment. This difference in approach to dealing with regulatory burden requires a different policy treatment for ironing out the variations of firm size in the regulatory environment. This would also require the development of different mechanical processes based on firm size. Access to finance comes out as the top ranking constraint for the small firms, where the difference is both wide and significant. Using Non-Bank Financial Institutions (NBFI) as a channel for small firms would greatly improve their condition (please see Table 11 for a summary of policy recommendations).

**Table 11 – Policy Analysis of Firm Conditions vis-à-vis Constraints**

<b>Policy Area</b>	<b>Analysis/ Challenges/ Policy Focal Points</b>
<b>Firm Size</b>	<p>Reducing interface between tax regulators and firms will reduce compliance costs for all but micro sized firms</p> <p>Only a responsive tax regime for smaller size firms (micro and small) can improve business conditions – analysis confirmed that smaller firms end up paying more (as a percentage of sales) o avoid interface with tax authorities</p> <p>Access to finance is a binding constraint for small size firms – survey results show that Non-Bank Financial Institutions are more effective than the commercial banks</p> <p>Increasing access to land can significantly improve the business climate for SMEs</p> <p>Labor regulations are not a constraint for SMEs, reducing interface of labor regulators is desired more by large firms</p>
<b>Regional Location</b>	<p>Firms in Sindh &amp; NWFP tend to voice the loudest complaints</p> <p>Cost of financing, electricity, and access to financing and industrial land are the key areas for improvement in Sindh</p> <p>In NWFP major complaints are about economic policy uncertainty, electricity supply and taxation</p> <p>The major concern in Balochistan is the prevailing law and order situation</p>
<b>Market Access (Local &amp; Foreign)</b>	<p>Non-exporters generally feel deprived</p> <p>The incentive regime for exporters is effective resulting in fewer complaints</p> <p>The difference in the conditions of non-exporting and exporting firms are stark</p> <p>In order to avoid another divide in the economy, the incentive structure must be counterbalanced through other business support mechanisms for non-exporting firms</p>
<b>Sub-Manufacturing Sector</b>	<p>The business or investment conditions across industries are significantly different</p> <p>Sports goods, leather goods and electronics industries enjoy relatively better investment conditions. Indeed, the first two do not experience binding constraints</p> <p>Returns are declining in textiles, garments and chemical industries – due to fierce foreign competition</p> <p>The food processing industry produces the most complaints, particularly about tax administration and anti-competitive practices</p> <p>Industrial and investment policies must carefully look into the incentives for different industries</p>
<b>Firm Age</b>	<p>Analysis does not confirm any particular advantage related to the age of the firm, except that old firms are more exposed to taxation-related problems</p> <p>It is reasonable to conclude that the existing business climate does not encourage new start-ups.</p>
<b>Ownership Structure</b>	<p>Privately held limited liability companies face large compliance costs</p> <p>There is no added advantage to be a corporate entity in terms of taxation, finance, or in accessing business services or resources</p> <p>Sole proprietary firms do not show any disadvantage or advantage over publicly held companies or partnerships but are definitely better off than privately held limited liability companies</p>
<b>Cross Cutting Themes</b>	<p>There are constraints that are significant for many types of firms, such as electricity supply from public grid, macroeconomic stability, and law and order</p> <p>A more reliable power supply from public grid has the largest potential to improve growth conditions across the board</p> <p>Stabilizing the shifting policy regime would further strengthen the confidence of investors</p> <p>An improved law and order situation would greatly enhance firms' ability to grow and plan for long-term investments</p>

Additionally, certain regional locations in Pakistan are posing an extra burden on firms due to the lack of necessary infrastructure such as electricity and industrial land, which becomes binding constraints to their growth. Most of the significantly differing responses, though, come from the list of non-binding constraints. An appropriate response to remove these barriers would include that the government yield modest resources in terms of setting up new industrial parks with adequate infrastructural support.

Meanwhile, exporting firms face only a few binding constraints. The difference in the condition of non-exporters and exporters are stark and significant, and incentives for exporters with respect to most of the regulations are creating another divide among industrial enterprises. While the incentive regime for exporters is effective and results in fewer complaints, it needs to be counterbalanced with a business support mechanism for non-exporters to smooth differences.

Furthermore, there are definitely some industries which enjoy relatively better regulatory environments than others. Sports and leather goods industries complain least. The specific conditions surrounding these industries could give clues for making life better for others. The results in this respect also pose doubts about the effectiveness of industrial policies for creating better conditions. It appears that they are distorting the business environment whereby some industries like food processing are becoming worse off without bettering conditions for others. Current industrial policy should be pragmatically reviewed.

Among the surviving enterprises, older firms do not enjoy any extra advantage, despite prevailing popular beliefs. On the contrary, older firms are penalized in terms of tax administration. This suggests that tax regulators go after obvious targets

regardless of their compliance record. This underlying psychology of the regulator explains firms' general preference for tax evasion.

Finally, we establish that more formal structures of organizing businesses, such as privately held limited liability companies, can also be punishing to firms. The current regulatory environment in Pakistan is killing the incentives for formal business structure and becoming a liability for business.

Conclusively, evidence is found that economic policy reforms in Pakistan cannot treat firms as homogeneous units. A great amount of heterogeneity exists, and this heterogeneity can drive many different responses to questions about the severity of business constraints. For instance, fashioning an effective business climate for micro firms will entail different policies than for small, medium, or large firms. Additionally, we find that access to foreign markets, type of production, and type of firm ownership play substantial roles in determining business responses to constraints. The age of the firm is less important, as is the province in which the firm is located. Some issues are cross-cutting across firms, such as a desire for a more reliable electricity supply, but generally the results suggest that policymakers must develop proposals that account for the heterogeneity of firms, and that a one-size-fits-all approach will not be effective and could even have unintended consequences.

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