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Constraints to SMEs: A Rotated Factor Analysis Approach

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ABSTRACT

Although there is little doubt that SMEs plays a vital role in development of an underdeveloped economy yet this sector is facing multifarious problems relating to raw materials, power, land, marketing, transport, technical facilities and finance etc. Due to these constraints, it is getting more difficult for them to contribute to a nation's GDP as expected. This paper attempts to find out the major constraints faced by the SMEs in Bangladesh selected from five sub-sectors using varimax normalization method based on primary questionnaire survey and rank the factor constraints according to their level of severity. It identified seven major factors comprising of 12 variables working as impediments to SME growth and development, amongst which high lending rate, government regulatory constraint, small domestic market size, collateral requirement for financing and lack of technically skilled workers are on the top.

JEL classification: L53,L67,L88,M21,O14,O16
KEY WORDS: SME, Economic Growth, Constraint, Factors, Rotation

Introduction

It goes without saying that SMEs play a vital role in development of an underdeveloped economy because they eliminate the unemployment problems by using lower capital per employment, avoid additional costs for development of industrial infrastructure, minimize the investment risks, ensure an equitable distributions of income and products, check imbalances between different pocket of economy and maximize the use of locally available raw materials. There is a debate whether to adopt industrialization for efficiency or encourage SMEs (Little & Majumdar & Page, 1987). But the mechanical efficiency should be

distinguished from economic efficiency and as such the large factories need not be evaluated as more efficient than the small units, especially when the socio-economic cost of large-scale production taken into account (Ranjit & Rashid, 1996). The argument of economy of scale has limited relevance to economic efficiency, due to stagnant markets with poor purchasing power, lack of operational skills, poor quality of raw materials and inefficient services resulting in long interruptions and poor output per unit of capital. (Dhar, 1958) and in underdeveloped areas, the development of large-scale industries has been slow, inadequate and ineffective in tackling the unemployment problems due to lack of investible resources (Mahalonabish, 1958).

The commonly perceived merits often emphasized for their promotion, especially in the developing countries like Bangladesh, include their relatively high labor intensity, dependence on indigenous skills and technology, contributions to entrepreneurship, development, innovativeness and growth of industrial linkages (Ahmed, 2001). Whatever the correct magnitude, the SMEs are undoubtedly quite predominant in the industrial structure of Bangladesh comprising over 90% of all industrial units. This numerical predominance of the SMEs in industrial sector of Bangladesh becomes visible in all available sources of statistics on them (Ahmed, 2001). Together, the various categories of SMEs are reported to contribute between 80 to 85 per cent of industrial employment and 23 per cent of total civilian employment (SEDF, 2003). However, serious controversies surround their relative contribution to Bangladesh's industrial output due to the paucity of reliable information and different methods used to estimate the magnitude. The most commonly quoted figure by different sources (ADB, World Bank, Planning Commission and BIDS) relating to value added contributions of the SMEs, is seen to varying between 45 to 50 per cent of the total manufacturing value added.

But this sector is facing severe problem in financing, regulatory aspects, access to non-financial inputs. Some recent trends show that Government policies have discriminated against small-scale enterprises. There is nothing wrong with a situation in which inexperienced entrepreneurs are unable to get institutional credit (Little, 1987). In the same study, he shows that the relative decline of small-scale enterprises in most developing countries has been accelerated by the industrialization policies adopted in these countries. Protection, regulatory constraint, investment incentives, credit control, and the promotion of industry in the public sector have all discriminated against the small. The common idea that the cost of capital is very high for small enterprises is overly simple (Little, 1987). From A research of World Bank suggests the existence of financial constraint because formal banks do not lend to the smallest firms in most countries. It has also severe impact on the smallest firms (Levy, 1993).

In Bangladesh, small and medium enterprises have been facing multifarious problems related to raw materials, power, land, marketing, transport, technical facilities and finance (Ranjit & Rashid, 1996). Due to their weak capital structure

and other regulatory constraint, it is getting more difficult for small & medium industry to contribute to GDP. There is a serious shortage of in depth studies, conducted on the constraints of the SMEs operating in Bangladesh. So it is perceived that a well thought out study is very much required to determine the nature of the various financial, regulatory as well as other constraints faced by SMEs in Bangladesh.

The definition of SMEs is not unique; it varies across countries and in some countries, the definition differs further between sectors. Number of people employed and size of capital, sales, assets, etc. are used to classify enterprises into micro, small, and medium. In Bangladesh, small enterprises was first defined in the Industrial Policy of 1991 when they were classified as industrial undertakings engaged in manufacturing or services activities with a total fixed investment not exceeding Tk 30 million. The Industrial Policy of 1999 also considered the size of employment for defining various enterprises. According to it, small enterprises are those employing less than 50 workers and/or with a fixed capital investment of less than Tk100 million. Enterprises with 50-99 workers having a fixed capita of Tk100-300 million are to be regarded as medium-sized. Therefore, the coverage of SMEs as defined by the Industrial Policy is very broad – capturing business enterprises with a fixed capital ranging from Tk 1 million to 300 million and employment between 10-99. We consider definition of 1999 industrial policy to select our target population. However, the Bangladesh Bureau of Statistics (BBS) follows a different definition of SMEs (Bhattacharya et al. 2000 & Sia, 2003). BBS defines large enterprises as those with 50 or more employees, which is inconsistent with the definition of the SMEs as provided in the Industrial Policy.

Reliable information on the activities of SMEs and their contribution in the economy is scarce. An informal estimate by Planning Commission is reported to have found that the SMEs sector account for more than 80 per cent of private establishments, approximately 80 per cent of industrial and 23 per cent of total labor force of the country and about half of the gross industrial output (Sia, 2003). The most recent private sector survey estimates the contribution of the micro, small and medium enterprises (MSMEs) is to be between 20-25 per cent of GDP (Daniels, 2003). All this points towards a very important role played by SMEs in the economy of Bangladesh in terms of output, employment and private sector activities.

A vibrant private sector that builds on the combined linkages between SMEs and large enterprises supported by good governance and an enabling business environment have been considered as the backbone and engine of a healthy economy and society. Especially in developing economies, it is regarded as a precondition for generating employment, enhancing productivity, maintaining competitiveness, contributing to entrepreneurship development and reducing poverty (ADB 1999; Aus AID 2000; EBRD 2004;).

Literature Review

Past studies have indicated that in the developing countries of South Asia, SMEs constitute over 97 per cent and contribute between 40–60 per cent of the total output or value-added to their national economies. While most of the SMEs are located in rural areas and they account for over 70 per cent of total employment (Fan 2005; Kamesam 2003; Nepal et al. 2002; Shrestha 2005).

Today, a number of studies find that SMEs are frequently faced with constraints and challenges (Bannock et al. 2002; Batra and Mahmood 2001; Batra and Tan 2003; Beck et al. 2004; Brunetti et al. 1998). For most developing and transition economies, the common challenges for SMEs typically include financing, overcoming institutional, legal and administrative barriers and accessing network support. The inability to access credit, is one of the major bottle necks of SMEs, as almost all of these economies have poorly developed banking sectors (EBRD 2004; Hossain 1998; PECC 2003). From the data of 23 transition countries, Aidis and Sauka (2005) find that the constraints facing SMEs differ during different stages in the transition process.

According to Lall (2000: 9–12), SMEs in general tend to face three sets of competitive challenges. These are related with their size, distortions in markets and government policy interventions. Their small size imposes disadvantages: First, SMEs are debilitated in activities where the risks are high; technology is fast-paced and relies on enormous investments. Second, SMEs face 'segmented factor markets' wherein large firms are generally favored with access to inputs including credit, labor, infrastructure, and technology and market information. Third, policies and institutions can be biased against SMEs, since large firms with resources and connections can manipulate bureaucrats 'to exploit the system'.

Recognition of such problems of SMEs has led many developing countries to adopt pro-SMEs policies. Fundamentally, pro-SMEs policies are based on direct government support of SMEs that will help to exploit social benefits from greater competition and entrepreneurship. They basically include financial support and institutional improvements that can absorb labor because proponents believe that SMEs, being more labor-intensive and dispersed, have the capacity to boost employment faster than the larger firms. From this perspective, subsidizing SMEs is perceived as a poverty alleviation tool (Beck et al. 2004; World Bank 1994, 2002a).

As a member of the developing countries, Bangladesh is yet to utilize its potential and pick up its performance in this sector. There have been a number of studies, carried out on the SMEs sector of Bangladesh to identify its niche and also the constraints hindering the growth of this sector. A. Razzaque (1994) in his paper identifies the factors fundamental to the development of market for products and then discusses the problems associated with them in the context of Bangladesh. He emphasized the need for addressing these constraints to facilitate the growth of an SME sector. He identified the underlying demand and supply-

side factors exerting significant influences on the development of the market for SMEs. The demand side factors like Purchasing power of consumers, trade policies of the trading partners, quality of products and services, timely delivery and availability of goods etc and supply side factors like resource constraints, unavailability of information, physical infrastructure, transport cost, domestic environment etc. do not operate in isolation, rather they interact amongst themselves to aggravate the situation further.

Hossain (1998) in his paper highlighted the findings of those two studies. A wide array of constraints faced by SMEs has been briefly discussed in this report. It is apparent that problems related to power and credits are the most significant ones. Legal barriers, poor law and order conditions, are some of the other problems that have adverse affect on SMEs development.

Besides Bangladesh, studies were also carried out on other South Asian Countries like nation wide Bhutan, Pakistan etc. S.Moktan (2007) analyses the constraints on SMEs in Bhutan by conducting interviews and a nation-wide questionnaire survey of 168 micro and small firms. Examining 14 variables related to the attitude or opinions of owners/ managers of SMEs with respect to business constraints and the survey indicated that the biggest constraints are related to the restrictive business regulations, finance and infrastructure. Additionally, significant differences in the severity level of constraints between urban and rural districts are observed with regards to size, sector and ownership.

Bari, & Ali & Haque (2005) examined the key constraints faced by the SMEs sector in Pakistan, including lack of access to credit, excessive government regulation, an arbitrary and exploitative tax administration system, a weak technological base and the lack of business support services. It also provides a set of concrete strategic recommendations to address such constraints in order to promote SMEs growth for greater income generation and employment creation.

Objectives of the Study

1. To what extent financial constraints affecting SMEs operation?
2. To what extent regulatory constraints affecting SMEs operation?
3. To what extent constraints on physical, technical and marketing inputs affecting SMEs operation?

Structure and Methodology

Questionnaire

The research design incorporates both qualitative and quantitative approaches. Two major phases of data collection are envisaged: Exploratory phase and Main phase. In exploratory phase, data is generated basically to develop a clear picture

of the problem. In this stage, extensive literature survey as well as a pilot study through interview of selected businessman, bankers, government officials, donor organization officials are conducted. After exploratory phase research we develop a questionnaire to distribute to the SMEs owners. In exploratory phase, we ask open ended questions in the interview about the key constraints faced by SMEs sector in Bangladesh including lack of access to credit, excessive government regulation, arbitrary and exploitive tax administration system, a weak technological base and lack of business support system. It provides us to come up with set of 18 variables to develop a detailed questionnaire. Finally, the variables in the survey instrument were derived from a review policy, exploratory research and the relevant theoretical and empirical literature.

We have outlined below the 18 variables fewer than three categories, which we have included in our questioner survey:

Financial Constraints

1. Unavailability of financing (UF)
2. Interest on bank loan (IB)
3. Collateral requirement (CR)
4. Lengthy procedure (LP)
5. High cost of raw materials (HCM)
6. High cost of equipment (HCE)

Regulatory Constraints

7. Bureaucratic set up procedure (BSP)
8. Utility connection (UC)
9. Income tax structure (ITS)
10. Lack of protective measurement (LPM)
11. Labor regulation (LR)
12. Policy uncertainty (PU)

Constraints on Physical, Technical & Marketing Input

13. Unavailability of skilled worker (USW)
14. Scarcity of technical skill (STS)
15. Unavailability of raw materials (URM)
16. Small domestic market (SDM)
17. Competition with large industries (CLI)
18. Syndication on concentrated market power (SCM)

Because of the job of coding, editing and analyzing, the data we avoid, is open-ended question in main phase. On the basis of those 18 variables, the survey asks entrepreneur to evaluate each constraints variable using score on a scale on a five point likert's scale (Fixed alternative question).

Sample

The coverage of SMEs as defined by the Industrial Policy is very broad – capturing business enterprises with a fixed capital ranging from Tk 1 million to 300 million and employment between 10-99. Abiding by that criteria using qualitative survey instrument, 60 firms are sampled to ascertain what they viewed as major obstacles to their investment and growth. We use the quota sampling procedure (non-probability sampling). The purpose of quota sampling is to ensure that the various sub-groups in a population are represented on pertinent sample characteristics to the exact extent that the investigator desires. Given the limitation of time and resources, interviews are conducted in five sub sectors: light engineering, agro based, fish processing, food & allied products and chemical and pharmaceuticals. We took their contribution in Bangladesh GDP to choose the sectors. The required data are collected from 60 companies from those five sub-sectors. We use Interview protocols (revised after the initial interviews) to guide the discussion and to gather data usable in quantitative analysis.

Data Analysis

In the first phase of analysis, the survey data are used to rank the "binding" constraints that currently inhibit firm-level investment and growth Bangladesh. Binding constraints are defined as constraints that obtained and average score of 3.5 and above (an above average rank) and which over 30% (nearly one third) of the respondents ranked as an above average constraints. Unlike other studies the dual –weighting procedure of defining binding constraints allowed greater precision and clarity in results.

In the second phase, we have factor analysis by extracting the principal components using varimax/promax normalizes method. The different method of factor analysis requires extracting a set of factors from a data set. In general, only a small subset of factors is kept for further consideration and the remaining factors are considered as either irrelevant or non-existent. It is important to emphasize that the choice of subspace strongly influences the result of the rotation. We need to try several sizes for the sub-space of the retained factor in order to assess the robustness of the interpretation of the rotation. For varimax, a simple solution means that each factor has a small number of large loadings and a large number of zero loadings. After a varimax rotation, each original variable tends to be associated with one of the factors. In general, two highly correlated factors are better interpreted as only one factor. To avoid two highly correlated factors, we use oblique rotation. The promax (oblique) rotation has the advantage of being fast and conceptually simple. The factors can often be interpreted from the opposition of few variables.

Findings & Analysis

Severity Level of Constraints after Categorization

At first, we analyze the questionnaire by setting up a binding constraint of mean value 3.5. Initially, in table 1, we have found that variable 1 (UF): mean value 4.2, variable 2 (IB): mean value 4.58, variable 5 (HCM): mean value 4, variable 6 (HCE) mean value 3.84, variable 14 (STS) mean value 4.04 have got the binding constraints, variable 10 (ITS): mean value 3.04 & variable 13 (USW): mean value 4.36 has got the mean value above 3, but not in the binding constraints. So we have got 7 major factors among 18 factors that are major binding constraints.

Financial Constraints:	Stats	UF	IB	CR	LP	HCM	HCE
	mean	**4.2**	**4.52**	1.96	2.16	**4**	**3.84**
	sd	1.106567	1.110984	1.009344	0.791795	0.947607	0.791795
	variance	1.22449	1.234286	1.018776	0.626939	0.897959	0.626939
Regulatory Constraints:	Stats	BSP	UC	ITS	LPM	LR	PU
	mean	2.28	1.2	2.84	3.04	1.24	2.44
	sd	0.881557	0.494872	0.933722	0.968061	0.517451	0.907115
	variance	0.777143	0.244898	0.871837	0.937143	0.267755	0.822857
Constraints on Input:	Stats	USW	STS	URM	SDM	CLI	SCM
	mean	**4.36**	**4.04**	2.56	1.32	**4**	1.16
	sd	0.898071	1.049003	1.311799	0.683329	0.699854	0.548095
	variance	0.806531	1.100408	1.720816	0.466939	0.489796	0.300408

Table 1: Summary Statistics of the Variables

Factor Analysis

Factor analysis is a mathematical tool that can be used to examine a wide range of data sets. The basic purpose of factor analysis is to 'explore the underlying variance structure of a set of correlation coefficients. Thus, it is useful for exploring and verifying patterns in a set of correlation coefficients'. Besides, the purposes of factor analysis are (*i*) to determine how many factors underlie the set of variables; (*ii*) to find the extent to which each original variable depends upon each common factor; (*iii*) to interpret the obtained factors; and (*iv*) to find the amount of each common factor possessed by each observation (the factor scores). Mathematically, factor analysis makes it possible to describe a set of variables ($X1$, $X2$, Xk), in terms of a smaller number of common factors and hence explain the relationship between these k variables.

Here, the factor analysis is performed with 18 key variables setting the maximum factors to 7 and minimum Eigenvalue to 1 using the Varimax Normalized Method. The Varimax Normalised is one of the rotation methods that are used frequently to find new factors that are easier to interpret. The rationale for performing the factor analysis are: (i) to reduce the data by summarizing the important information contained in the 14 variables by a fewer number of factors; (ii) to find the variance of each variable, and to detect the structure in correlation between the variables and most importantly; (iii) to corroborate and test our hypothesis by ranking the obtained factors and determining which of the variables contained in these factors are the most important of all constraints.

In table 2, we have identified the principal components based on their eigenvalue, which is the variance of the factors. In the initial factor solution, the first factor will account for most variance and the second will account for next highest amount of variance. Although we have 18 factors, the factor space is very less. There are at most seven factors possible in the space. It also validates that we got 7 factors in total and all with eigenvalue greater than 1 in our binding constraints.

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	4.31877	1.69844	0.2399	0.2399
Factor2	2.62033	0.48852	0.1456	0.3855
Factor3	2.13180	0.28748	0.1184	0.5039
Factor4	1.84433	0.28214	0.1025	0.6064
Factor5	1.56219	0.32917	0.0868	0.6932
Factor6	1.23302	0.10561	0.0685	0.7617
Factor7	1.12741	0.36389	0.0626	0.8243
Factor8	0.76352	0.03186	0.0424	0.8667
Factor9	0.73166	0.16729	0.0406	0.9074
Factor10	0.56436	0.26302	0.0314	0.9387
Factor11	0.30134	0.05943	0.0167	0.9555
Factor12	0.24191	0.02648	0.0134	0.9689
Factor13	0.21543	0.06017	0.0120	0.9809
Factor14	0.15526	0.07782	0.0086	0.9895
Factor15	0.07744	0.01863	0.0043	0.9938
Factor16	0.05881	0.03074	0.0033	0.9971
Factor17	0.02807	0.00373	0.0016	0.9986
Factor18	0.02434	.	0.0014	1.0000

Table 2: Principal-Component Factors (unrotated)

LR test: independent vs. saturated: chi2(153) = 659.59 Prob>chi2 = 0.0000

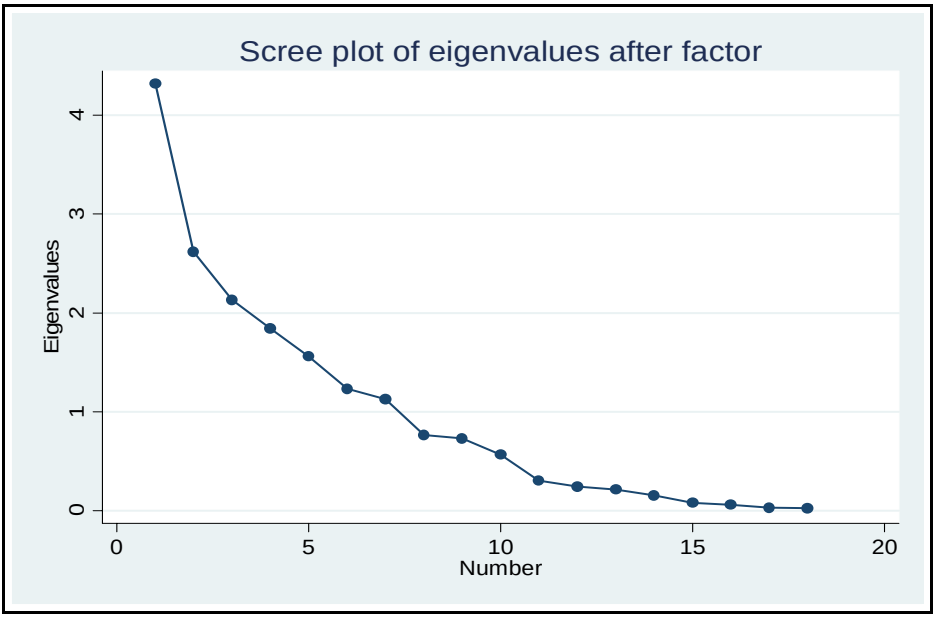

Figure 1: Scree Plot Showing the Eigenvalues Associated with Each Factor

Var	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6	Factor7	Uniqueness
UF	0.4167	0.4385	-0.0553	0.0254	0.2685	0.1539	0.5625	0.2182
IB	0.5259	0.2860	-0.3125	-0.0729	0.1027	**0.6139**	-0.2345	0.0963
CR	-0.2902	**0.7071**	-0.4874	0.0719	-0.1995	-0.0038	0.1047	0.1224
LP	**0.6574**	-0.3078	-0.1600	0.0086	0.0212	0.3540	0.3143	0.2229
HCM	0.5822	0.5637	0.3393	0.3459	-0.1014	0.0184	-0.0123	0.0977
HCE	0.3878	0.3317	-0.0325	0.4909	0.1164	-0.3840	0.3379	0.2224
BSP	-0.1068	0.1571	-0.7173	0.2180	0.3102	-0.1064	0.0200	0.2939
UC	-0.5120	0.2912	0.2483	0.4115	0.5474	0.0085	-0.1244	0.1068
ITS	**0.6937**	-0.0693	0.1111	-0.3819	0.2830	-0.1478	0.1893	0.2180
LPM	0.5437	0.3986	0.5759	-0.1768	-0.0380	0.0796	-0.0643	0.1707
LR	-0.6833	0.4447	0.1046	0.1734	0.2360	0.0495	-0.1752	0.2055
PU	-0.2046	0.1200	**0.7985**	0.1933	-0.0563	0.0565	0.1170	0.2487
USW	0.5407	0.2316	-0.1976	0.3661	-0.4633	-0.1823	-0.3284	0.1251
STS	**0.7259**	-	-	0.3903	0.0030	-	-	0.1678

		0.1757	0.1411			0.2414	0.2095	
URM	0.5834	0.0248	**0.0836**	-0.3333	0.2283	-0.4446	-0.3314	0.1814
SDM	-0.0993	**0.6269**	-0.0079	-0.3318	-0.5984	0.0900	-0.0067	0.1208
CLI	0.3124	-0.3286	0.1106	0.5470	0.0776	0.4605	-0.2610	0.1968
SCM	-0.1912	-0.5023	0.0701	0.4520	-0.4983	-0.0693	0.3193	0.1468

Table 3: Factor Loadings (Unrotated)

The above table gives us the factor, loadings using the unrotated principle component factor methods. The factor loadings for this orthogonal solution represent, how the variables are weighted for each factor and also the correlation between the variables and the factor. Considering only the factor loadings greater than .6, factor 1 has positive correlations with variables LP, ITS and STS. In other words, Factor 1 explains the variables, lengthy procedure; income tax structure; scarcity of technical skill. We have got here three variables from three different categories: regulatory, financial & technical & physical constraints. Factor 2 explains the variables CR & SDM, collateral requirement & small domestic market. Again we have got two different variables from two different categories. Factor 3 explains the variables PU and URM, policy uncertainty & unavailability of raw materials. Factor 4 & Factor 5 explain no variable. Factor 6 has positive correlation with variable interest on bank loan, which is one of the major financial constraints. Again factor 7 we don't find any variable to relate.

Our first aim is to group 7 factors with the association of one major variable that we might associate with our mean result but by unrotated PCF analysis, we fail to find that. To overcome this, we use rotated factor loading pattern. The factor loading for the varimax orthogonal rotation represents both, how the variable is weighted for each other and also the correlation between the variables and the factors. A varimax rotation attempts to maximize the squared loadings of the columns. Table 4 summarizes the result.

Var	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6	Factor7	Uniqueness
UF	-0.0878	-0.0467	0.1033	0.0399	0.1111	**0.8283**	0.2475	0.2182
IB	-0.1475	0.1585	0.0847	-0.0691	0.1782	0.1178	**0.8940**	0.0963
CR	0.2917	0.1046	**0.7483**	-0.3803	-0.1388	0.2208	0.0949	0.1224
LP	-0.6213	0.0441	-0.3347	-0.0056	-0.0774	0.3346	0.3989	0.2229
HCM	0.0956	0.6000	0.1276	0.4863	0.1213	0.4612	0.2302	0.0977
HCE	0.0830	0.5006	-0.0524	-0.0544	0.0272	**0.6872**	-0.2036	0.2224
BSP	0.2113	0.0926	0.0386	-	0.0121	0.2059	0.1031	0.2939

				0.7734				
UC	**0.9105**	-0.1224	-0.1770	0.0191	-0.0436	0.1168	-0.0436	0.1068
ITS	-0.4780	-0.0185	-0.2313	0.1499	0.5863	0.3614	0.0530	0.2180
LPM	-0.0804	0.2032	0.1168	**0.7115**	0.4013	0.2368	0.2111	0.1707
LR	**0.8258**	-0.1927	0.2450	-0.0304	-0.0889	-0.0746	-0.0310	0.2055
PU	0.3408	-0.0859	-0.0609	**0.7301**	-0.1996	0.0789	-0.2121	0.2487
USW	-0.1892	**0.8868**	0.1843	-0.0135	0.0033	-0.0208	0.1343	0.1251
STS	-0.2816	**0.7272**	-0.4052	-0.0966	0.1660	0.1266	0.0837	0.1678
URM	-0.2226	0.2925	-0.1493	0.0670	**0.8071**	-0.0218	-0.0703	0.1814
SDM	-0.0652	0.0523	**0.8993**	0.2266	-0.0156	-0.0614	0.0902	0.1208
CLI	0.0292	0.3239	-0.5838	0.1502	-0.3138	-0.0876	0.4774	0.1968
SCM	-0.2384	0.1305	-0.1899	0.0482	-0.7564	-0.0854	-0.4018	0.1468

Table 4: Factor Loadings (orthogonal varimax rotation)

Here Factor 1 has positive correlations with UC & LR. In other words, Factor 1 explains the variables, utility connection & labor regulation. So we can use summarize that regulatory constraints related to government bureaucracy is explained by factor 1. Factor 2 explains the variables USW & STS, unavailability of skilled worker & scarcity of technical skill, which is grouped from lack of physical & technical input. That is also important to notice that we have got this value in our binding constraints too. So it validates our study. Factor 3 explains variables CR & SDM, collateral requirement & small domestic market, which is grouped from lack marketing input. Factor 4 explains variable LPM & PU; lack of protective measurement & policy uncertainty. Which is also policy related government action failure. Factor 5 has positive correlation with variable unavailability of raw materials clearly indicating the lacking of physical input. Factor 6 explains variable UF & variable HCE; unavailability of financing and high cost of equipment. These two are also binding financing constraints. Factor 6 explains that the unavailability of financing is a major issue. Factor 7 explains that interest on bank loan is also a major issue, which are financial & binding constraints.

Important feature of this analysis is except variable 5 all the binding constraints are explained by major 7 factors. Variable 5 is also explained by similar type of variable 15. We can look at the summary table:

Factors	Variables Under Factors	Factor Loading Mean	Ranking
Factor 1	Regulatory constraints related to utility and labor.	.868	2
Factor 2	Lack of technically skilled workers	.807	4
Factor 3	Collateral need and small domestic market size.	.822	3
Factor 4	Lack of protective measures and uncertainty	.721	6
Factor 5	Lack of physical input (Raw materials)	.807	4
Factor 6	Unavailability of financing and high equipment cost.	.758	5
Factor 7	High lending rate	.894	1

Table 5: Summary of the Factors

To avoid two highly correlated factors, we use oblique rotation again by using promax oblique rotation factors. The factor loadings for the promax oblique rotation represent how the each of the variables is weighted for each factor. (Note: these are not correlations between variables and factors. The promax rotation allows the factors to be correlated in an attempt to better approximate simple structure (It is summarized at table 6). We don't find any major difference from table 4; only variables under factor 4 and 6 in varimax rotation changed their position under factor 6 and 4 in promax rotation. So it validates we are pretty satisfied with our major findings.

Var	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6	Factor7	Uniqueness
UF	-0.1043	-0.1852	0.1181	**0.8579**	-0.0233	0.0189	0.1553	0.2182
IB	-0.0825	0.0743	0.0676	0.0080	0.1461	-0.1023	**0.8921**	0.0963
CR	0.1634	0.1404	**0.7359**	0.2445	-0.1649	-0.3590	0.0785	0.1224
LP	-0.5996	-0.0852	-0.2538	0.3369	-0.1929	-0.0427	0.3480	0.2229
HCM	0.1550	0.5360	0.1465	0.3903	0.0537	0.4687	0.1466	0.0977
HCE	0.1068	0.4428	-0.0352	**0.7016**	-0.0489	-0.0707	-0.3093	0.2224
BSP	0.2139	0.0975	-0.0215	0.2056	0.0362	-0.7823	0.1014	0.2939
UC	**0.9860**	-0.0981	-0.3305	0.1124	0.0576	0.0350	-0.0027	0.1068
ITS	-0.3917	-0.1229	-0.1977	0.3237	0.5108	0.1107	-0.0184	0.2180
LPM	-0.0112	0.1373	0.1357	0.1597	0.3469	**0.6951**	0.1556	0.1707
LR	**0.8152**	-0.1252	0.1209	-0.0696	0.0069	0.0014	0.0260	0.2055
PU	0.3398	-0.0886	-0.0704	0.1134	-0.2027	**0.7523**	-0.2146	0.2487
USW	-0.1599	**0.9120**	0.2477	-0.1117	-0.0163	-0.0303	0.0826	0.1251
STS	-0.1539	**0.6939**	-0.3709	0.0400	0.1533	-0.1367	0.0257	0.1678
URM	-0.0765	0.2828	-0.1629	-0.1357	**0.8344**	0.0329	-0.1095	0.1814

SDM	-0.2118	0.0939	**0.9600**	-0.0612	-0.0693	0.2524	0.0755	0.1208
CLI	0.1464	0.2782	-0.5990	-0.1514	-0.2899	0.1273	0.5011	0.1968
SCM	-0.3456	0.1597	-0.0844	0.0279	-0.8019	0.0686	-0.4089	0.1468

Table 6: Factor Loadings (oblique promax rotation)

Conclusion

The main findings of the study have generated some important implications for alleviating or resolving various constraints facing SMEs, which may be a big challenge for Bangladesh. The findings also substantiate that there is no 'SME-specific' policy in place in Bangladesh. Evidence suggests that micro and small firms are often discriminated against vis-à-vis relatively large firms. While large established enterprises possess the necessary economic and human resource potential to cope with regulatory surprises and overcome difficulties, SMEs, due to their size, vulnerabilities and response capacity are far less capable of adapting and confronting challenges in an uncongenial investment climate and business environment. While SMEs in Bangladesh may not be deliberately discriminated against by legal or administrative regulations, they do remain susceptible to unequal treatment due to dissimilarity in economic capacities, transition phases, resource potential, location reasons, lack of well-disposed connections and so on. Such biased result in the distortion of a competitive environment for business in which the major brunt is often confronted by fragile micro and cottage enterprises, which then could lead to the proliferation of informal business.

In Bangladesh, high lending rate surfaced as the biggest constraint in the growth of SMEs. Regulatory constraints related to utility and labor comes in second position. It indicates that policies should be consistent without surprises. Small firms in particular must be given an adequate moratorium' to let them adjust to new changes and that extra attention must be paid to safeguard SMEs against 'bureaucratic discretions'.

Finally, Collateral need and small domestic market size, lack of technically skilled workers, lack of physical input (Raw materials), unavailability of financing and high equipment cost, lack of protective measures and uncertainty also shows lack of government support to assist SMEs to compete in global arena.

Bibliography

ADB. (1999). Private Sector Development Strategy: Promoting the Private Sector for Growth and Poverty Reduction. Manila: Asian Development Bank, retrieved from *www.adb.org/Documents/Policies/ Private _Sector/private. pdf* on 2 August 2007.

Ahmed, Momtaz Uddin (2001). Globalization and Competitiveness of Bangladesh's Small scale Industries (SSIs): An Analysis of the Prospects and Challenges, in CPD/UPL published, Bangladesh facing the Challenges of Globalisation, IRBD. pp: 2.

Ahmed, Momtaz Uddin (1999, Jan-march). Development of Small-scale Industries in Bangladesh in the New Millennium: Challenges and Opportunities, Asian Affairs, Vol. 21, No.1. PP. 4

Aus Aid. (2000). Private Sector Development through Australia's Aid Program. Canberra: Australian Agency for International Development, retrieved from *www.ausaid.gov.au/publications/pdf/privsectordevel.pdf* on 4 August 2007.

Bari, & Ali & Haque, (2005). SME development in Pakistan: Analyzing the constraint on Growth. Pakistan Resident Mission Working Paper No .3, Islamabad: ADB.

Bannock, & Graham, & Matthew Gamser, & Mariell Juhlin & Andrew. (2002) 'Indigenous Private Sector Development and Regulation in Africa and Central Europe: A 10 Country Study', London: Bannock Consulting, accessed from *http://www.dai.com/pdf/IndigenousPrivateSectorDevelopment.pdf* (on 9 December 2007).

Batra, Geeta and Hong Tan. (2003,september). SME Technical Efficiency and Its Correlates: Cross-National Evidence and Policy Implications. World Bank InstituteWorkingPaper,Retrieved fromhttp*://info.worldbank.org/etools/docs/library/86489/ses3.1_smetechefficiency.pdf* (on 9 October 2007).

Batra, & Geeta & Mahmood. (2001). Direct Support to Private Firms: Evidence on Effectiveness, World Bank Policy Research Working Paper 3170, November, accessed from *http://info.worldbank.org/etools/docs/library/86493/ses3.2_directsupport.pdf* (on 9 October 2007).

Beck, & Thorsten, & Asli & Ross Levine. (2004.) SME, Growth, and Poverty: Cross-Country Evidence, World Bank Policy Research Working Paper 3178, accessed from *https://rru.worldbank.org/PapersLinks/Open.aspx?id=2478* (on 9 October 2007).

Brunetti, & Aymo, & Kisunko & Weder. (1998, September). Credibility of Rules and Economic Growth: Evidence from a Worldwide Survey of the Private Sector', *The World Bank Economic Review* 12 (3), PP: 353–384.

Bhattacharya, D. (2002), Bangladesh Economy in fiscal year 2001: Macroeconomic Performance, in Rehman Sobhan (ed.) Chapter 2 in *Bangladesh Facing the* Challenges of Globalization*: A Review of Bangladesh's Development 2001*, Center for Policy Dialogue and University Press Limited, Dhaka.

Bhattacharya, D., Faiz, N., & Zohir, S. (2000), Policy for Employment Generation in the Informal Sector of Bangladesh .A Study Prepared for the International Labor Office, Center for Policy Dialogue, Dhaka.

Capacity Building, 2nd OECD Conference of Ministers Responsible for Small and Medium-Sized enterprises, Istanbul, Turkey, (3–5 June,2007) accessed from *http://www.oecd.org/dataoecd/6/7/31919278.pdf* (on 24 September 2007).

Chowudhury,R .& Rashid, H. (1996) The role of Small Scale Industries in an Under-developed Economy with reference to Bangladesh. Chittagong University studies (commerce) Vol. 12, pp 45.

Chowudhury, R. & Rashid, H. (1996). The role of Small Scale Industries in an Under-developed Economy with reference to Bangladesh. Chittagong University studies (commerce) Vol. 12, pp 48.

Razzaque, Abdur (24th dec, 2003). Market development for Bangladesh's SMEs: An analysis of issues to constraints. (Paper prepared for a seminar of Bangladesh Enterprise Institute)

Dhar,P.N .(1958) Small scale industries in Delhi, Bombay : Asia publishing house, , p.6.

EBRD. (2004). SME Finance in the Early Transition Countries: The EBRD's Experience, European Bank of Reconstruction and Development, accessed from *http://www.ebrd.com/pubs/legal/lit042h.pdf* (on 6 November 2007).

Fan, Qimiao, Alberto Criscuolo and Iva Ilieva-Hamel. (2005).Whither SME Policies?DevelopmentOutreach,March,accessefromhttp*://www1.worldbank.org/devoutreach/mar05/article.asp?id=286* (on 8 October 2007).

Hossain, N. (1998), "Constraints to SME Development in Bangladesh", Paper Prepared for Job Opportunities And Business Support (Jobs) Program, mimeo.

Hossain, Najmul. (1998). Constraints to SME Development in Bangladesh, in Job Opportunities an Business Support (JOBS) Program, Institutional Reform and the InformalSectorUniversityofMarylandatCollegePark,accessedfrom*http://www.iris.umd.edu/download.aspx?ID=580c5484-fe70-4f80-8282-2d906aaa224f* (on 8 October 2007).

Kamesam, Vepa. (2003, September 9). Financing for Entrepreneurship and SME: An Indian Perspective', OECD Workshop on 'Entrepreneurship in a Global Economy: StrategicIssuesandPolicies',Budapest,Hungary,September,accessedfromhttp*://rbi.org.in/scripts/BS_ViewBulletin.aspx?Id=4806* (on8 July 2007).

Levy, B. Obstacles to Developing Indigenous Small and Medium Enterprises: An Empirical Assessment. Source: The World Bank Economic Review, Vol. 7, No. 1, (Jan., 1993), pp. 72. Published by: Oxford University PressStable URL: http://www.jstor.org/stable/3989871

M. Suresh. (2007) Analyzing Constraints to Growth. Development of Small and Medium Enterprises in Bhutan: South Asian Survey.vol. 14. pp. 251 http://sas.sagepub.com/cgi/content/abstract/14/2/251

Little, & Mazumdar, & Page,(1987). Small Manufacturing Enterprises: A Comparative Analysis of India and Other Economies (New York: Oxford University Press, for the World Bank,). pp 313

Little, (Jan, 1987). Small Manufacturing Enterprises in Developing Countries. Source: The World Bank Economic Review, Vol. 1, No. 2, pp. 203-235, Published by: Oxford University Press.Stable URL: http://www.jstor.org/stable/3989829

Lall, Sanjaya.(2000) . Strengthening SME for International Competitiveness', Workshop on 'What MakesYour Firm Internationally Competitive?' Egyptian Centre for Economic Studies,Cairo,6–8March,accessed fro*http://worldbank.org/mdf/mdf3/papers/firm/Lall.pdf* (on 9 November 2007).

Mahalonabish, P. (1968). Approach to planning in India, quoted by Gunner Myrdall, Asian Drama: an Inquiry into poverty of nations, Vol III. London: Allen lane the Penguin Press, ,pp .1219.

Nepal, Chiranjibi, Bishwa Raj Karki and Kabya Prasad Niraula. 2002. 'Technology Transfer in SME: Problems and Issues in the Context of Nepal', accessed from *www.unescap.org/tid/publication/indpub2306_chap3.pdf* (on 18 September 2007).

PECC. (2003.) Financing Small and Medium Enterprises Challenges and Options, *Issues@PECC*, Pacific Economic Cooperation Council, accessed from *http://www.pecc.org/finance/papers/FF-financingsmes (2003).pdf* (on 17 September 2007).

Small Enterprise Development Facilities (SEDF/World Bank): The SME Sector: Taking Stock of the Present Situation, mimeo, Dhaka, 2003.

Sia, M. T. (2003), "SME Finance", Paper Prepared for the Asian Development Bank, mimeo (work in process).

Shrestha, Binod K. (2005) .SME Promotion Strategies and Poverty Alleviation in Nepal', in Utz Dornbergerand Ingrid Fromm (eds), *Private Sector Development and Poverty*

Reduction: Experiences from Developing Countries. SEPT Working Paper No. 20, Small Enterprise Promotion and Training (SEPT), University of Leipzig,34-43,accessedfro*http://www.red.or.id/index.php?option=com_docman&task=doc_view &gid=38* (on 8 November 2007).

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