SMALL AND MEDIUM ENTERPRISES AS ENGINE OF ECONOMIC GROWTH: A CROSS-COUNTRY ANALYSIS

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Abstract

This paper inspects the relationship between the small and medium-sized enterprise (SME) sector and economic growth for group of Developing (Lower and lower-middle income) countries for the period 2005-2009. We investigate the importance of the relative size of the SME sector (measured by the share of SME employment in total employment) for the economic growth and the empirical results indicate that the relative importance of SMEs has nonlinear relationship (looks like upward parabola) with economic growth, a result that is not consistent with previous studies examining developing countries in that they have found one-dimensional relationship(either positive or negative). In addition, our results show that appropriate Government policies and programs and their proper and effective implementation is required to facilitate SMEs development that will eventually lead to a better economy.

Keywords: SMEs 'Economic growth 'Government Policies

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1. INTRODUCTION

The era of 21st century, where the digitization, customization, globalization are some of various concepts that different organization are adhering to be cost-effective, capture huge market share and maximize their profit. If the firms in any economy will perform well and will be able generate more profits from their existing recourses by utilizing them in efficient and effective ways then it will result in increased productivity of the country and will lead towards the overall economic growth of country. Latest and efficient information technology and upgrading in the transportation facilities in last decade have made firms able to go beyond their traditional market and compete at the global plane. These latest developments have resulted in the best and efficient utilization of not only the firm's, but also the overall country's resources. On one hand the globalization has provided opportunity to the organizations to increase the scope of their operations, simultaneously on other hand it has also put forward some challenges for organizations such as, to be more flexible, cost-effective and proactive in their approaches to respond the rapidly changing customer needs and for their survival in the dynamic global market. Looking at current market structure the questions arise in once mind that, whether the small firms suit well in current market structure or not? Weather the small firms contribute towards the economic growth of country positively or negatively?

There are the different views about the above questions. Previously, large firms has been considered as the main engine of the growth for a particular economy but recently there has been seen the increasing role of small firms in the economic growth of the different countries, especially for developing countries where these small firms are dominant in terms of employment and overall contribution to the GDP. For the developing countries, SMEs are also the medium that facilitate the transition of agriculture-led economy to more developed industrial economy and work as catalyst in generating the sustainable source of revenues and facilitate development processes. As in the developing countries major portion of the population lives in the rural areas, the role of SMEs in rural area is even crucial because they serve as the medium of subsistence income for the poor villagers. People living in rural areas don't possess sufficient income to develop the big or large firms therefore only feasible option for them is to start with a small firm (SMEs) to keep up their livelihood. These small firms neither produce more sophisticated products nor they operate at higher productivity level but they usually produce low

standard goods, operate at lower productivity and serve the local vicinity therefore they require smaller investment. SME is also important for both developed and developing countries, such as contribution of SMEs in the industrial countries is 55% to GDP and 65% share in the total employment. SMEs contribution in the low-income countries is 60% in the GDP and 70% in the total employment, while in the middle-income countries they contribute 70% in GDP and 95% in total employment (Fida, 2008). This is the main reason that different international agencies are allocating major portion of their funding to SMEs such as; the World Bank Group channeled more than \$10 billion over the period 1998 –2002 and USA invested nearly \$1.3 billion in 2003. This includes both a) direct financial support and b) indirect support programs (such as technical supports, training, etc) for SMEs.

In the advocates of SMEs, Pro-SME policy view supports the SME on the basis of the following foundations.

First SME supporters argue that SME is the main driver of the entrepreneurship and competition. By enhancing the competition and entrepreneurship SMEs encourage the efficient and effective utilization of resources, enhance the innovation and increase productivity. From above statements one can infer that Government spending on SMEs will result in social welfare in the form of more jobs.

Second argument of the pro-SME advocates is that productivity of SMEs is greater relative to the large firms. But the precondition for the above statement is the well developed financial markets and the other institutes. Generally speaking these are institutions in any country that are responsible for the setting rules and regulation for conduct of business transactions which ultimately define the human interaction and the structure of these institution will also affect the cost of business transactions. If the institution of any country would not be well structured or structured in a manner that they encourage the corruption and other rent seeking activities than that country would not be able to reap full advantage of SMEs growth.

Third argument of the pro-SME advocates is that SMEs as compared to large firms generate more employment because they are more labour intensive than the large firms.

Pro-SME policy view is only one side of the coin. On other side there are so many researchers who believe that SMEs are not as important as it is being declared by the pro-SME policy view. In contrast of pro-SME policy view main arguments of the researcher are the following.

First, many authors have argued that larger firms are more cost effective as compared to the small one in the sense that they are able to exploit the economies of scale and therefore can cover their fixed cost more easily relative to the small firms (Pack and Westphal, 1986). Other authors also argue that jobs of large firms as compared to small ones are more stable (Brown et al, 1990). Second argument against the SMEs is relative to the SMEs being more labour intensive. Many researchers have questioned the nature of the SMEs to be more labour intensive and they have argued that neither they employ huge labour nor they are better at creating jobs (Little et al.1987).

Third, considering the firm's size as the determinant of economic growth have also been criticized by many researchers. These are the resources, facilities (technology) and institution that define the appropriate firm size and industry make up (Kumar et al.2001). For instance, some countries resources best suit to the large firm production while other countries recourses best suits the small firm production (You, 1995). Therefore saying that SME is responsible for growth in the particular country would not be right but it will be nature of its resources that is more conducive for the small firms rather than the large ones.

Forth, many researchers claim that pro-SME policy view overestimates the importance of the SMEs. It is not solely potential of SMEs but it is the business environment (Low entry and exit barriers, well-defined property rights, and effective contract enforcement) that determines the performance of firms, weather it is large or small. Therefore relating the performance to the size of firm does not make any sense.

There has been conducted many studies on the relationship between the SMEs and economic growth of the nation with various combinations of samples from country specific studies to the countries from lower, middle and high income groups. We have selected the lower and middle income countries for study with more updated data because these countries are in there development process and we believe that in this process of transformation from agricultural led economy towards the industrial economy SMEs play very constructive role in stepping towards prosperity and keeping in view this stunning importance of SMEs, global small and the medium enterprise lending volume is nearly \$10 trillion for keeping the engines of growth in working process. The size of this volume 70% is in high-income countries. The small and medium enterprise loans constitute 13% of GDP in developed countries and 3% in developing countries (Financial Access 2010 survey, public sources).

One of the main challenges in performing a cross-country analysis of SME data is the absence of a universal definition of what constitutes an SME. The definition of the SMEs varies from country to country and also they vary from one sector to other sector in the same country.

Given is the table that contains the criteria for definition of SMEs in different countries that is taking the number of employed people, size of the loans and the maximum sales in the firm as basis for definition.

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	Maximum Number of Employees	Maximum Sales	Maximum Loan Size
Moldova	249	4,500,622	
Mongolia	199	1,043,264	
Morocco		6,205,707	124,114
Netherlands		73,500,000	
New Zealand	19		
Nigeria	250		
Oman	99	5,201,561	
Pakistan	250		
Panama		2,500,000	
Peru			9,962
Poland	250		
Portugal	249		
Russian Federation	250	31,500,000	
Serbia, Rep. of	250	13,900,000	
Slovenia	250	48,600,000	
South Africa		47,200,000	885,094
Spain	250	13,900,000	
Sudan	10		
Syrian Arab Republic			107,048
Taiwan, China	200	2,420,099	
Tajikistan			12,069
Thailand	200		
Tunisia	300		
Ukraine	50	8,984,449	
United Kingdom	250	35,500,000	
United States			1,000,000
Uruguay	100	3,323,292	
Uzbekistan	100		
Zambia	50	49,543	
Zimbabwe	20		50,000

Source: Oya Pinar Ardic, 2011.

The measure of SME that we taking in this paper is the share of the labour force in firms with 250 or fewer employees in total labour force. The measure of Economic growth is the growth rate of Gross domestic product (GDP). The control variables are the unemployment rate, population growth rate, interest rate, and exchange rate on the SMEs because these effect GDP growth as well as have association with the SMEs growth. Therefore excluding it may cause the omitted variable bias (selection of this variable is based on previous studies).

This paper is organized as follows: the section 2) Literature review, Section 3) Data and Methodology, section 4) empirical results section 5) Conclusion.

2. LITERATURE REVIEW

In last two to three decades Globalization, technological innovations, enhanced and less costly transportation service etc. have created immense opportunities for the growth in most of the economies of the globe. Every country is trying hard to exploit these opportunities and want to grow as much faster as possible. This involvement in exploiting the growth opportunities by countries has attracted many researchers to find the factors that affect the growth of country.

Increased funding of international donor agencies and communities to Small firms for the welfare and poverty alleviation have encouraged many writers to investigate the link between size of firms and their impact on overall economic growth. A study was conducted by Shaffer, (2006) on 2500 US counties found that smaller establishments in each of the four sectors are significantly and robustly associated with faster subsequent growth of median household income. Carree and Thurik (1998), evaluated 14 manufacturing industries in 13 European countries and found that, on average, the employment share of large firms in 1990 has a negative effect on output growth in the subsequent four-year period. In a qualitative analysis by PD Reynolds, (1997), he found that contribution of the small firms in the international trade is quite large and is expected to grow in future and have effect on economic growth of the country. Rehman, (2008) studied the role of SMEs Export Growth in Bangladesh and with some policies suggestions the paper concluded that SMEs play a vital role in boosting the GDP of country mainly by higher exports earnings. According Tambunan, (2008) in his studies on Indonesian SMEs (1993–2006) he concluded that SMEs will not disappear from the LDCs because, i) create a niche market for themselves, ii) they act as a "last resort" for the poor, and iii) they will grow along with large enterprises (LEs) because of their increasingly important production linkages with LEs (subcontracting) and result in high economic performance.

The empirical study on relationship between SMEs sector and economic growth for an annual panel of Brazilian states for the period 1985–2004 using "Barro regressions" indicated that the size of the SME sector has a negative effect on regional growth while SMEs' human capital

reveals a positive but not significant effect of this aspect of SMEs on economic performance (Cravo et al., 2010). Further, in a cross-country analysis on 45 countries (included both developing and developed countries), a strong positive relation was found between SMEs and economic growth, but there was no any causal relationship between SMEs and economic growth and no evidence was found that SMEs alleviate poverty or decrease income inequality (Beck, 2005). In a study by Biggeri, (1990) panel analysis was performed on china TVEs (township and village enterprises) and SMEs over the period 1986-93 and it found that SMEs play very important role in the path of economic development, especially in rural areas. When it comes to know about job creation v/s job shedding in SMEs many studies suggested that SMEs sector creates the majority of the country's net new employment and share of employment accounted for by small firms has increased in the past two decades and had higher rates of job growth than larger plants. The studies concluded that small firms have higher job creation and job destruction rates but apart from this SMEs contribution to the development of an economy is significant and is largest constituent sector in generating employment, building and sustaining an entrepreneurial environment, and supporting innovation, creativity and flexibility (Kongolo 2010; Baldwin1996; Chandra, 2007; P.Gautier 1995).

A cross-country regression analysis was done by Shaw, (2008) on the role of micro, small, and medium enterprises in economic growth (per capita income) and this study with the sensitive results to the firm size definition, time period considered and empirical specification employed; found evidence of a causal connection between economic growth and the prevalence of firms of medium size or smaller (250 employees or less). Furthermore a study on Australian manufacturing SMEs in periods of 1994–1995, 1999–2000 by using the "Cobb-Douglas production function" resulted that on average labour productivity for manufacturing SMEs increased at a faster rate than that of large manufacturing enterprises across all industries but the study could not establish any definite relationship between labour productivity growth and employment (Mahmood, 2006). Prajogo D.et al, (2009) in their conceptual model on Vietnam, found that entrepreneur activities and market factors are important for growth in a country and Levine at al. (2005) by using a sample of 45 countries found a strong positive association between the importance of SMEs and GDP per capita growth and resulted that SME's are a cause of economic growth in a country.

Further adding to the studies regarding growth of SMEs, in a study by Beamish, (2006) Japanese SMEs it was found that both internationalization strategies (export and FDI) has positive impact on growth but with regards to profitability it concluded that FDI has U curve relationship with profitability and exporting activity has negative impact on profitability of SMEs. According to Allocca and Eric, (2006) in their study across several technology-related industries found that it is necessary for managers to be aware of development process of SMEs in order to decrease the time to market that will help them to best prioritize their scarce resources and focus their efforts on the factors that will make the maximum return on invested capital. Villar-López, (2010) in their study on 394 Spanish SMEs postulated that international experience has an indirect effect on foreign growth and economic performance. It has also found SMEs play a vital role in high quality economic performance because they are engines that turn knowledge that they acquire through international experience into the large endowment of internationally exploitable intangible assets) and into a differentiation competitive strategy.

In 2nd OECD conference of ministers responsible for development of SMEs (2004) it was concluded that SMEs play a key role in transition and developing countries and account for more than 90% of all firms outside the agricultural sector. Being major source of employment and generate significant domestic and export earnings SME development emerges as a key instrument in poverty reduction efforts.

3. DATA AND METHODOLOGY

This study involves cross section analysis of relationship between SMEs contribution to GDP of any country and its income growth. Proxy for SMEs contribution is "Manufacturing SMEs employment as percentage of overall employment" and proxy for Income growth is "GDP growth rate". Data is taken from different sources which include "World Data Bank", "Central Intelligence Agency". Time period of data is from 2005-2009. Data includes 38 observations and all these are either "Low Income" or "Lower Middle Income" countries. These countries and their respective years are selected on the basis of availability of data. That's why rather than taking a single year of study for all observation we have taken an interval of 2005-2009. In order to examine relationship between economic development and SMEs we have regressed GDP growth rate against SMEs employment as percentage of total employment and other control

variables. In this research Simple Ordinary Least Square Method (SOLM) of regression has been applied and in that INCOME GROWTH RATE (Ygi) is dependent variable, Manufacturing SMEs employment as percentage of total employment (SME250i) is main independent variable under consideration and also some other variables are included as control variables in order to find reliable results. By looking at the nature of effect of control variables on dependent variable (GDP growth rate) it seems more appropriate to include the inverse function these variable rather than simple. Main reason behind this is that, in long run there is more chance of convergence in effect of these variables on the dependent variable (GDP growth rate). Therefore we can write the equation as follow:

= + + +

Where

- = Income growth rate of country
- = Manufacturing SMEs employment as percentage of overall employment of country
- = inverse function of control variables.
 - = Error term

Control variables include Exchange rate, Interest rate, Population growth rate and unemployment rate. Some variables are selected on the basis of previous studies and some on researcher's own observation.

Previous research shows positive as well as negative relation of SMEs contribution and Income growth rate of countries depending upon their level of Income, institutional structure and government support to SMEs. Most of the previous researchers has either took mixed groups of countries (lower income and higher income) or a single country as their sample and also time period of data that they have taken is very historical. Keeping in view the above factors we have taken sample which includes only developing countries and data is also of most recent years rather than historical. Main reason behind taken sample of only developing countries is to find actual role of SMEs in path of development of country.

4. EMPIRICAL RESULTS

The question that "whether SMEs contribute to the economic growth of any country or not?" has remained under focus of many researchers and major portion of these researchers has selected developing countries for their studies. Reason behind selecting developing countries as area of research was that these countries are dominated by SMEs therefore it helps in better determining the relationship between SMEs and economic growth.

As described in introduction and literature review that some researchers have supported the view that SMEs dominated countries grow more as compared countries dominated by large organizations and others have found inverse of it. The motive of this study is also to determine contribution of SMEs towards economic growth in lower and middle income countries. Distinguishing factors of this study as compared to previous studies are new set of variables (control variables), latest data, larger number of countries and all are developing one (rather than mixture as used in many previous studies) etc. GDP growth rate (Yg) is used as proxy for the economic development and proxy for SMEs contribution in GDP growth is SMEs employment as percentage of total employment (SME250). By using such latest and different data set this study would help to indentify more accurately the role of SMEs in economy in current more developed environment.

In table 1 we have examined the relation between economic development and SMEs by regressing GDP growth rate against SMEs employment as percentage of total employment and other control variables. As described in Data and methodology that by looking at the nature of effect of control variables on dependent variable (GDP growth rate) it will be more appropriate to include the inverse function these variable rather than simple. Main reason behind this is that, the long run there is more chance of convergence in effect of these variables on the dependent variable (GDP growth rate).

Table 1 SME employment and GDP growth

Dependent variable = GDP growth rate							
Regressors	(1)	(2)	(3)	(4)	(5)		
С	8.8162***	9.0670***	9.5580***	9.4933***	9.3359***		
	(3.91)	(4.18)	(4.39)	(4.91)	(4.85)		
SME250	-0.114174	-0.1177	-0.1437*	-0.1332*	0.1434*		
	(-1.39)	(-1.5)	(-1.79)	(-1.86)	(-2.01)		
SME250 ²	0.000916	0.00095	0.0011*	0.0011*	0.0012*		
SIVILZOO	(1.33)	(1.44)	(1.74)	(1.84)	(2.01)		
1/PG		-0.50*	-0.5124**	-0.4894**	-0.4839**		
		(-1.98)	(-2.04)	(-2.20)	(-2.19)		
1/XR			1.424928	1.6657*	1.7816*		
			(1.30)	(1.71)	(1.83)		
1/IN				-2.7062***	-2.4794***		
				(-3.14)	(-2.82)		
1/UNE					1.582930		
					(1.18)		
R ²	0.054426	0.152586	0.194335	0.384110	0.410697		

Note: Dependent variable is GDP growth rate. *T-statistics* are in brackets. * Significant at 10%; ** significant at 5%; *** significant at 1.SME employment share in total employment is used as proxy for SME contribution to GDP growth and control variables include population growth rate, exchange rate, interest rate, unemployment rate.

As shown in table 1, FIVE different models have been run for finding out the relationship among SMEs and economic growth. As it can be observed from the above table that main variable under consideration SMEs employment as percentage of total employment (SME250) do not have strong influence on economic growth (Y_g) , but other variables (control variables) also contribute in the fluctuations in it. Therefore, five models containing the different set of explanatory variables have been applied in this study. In model (1) only quadratic regression model is used but main variable is not significant only constant is significant at 1% and R^2 of model is also extremely low. In model (2) one control variable (1/pg) has been included which is significant 10% and inclusion of this variable (1/pg) R^2 model has also increased (from 5.44% to 15.25) but still main independent variable (SME250) is insignificant. In comparison to model (2), Model (3) include one extra control variable(1/xr) which is insignificant but inclusion of this has resulted in increase of R^2 and also the main independent variable has become significant at 10%. Model (4) includes three control variables and due to including extra control variable R^2 has increased. In fifth and last model includes four control variable and in comparison extra control

variable in this model is insignificant but R² of model has improved (from 38 to 41 percentage). As it can be observed from the table that after including all control variables (in Model 5) R² increases to only 41% which indicate that model defines only 41% change in the dependent variable it is because there are so many variables (other than included in model) which have also influence on dependent variable. For finding the turning point of Model 5, we found its 1st derivative and set it equal to zero and then found value of SME250, it was 59.75. Therefore 59.75 is the point from which graph's turns.

Many researchers have found positive relation between SMEs contribution and the economic growth (Beck T, 2005 and Shafer, 2006) and other has found negative relation (Cravo, 2010). However in the case of our study, (which include solely developing countries) relationship between GDP growth rate (Y_g) and SMEs contribution is nonlinear. In any country where SMEs employment as percentage of total employment is less than 59.75%, they have negative relationship with GDP growth because of their lower productivity and lower competition in their sector. SMEs as compared to large firms do not use latest production techniques and they rely on traditional and labour intensive method of production (due to financial constraints), which results lower productivity. SMEs in developing countries are mostly involved in producing the lower quality goods and therefore are able to sell at lower prices. These lower quality goods don't compete with the products of large firms which are highly sophisticated and qualitative. Due to their lower quality and lower price these products are different from products of larger firms. Therefore, in countries where the number of SMEs in economy is very small these firms face lower competition (because their competitors are only small firms not large and fewer SMEs are in market). Due to this lower intensity of competition, SMEs don't strive for higher productivity and higher quality of their goods and this leads towards under utilization of resources and reduces GDP growth rate. But in countries where number of SMEs is larger and their employment accounts for more than 59.75% of total employment in that country they contribute positively for GDP growth. Because in such countries they face more competition and strive hard for increasing productivity and quality of their products in order to remain in market. Therefore larger number of SMEs in economy results in more competition and forces SMEs to increase their productivity as well as quality of goods and this result in optimal utilization of resources. Then theses qualitative products can be sold in local markets and can also be exported in order to

earn foreign exchange and increase foreign reserves and ultimately economy grows at higher rate.

5. CONCLUSION AND RECOMMENDATIONS

This paper has provided systematic investigation into the importance of the employment share of SMEs for economic growth in developing countries (Lower and lower-middle income). The empirical results indicate that the size of the SME sector has a nonlinear relationship with economic growth. In countries in which SMEs employment accounts for less than 59.75% of total employment they have negative relation with a growth and in countries in which SMEs employment accounts for more than 59.75% of total employment they contribute positively. It doesn't mean that at initial level when SMEs employment share is smaller, they should be discouraged but government should take action in order to increase their productivity and quality of products that they produce so that their products not only be sold in local markets but also in the international markets and their contribution in economy should result in increase of over all countries growth rate. These actions can include easy access to credit, removing tariff on machinery that SMEs are required to import (in order to improve their productivity), removing barriers of entry (so that more and more SMEs can enter in market and competition should increase), building institution to support SMEs and promote entrepreneurship etc. Removing barriers of entry, building institution to support SMEs and promote entrepreneurship will increase competition in SMEs and will force them to be more productive, increase quality of products and easy access to credit and less tariff on machinery imported will make them able to compete and survive in that tough competition.

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