

Promoting SMEs Development in Vietnam : An Approach to Stabilize Macro Economic Condition and to Restructure the Economy

PHI Vinh Tuong*

Abstract

Vietnam entered the new development decades with development challenges, including stabilizing macro economic condition, restructuring its economy toward higher competitiveness sustainable development. These challenges could be solved thoroughly by targeting the development of SMEs, the major player of its economy. Through examining the technical efficiency of SMEs in Vietnam, their innovation activities, the paper shows that policies makers still have a lot of rooms to help SMEs enhance their production efficiency and therefore their competitiveness. The rationale for policy intervention are (1) the existence of market failure, which hinder SMEs renovation activity and thus their development; and (2) through SMEs development, government could solve the challenges of restructuring.

Economic development and the role of SMEs in Vietnam

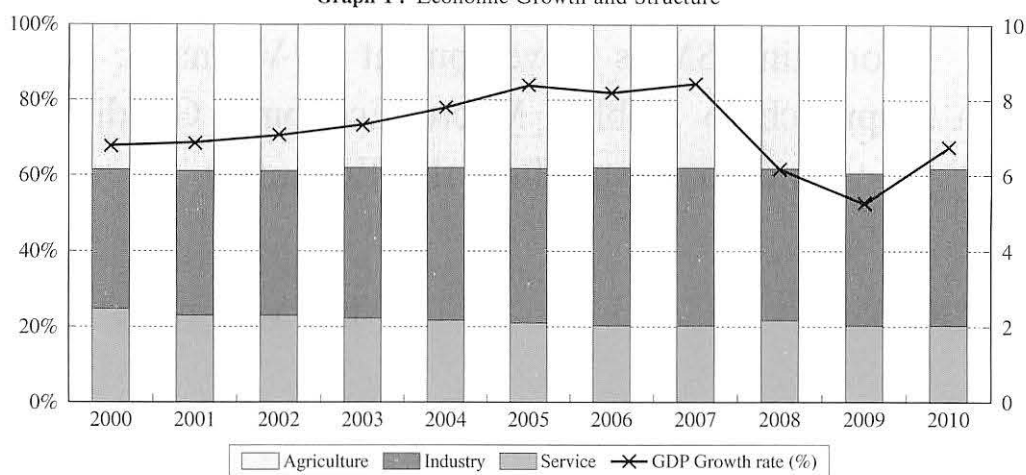
After 15 years of reformed, Vietnam finally enjoyed the development opportunities brought by the bilateral trade agreement with United State, which enacted in 2001. The process of integration into the region and the world economy had shifted to a new period after the World Trade Organization (WTO) recognized the country as an official member in 2007. This was the result of 12 years' efforts to renovate and to reform its institutions in accordance with international standards.

Nevertheless, Vietnam also experienced difficulties in past decade of integration, which originated from external shocks, namely Asia financial crisis and the global economic crisis. The level of impacts from these two crisis to the economy of Vietnam quite different because of the country openness levels, with larger negative impact of the later compared with that of the former.

After the Asian financial crisis, the growth rate gradually recovered (Graph 1) to the high level. This process of recovery took almost 5 years before Vietnam continued to enjoy high growth rate of over 7% per annum. Vietnam had enjoyed the high growth

* Economic Development Department, Vietnam Institute of Economics.

Graph 1 : Economic Growth and Structure



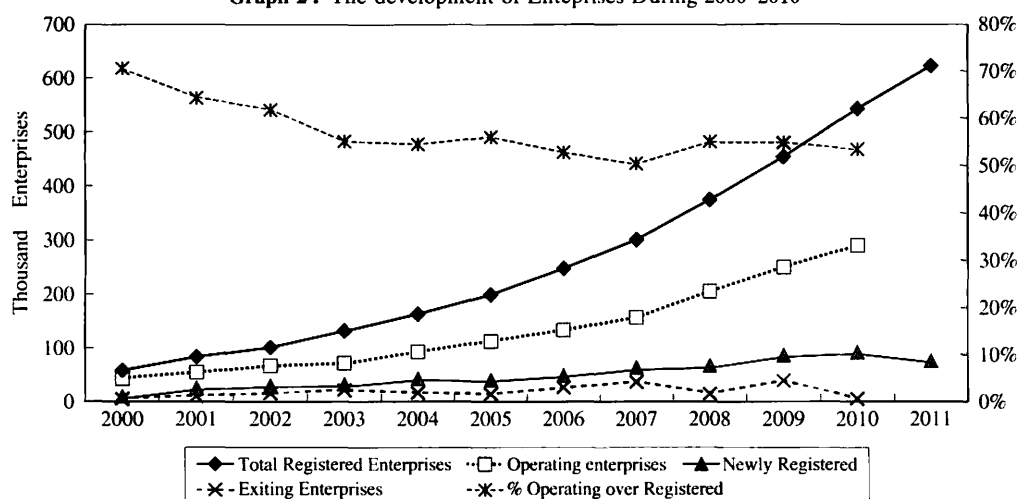
(Source : Calculated by the author using GSO data)

period quite short before the global economic crisis happened in 2008. This time, the crisis swept away development chances that Vietnam would enjoyed as of being official WTO member in 2007. Although the economy recovered quickly after the shock (2010), that recent macro instability (2011) implied that instead of a “V” shape recovery like that of the Asian financial crisis, Vietnam experiences the “W” shape recovery this time.

Vietnam also experienced a small changed its economic structure in the past decade. Thanks to the industrialization and modernization, the contribution of primary sector to GDP reduced relatively while contributions from the secondary and tertiary sectors to GDP increased respectively (Graph 1). Nevertheless, primary sector still played important role, especially during the crisis periods. According to the recent statistical data, during this crisis period, contribution of secondary sector decreased slightly while that of the primary sector increased respectively.

In order to achieve high economic growth target, government of Vietnam committed and devoted its efforts in creating favorable business environment to attract foreign and domestic enterprises to come. Many Laws had been promulgated and revised to meet the needs of firms’ demand for growth. The most important and significant changed in the legal framework for business was the promulgation of Enterprises Law and Investment Law in 1999 and their revisions in 2005. After the 1999 Enterprises Law came into effect, the number of registered enterprises climb up fastly. Within 2001, newly registered enterprises equals to 25% of the total registered enterprises of the prior decade¹⁾

1) In fact, at the beginning of the 2001-2010, many informal enterprises, those already operate without register to the government, formalized their business activities by registered under the new

Graph 2 : The development of Enterprises During 2000-2010

(Source : Calculated by the author using VCCI and GSO data)

(1991-2000).

By the year 2010, the number of registered enterprises had increased ten times compared with that of 2001. The number of registered enterprises surpassed the milestone of 500 thousand in 2010. As a result, the number of enterprises per thousand people increased from 0.77 in 2000 to over 5.75 in 2010. Although this was a significant achievement, still have much to do in order to reached the APEC target of 1 enterprise per 20 people.

We understand that, from graph 2, the gap between the registered enterprises and the operating enterprises became wider during the period 2000-2010. It implied that (1) number of enterprises that exit industries also increased during the 2000-2010 ; and (2) there also existed a number of enterprises that could not operate after registered due to unexpected difficulties or unfavored business conditions. Researchers pointed out that many reasons, including the lack of business experiences, unpredictable changed in business environment or the business opportunities quickly fade away, caused this phenomenon.

The phenomenon of increased number of enterprises, most of them were private owned, withdrew from the economy also implied that resources mobilization across firms, classified by ownership were not allocated rationally during 2000-2010. Many researches pointed out that private firms often found themselves difficult in mobilizing capital for their development strategies while that inefficient State-owned enterprises did not faced that

↘Enterprise Law. These informal enterprises mainly were SMEs. Therefore, not all newly registered enterprises were newly established one.

problem. It created the development issue of enhancing the efficient utilization of limited production factors.

Over the past decades, there existed some common perceptions. Firstly, State-owned enterprises (SOEs) were normally large-scale enterprises while private enterprises, especially domestic one, were small and medium-sized enterprises (SMEs). Therefore, these terms “private enterprises” and “small and medium-sized enterprises” often used interchangeably.

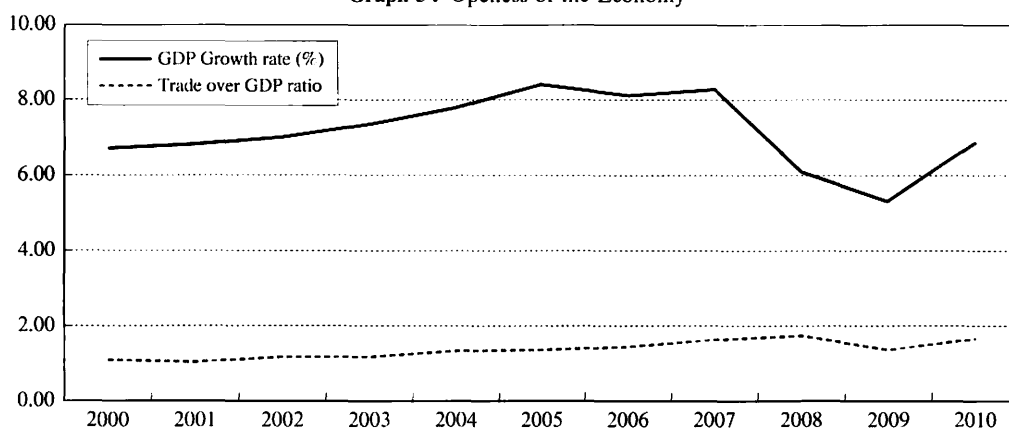
Secondly, due to development viewpoint that SOEs must played the dynamic role to promote economic growth, they were having advantages compared with private enterprises (both domestic and foreign enterprises) in accessing factors of production, such as capital, despite the fact that many of them operated inefficiently. Thirdly, the image of SMEs were weak and their operation endowed with vintage production technology. Fourthly, SMEs sector were consider as source of job creation and poverty reduction only, but not as an important source of growth through innovation and development independently.

These perceptions heavily influenced the government viewpoints in responded to the needs of supporting SMEs development. In 2001, the Government of Vietnam promulgated Decree No. 90/2001/CP-ND on supporting for the development of SMEs. This was the first time a legal definition of SMEs was introduced and the term “SMEs” was using in an unify way across government offices, NGO, research institutions.²⁾

This classification between Large-scale enterprises and SMEs then allowed researchers to examine the contribution of SMEs sector to the economic development of Vietnam over the past years. By the end of 2011, 97% of the total 543,963 registered enterprises was SMEs. They, together with large enterprises, mobilized over 6.3 thousand trillion VND (over 322 billion USD) for business activities. These SMEs employed 51% of the total labor force for the formal economy and contributed over 40% of the country's GDP in 2011. Together with over 3 million family businesses, they contributed over 60% of the GDP in the same year.

The development of SMEs particularly and of enterprises generally led to the success of export-led growth model pursuit by the government. Along with the increased in the number of enterprises, investment capital was also increased sharply. During the period 1995–2000, investment (total saving) only accounted for nearly 27%–29% of GDP. This ratio had increased to 33.8% (2005) before it reached the highest ratio of 41.2% (2010).

2) A new definition of SMEs was introduced by decree 56/2009/ND-CP dated June, 30th 2009 on supporting for the development of SMEs, which replace the previous decree 90/2001/ND-CP. For the concrete image of the past decade development, this paper use the definition in 2001 document.

Graph 3: Openness of the Economy

(Source: Calculated by the author using GSO data)

As a consequence of enterprises booming, over the past five year (2000-2005), capital factor and labor factor contributed for 64.63% and 19.25% in economic growth respectively, while the total factor productivity (TFP) only contributed for 16.21% of the growth. Therefore, the economic growth of Vietnam, following the export-led growth model, was characterized by the expansion of enterprises, most of them were SMEs.

The SMEs also the major player in export activities. During the period 2000-2003, the number of SMEs engaged in export activities increased two fold, from over 12 thousand enterprises to 26 thousand enterprises.³⁾ It made the openness of Vietnam's economy to the world increased gradually (Graph 3). When the economy experienced a plummet in GDP growth rate due to negative impacts from the world economic crisis (2008-2009), the ratio of trade over the GDP reduced slightly. This fact implied that (1) the proportion of necessity commodities or general commodities, including natural resources commodities, in the structure of exporting products, still accounted for a large proportion while luxury commodities or high value-added commodities were still accounted for a relatively small proportion; (2) The position of Vietnamese enterprises, mainly SMEs, in the global production network were not improved, mainly located at the processing section with low value-added. This fact raise the development issue of sustaining SMEs development and much have to be done to upgrade the position of Vietnamese SMEs in the global production network with a higher value-added and to secure decent jobs for Vietnamese labors in the future.

3) Son, Dinh Van (2009), p. 68.

SMEs development and current issues

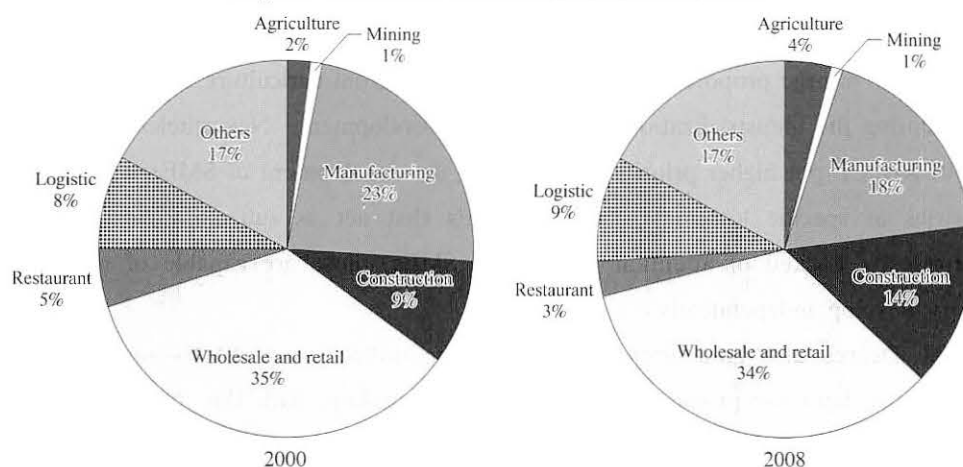
During 2001-2010, the proportion of SMEs in the total number of enterprises increased gradually. According to SMEs classification by labor criteria, the share of SMEs increased from 94.35% in 2000 to 96.80% in 2005. The share of SMEs in the total number of enterprises increased to 97.97% (2008) and remain at that high level in recent years. The share of SMEs, classified by capital criterial moved in an inverse direction. While the share of SMEs were maintained at the high level of 98.7% during the first 7 years of the past decade, it was reduced to 98.5% in recent years.

Over the past decade, most of the newly registered enterprises were SMEs. The structure of newly registered enterprises were not unique. Some of them were actually new in the sence that they first appeared to the market. Others were evolved from the over 3 million family business. Because most of the newly established enterprises were private enterprises so general image of the private sector was small and medium-sized enterprises.⁴⁾ Nevertheless, it is not always the case and we should use the two terms, “SMEs” and “private enterprises”, in a careful way.

During 2000-2010, SMEs experienced a growth in the total number of labor or that their job creation functioned relatively well. Nevertheless, understanding the process of firm's grow-up and its determinants are difficult and more studies need to implement to examine the process of evolving from SMEs to Large enterprise so that policy makers could created adequate policies for the needs of SMEs.

The SMEs were not distributed equally across sectors of economy. Large proportion of SMEs located in the service sector, mainly wholesale and retail service. After 9 years of development, the distribution order of SMEs across sectors was unchanged, with highest proportion in wholesale and retail sector (34%). The proportion of SMEs in three major service sectors (Graph 4) maintained at 48% within the same period. SMEs then located in manufacturing sector (18%), construction sector (14%), logistic sector (9%) and restaurant sector (3%). Nevertheless, the proportion of SMEs in manufacturing sector showed a decreasing trend and economic crisis in 2008-2009 also contributed the reduction of the number of SMEs in manufacturing sector.

4) The State-owned Enterprises sector were reforming during the 1990s and the number of SOEs reduced significantly during the past decades. According to this reform vision, government did not encourage to create the new SOE. Besides, many small and medium-sized state-owned enterprises were transformed to stock enterprises (privatization/equitization process) so that general image of SOEs sector is large enterprises, such as corporations.

Graph 4 : Distribution of SMEs Across Economic Sector

(Source : Calculated by the author using GSO data)

Interestingly, the proportion of SMEs in agriculture sector suddenly increased from 0.68% in 2007 to 3.52% in 2008 (see appendix 2) after a period of decreased gradually. One of the possible explanations for this situation is that the new Enterprises Law allow them to registered in many field of business at the same time, and enterprises, especially SMEs, actually utilized it. Therefore, these SMEs quickly shifted to other field of business, including agriculture sector to avoid the loss caused by negative impacts of external shocks.

Two development challenges emerged from the development and contribution of SMEs. Firstly, the distribution of enterprises showed that service sector such as retail service or transportation service (within logistic sector) or restaurant service attracted many SMEs during 2001-2010. These sectors, characterized with less capital requirements, played important role in job creation and poverty reduction. Many employees, who were span-off from the State-owned sectors during the past SOEs reform found themselves easy to start business in the service sector such as retail service and/or restaurant service as their finality. Nevertheless, the development of these services depends heavily on business conditions. When the condition become worst, people will be exposed to vulnerable and become poor again. The first challenge is to sustain the development of SMEs so that people wont become poor again.

The second challenge is to promote the development of SMEs that are capable of develop independently by relying on advanced technology. Aimed at fostering the industrialization and modernization and promote SMEs development, government of Vietnam promulgated Decree No. 90/2001/ND-CP dated November, 23rd 2001 as mentioned above. The decree as a whole focused on enhancing SMEs competitiveness and

on SMEs function of creating jobs for the economy. Nevertheless, while large number of SMEs invested in service sector, less of them engaged in manufacturing sector.

Besides, a large proportion of labors were shifted from agriculture sector to industrial sector during the industrialization and the SMEs development. Nevertheless, decree No. 90/2001/ND-CP put higher priority in promoting the development of SMEs in “traditional industries at specific locations” and in “SMEs that act as sub-contractors for large enterprises”. Lacked of attention to promote SMEs, those are capable of making the country develop independently.

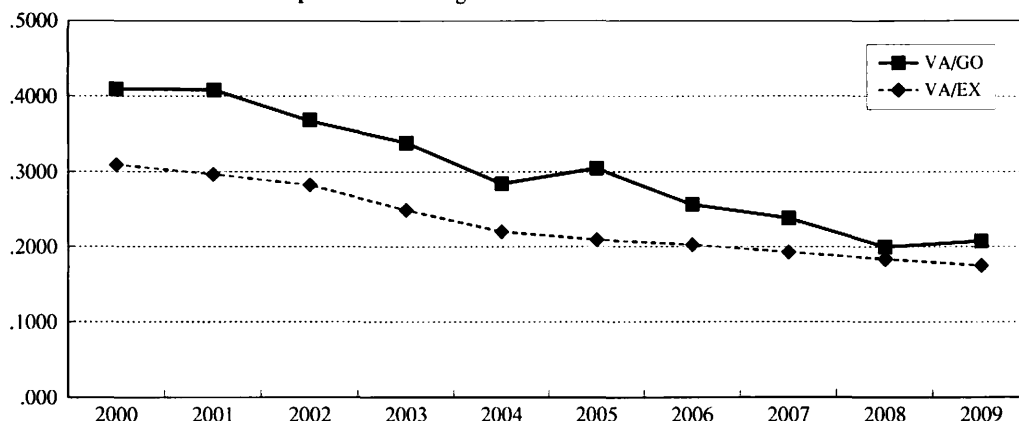
The Decree also paid attention to solve the difficulties of SMEs such as capital mobilization, land for production, technological upgrading, with the implementation of some concreted measures. For example, the Technical Support Center for SMEs in three large cities, namely Hanoi capital, Ho Chi Minh city and DaNang city for technical consultancy and assistance. Nevertheless, the progress of making these centers into operation was slow. For example, five years after the promulgation of Decree No. 90/2001/ND-CP that the Technical Support Program of the Technical Support Center for SMEs in Hanoi were submitted for government approval.

Other laws which also related to the development of SMEs, such as law on promoting the development of supporting industries, also implemented lately. These are some of the reasons that could explain why domestic SMEs were unable to upgrade themselves in the global supply chain and that the supporting industries in Vietnam, with SMEs are major players, were underdeveloped over the past years.

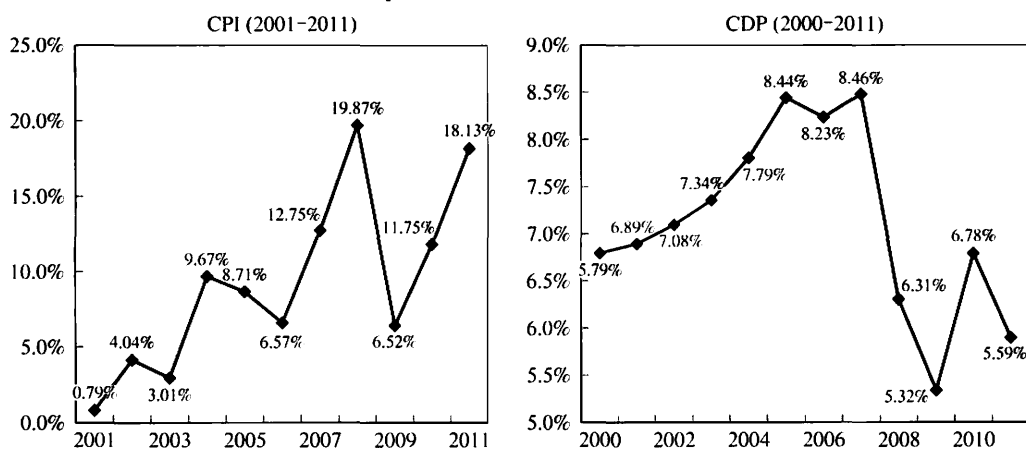
Endowed with vintage technologies and operated in a low value added chain, industrial sector of Vietnam experienced a trend of reduction in value-added over gross industrial output (VA/GO) as well as over the industrial export value (VA/EX). This also raised the question on the sustainable development for the industrial (manufacturing) sector. Upgrading manufacturing technology, pushing forward innovation activities become challenges for SMEs particularly and manufacturing enterprises generally for them to survive, especially after Vietnam fully integrate in regional economy in 2015.

The consequence of value added reduction not only damaged the decent job creation function of SMEs but also put the macro economic into the unstable condition. Inflation were increased sharply and more frequently, threatened the result of past economic development (Graph 6). Partially, the increase in the inflation were imported along with the increasing quantity of raw materials and semi-products imported for the export strategy of the country.

In order to address these development challenges, it is necessary to sustain the

Graph 5 : Decreasing Trend of Industrial Value Added

(Source : Calculated by the author using GSO data)

Graph 6 : Macroeconomic Condition

(Source : Calculated by the author using GSO data)

development of SMEs. In fact, the development of SMEs attracted many policy makers and researchers since the role of SMEs received the recognition and acceptance to promote by the government. There was a large literatures that examined difficulties faced by SMEs sector over the past decade. These analysis on SMEs development either concentrated at firm level, industry level or focused at the national level.

From the bottom-up approach, researchers are focusing on difficulties facing by SMEs and deterring their development. On the basis of these analysis, they provide suggestions for policy makers to solve these difficulties for SMEs. These researches include Leila Webster (1999), To Xuan Dan (2000), VCCI (2003), Finn Tarp et al., (2003), World Bank annual reports (2005-2010) VCCI annual reports on enterprises (2007 2010) CIEM survey on SMEs (2005, 2007, 2009). From the top-down approach, researchers study system of

policies to promote their development. These researches include MPI and JICA (1999), Sakai Hitoshi and Takada Nobuaki (2000), Nilgun F. Tus and Leny van Oyen (2000).

Sakai, Hitoshi and Takada, Nobuaki (2000) examined the situation of SMEs, pointed out the lack of entrepreneurship, the competitiveness and bad social viewpoint on the SMEs. According to survey by CIEM and DANIDA (2007), five big challenges faced by SMEs were lack of credit (or unable access to capital), current manufactured products has low market demand, competition, lack of land (assets) for production. The competition level has invert correlation with the age of enterprise. Their recommendation is lowering transaction cost is the efficient way that government can help firm to access credit. Along with the process of reform, difficulties on land for production tend to decrease over time.

It is well recognized that enhancing competitiveness is the only way for firms to survive and develop in an intensive competition markets. Investing in modern technologies is crucial for firms to upgrade or to create new products. Nevertheless, to adapt new technologies, firms have to engage in R&D and innovation activities. Different from large enterprises, the innovation activities of SMEs mainly focus on the process innovation to enhance the quality of their products rather than to create new products that have not existed before.

Promoting the development of SMEs, creating favorable business environment is necessary. But it is more important to focus on the internal issues faced by SMEs. The studies of technical capabilities, technology adaptation is one of the important thing cause it relates to SMEs competitiveness. Over the past decade, there were researches focused on efficiency levels of enterprises in manufacturing and service sector. Especially, in 2007, a series of research papers on technical efficiency, under the project name “Assessment of Technological Impacts on Economic Growth and Productivity in Vietnam” was published.

Nguyen Khac Minh and Truong Tri Vinh (2007) examined the technical efficiency across firms in 23 manufacturing industries using data envelopment analysis method. The result showed a low level of TE in these manufacturing industries with only 3.4% of them operated at full level of efficiencies. Nguyen Khac Minh, Dau Thuy Mai, and Vu Quang Dong (2007) examined technical efficiency of the metalware in dustury, utilizing both data envelopment analysis (DEA) with the Malmquist index and time-variant stochastic frontier production function (SFPF). According to their analysis, in metalware industry, capital-labor ratio, real wage, ownership, and firm age were not important factors on technical efficiency, while firm size was a significant factor that influenced the efficiency and productivity performance of the industry during 2000-2003.

Nguyen Khac Minh and Vu Quang Dong (2007) also using both DEA and SFP

methods to examined efficiency levels across firms in aquaculture-processing industry during 2000–2003 and found that technical efficiency were at low level. Other researches on this project focused on construction industry, banking industry, hotel industry and hospital industry. Before them, there were some researches on technical efficiency in textile and garment industries but taking SMEs as the main object of the study was not their interested.

In the economy of Vietnam, the textile and garment industries are those having many operating SMEs. They created a number of jobs for the economy and play important role during the restructuring process. Nevertheless, their development faced difficulties recently for they generated low level of value added. Because SMEs in these industries play important role during the process of restructuring and because upgrading technology, enhancing technical efficiency are crucial for SMEs to play their role, it is necessary to understand their development and their needs of assistance. This study examines the issue after applying new technology, e.i. technical efficiency, and the impacts from government supports. It will contribute to the understanding of SMEs development in Vietnam and their needs to support for develop independently in the future.

Methodology

To evaluate technical efficiency of SMEs and factors that may influence the improvement of technical efficiencies, this study utilizes the stochastic production frontier analysis, which was introduced by Aigner, Lovell, and Schmidt (1997) and Meeusen and Van de Broek (1997) simultaneously and developed by many other researchers, including Kumbhakar, and Lovell (2003). The model allows us to extract technical inefficiency across firms out of the random shocks, which beyond the control of these observations.

Following Battese and Coelli (1995) analysis, the model assumes that production function of firms is following the log-linear Cobb-Douglas form, which can be written as

$$\ln(y_{it}) = \beta_0 + \beta_1 \ln(k_{it}) + \beta_2 \ln(l_{it}) + v_{it} - v_{it} \quad (1)$$

Where the character (i) denotes observation i^{th} .

y_{it} denote the value added created by the i^{th} firm at time t , defined as total production value after deduced material cost and indirect cost.

k_{it} , l_{it} are input factors (capital, labor expenditure) of the i^{th} firm at time t . Capital factor is defined as total assets, including physical assets like housing, machinery, ect, reported in the balance sheet at the end of the year. Labor

factor is defined as the total full time employees.

v_{it} are random variables, which following i.i.d $N(0, \sigma^2)$ and independent of the u_{it} .

u_{it} are non negative random variables which are assumed to account for technical inefficiency in production and are following i.i.d $N^+(m_{it}, \sigma^2)$, that is truncated distribution ;

$$\text{where : } m_{it} = \delta_1 x_{1t} + \delta_2 x_{2t} + \delta_3 x_{3t}$$

x_1, x_2, x_3 are variables which supposed to influence technical efficiency of a firm. When firm introduce a new technology (x_1), it will need time for employees to adapt with the new one. Through the learning process, the technical efficiency could be enhance. It is similar to that when firm introduces new process (x_2) of production or develop a new product. This process of enhancing technical efficiency could be shorten by upgrading labor skill or recruiting skilled labor (x_3).

The first two variables supports supposed to have possitive impact to technical inefficiency while the last supposed to generate negative impacts on it. In other words, by recruiting skilled employees, firms has higher opportunities to lower the technical inefficiency level. Nevertheless, upgrading labor skill or the availability of skilled workers in labor market are beyond the capacity of SMEs themselves due to the limitation of resources for training.

Data and analysis results

The SMEs data extracted from the forth and the fifth survey carried out by two institutions' collaboration. They are Institute of Labor Studies and Social Affairs (ILSSA) in Ministry of Labor, Invalids and Social Affairs (MOLISA) and Department of Economics, University of Copenhagen, sponsored by DANIDA.

The original design of these surveys was to have consistence understanding on the development of SMEs. It aims at identifying constraints and potentials and assesses the role of SMEs in economic development of Vietnam. The survey focused on manufacturing sector in 10 large cities and provinces of Vietnam, including Hanoi, HaiPhong and Ho Chi Minh cities and Ha Tay (now is merged with Hanoi), PhuTho, Nghe An, Quang Nam, KhanhHoa, Lam Dong and Long An provinces. The repeated survey in 2007 included 2635 firms (2.200 repeated firms) and of the 2009 survey was 2655 firms. Each of the survey asked for SMEs performances over the past two continuous years.

Table 1 : Some Characteristic of SMEs' observation

Unit : Billion VND (1994 price)

	Firm	Minimum	Maximum	Mean	Std. Deviation
Total Revenue	177	0.05	19.91	2.72	3.30
Total Production Revenue	177	0.05	19.96	2.75	3.32
Total Capital	177	0.02	9.94	2.69	2.28
Total Value-added	177	-0.35	4.69	0.69	0.78
Total number of full-time employees (Person)	177	4.00	200.00	36.91	36.55

(Source : Calculated by the author)

Therefore, the number of observation for period 2005-2008 consist 10580 observations. This data included SMEs and household enterprises. Nevertheless, not all of these observations were employed for this analysis. After exclude the household observations, the data consist of 3534 observations of SMEs. These observations of SMEs scatter across sectors of the economy like food production, tabaco, textiles, garments, shoes and leather, wood and wood products... The number of observation in textiles industry is 202 observations. Nevertheless, 25 of them were excluded because their capital was ranging from 11 billion VND to 25 billion VND, which were higher than that of the definition of SMEs in 2001.

The final observations data of SMEs in textiles industry is 177 observation, which formed the unbalance panel data. Some characterizes of these observations are as following :

The estimation of production frontier of the observed data presents in table 2 below. According to the estimation of production frontier, an increase in labor factor will generate higher value-added compare with that of an increase in capital factor.

The average level of technical efficiency (TE) over 177 observation of SMEs in textiles industry during 2005-2008 is 60.98%. The factor that may raise technical inefficiency level is of introducing new production technology recently and factor that lower the level of technical inefficiency is recruiting/upgrading skilled labors. The first could be explained that firms need more time to adapt with the newly introduced technologies and therefore in short term, the new technology may be the source of lowering their owned technical efficiency. The result also found that introducing new process may slightly increase technical inefficiency but the result was not statistically significant. More data collection and examination should be implement to specify impacts from introducing new process of production to technical efficiency level.

The data showed that 29 over 42 enterprises introduced new technology during period

Table 2 : Stochastic Production Frontier Estimation

Variable name	Parameter	Estimated result	
		OLS	COLS
Constant	β_0	8.95** (3.87)	1.14** (14.75)
Capital	β_0	0.43** (3.60)	0.33** (8.31)
Labor	β_0	0.50** (2.96)	0.62** (10.04)
Sigma-squared	$\sigma^0 = \sigma_u^2$	2.62	25.74** (3.90)
Gamma	$\gamma = \frac{\sigma_u^2}{\sigma_u^2 + \sigma_v^2}$		0.994** (623.46)
Delta 0			-38.24** (-3.30)
Delta 1			7.15** (3.06)
Delta 2			0.27 (0.30)
Delta 3			-3.63** (-2.57)

** : Statistically significant at 1%

2005-2006. In 2007, 32 over 46 enterprises introduced new production technology and in 2008, 33 over 47 enterprises do the same thing. Table 3 below showed that among the group of enterprises that introduced new technology, there is a trend of having higher number of enterprises with higher technical efficiency compare to the mean. While in the group of enterprises who did not introduce new technology, the trend was not clear. In general, firms introduced new technology experienced higher level of technical efficiency, though. they still need more times to improve technical efficiency level cause the average technical efficiency level of the industry relatively low.

With relation to the impact of recruiting skilled labors to technical efficiency of firms, the trend was not clear (Table 4 above). SMEs also experienced higher level of technical efficiency level when able to recruit skilled employees except 2006 when the group of not able to recruit skilled labors had higher number of enterprises with TE above the mean (13 firms) compared with that of those who employed skilled labors (12 firms) as marked red color in Table 4. Nevertheless, SMEs that able to recruit skilled labors to upgrade their labor force experienced higher level of technical efficiency in other years. The impact to technical efficiency.

Together with other analysis on technical efficiency of industries in Vietnam, this empirical result confirms that the technical efficiency level of SMEs in textiles industry was relatively low and they need to upgrade the level of efficiency in order to increase their compatitiveness. Among them, thoses who were introduced new technology or able to recruit skilled labors experienced higher level of technical efficiency while the others experienced lower level to technical efficiencies. This implies that firms should pay more

Table 3 : Technical Efficiency Level Across Firms Introducing New Technology

Introducing new technology			Year				Total
			2005	2006	2007	2008	
No	Compare to mean of TE (60.98%)	Lower	8	4	5	8	25
		Higher	5	9	9	6	29
	Total		13	13	14	14	54
Yes	Compare to mean of TE (60.98%)	Lower	12	13	13	18	56
		Higher	17	16	19	15	67
	Total		29	29	32	33	123

*(Source : Calculated by the author)***Table 4 : Technical Efficiency Level Across Firms that Upgraded Labor Capacity**

Upgraded labor capacity			Year				Total
			2005	2006	2007	2008	
N	Compare to mean of TE	Lower	15	11	9	13	22
		Higher	9	13	9	6	15
	Total		24	24	18	19	37
Y	Compare to mean of TE	Lower	5	6	9	13	33
		Higher	13	12	19	15	59
	Total		18	18	28	28	92

(Source : Calculated by the author)

attention to innovate production technology as well as upgrading labor force capacity.

Firms that able to introduced new technologies needs more time to adapt it to their production. Lack of resources often hindered them from engaged in R&D and innovation activities, though these activities are ways to foster their adaptation progress. Lack of skilled labors also deter their process of enhancing technical efficiency.

Because textiles industry can absove redundant labors during the course of restructuring the economy, they play a crutial role for the economy. In order to help them activate the role of decent job creation, it is necessary to support them enhancing technical efficiency, which could be done through promoting their R&D and innovation activities. Because of the externalities and of resources limitation, they generally unable to do these activities by themselves. Therefore, the supporting role of government is needed. The measures may include : (1) supporting the agglomeration of textiles SMEs in some locations ; (2) local government invests in R&D institution specialized in textiles industry ; (3) local R&D institution, through the subside of local governments, support the R&D and innovation across SMEs in textiles industry.

Appendices

Appendix 1 : SMEs definition in Vietnam (Decree 90/2001/ND-CP)

Before the promulgation of Decree 90/2001/ND-CP dated November, 23rd 2001, the government of Vietnam defined SMEs as enterprises with registered capital of less than 5 billion VND and/or average annual employees of less than 200 persons.

By the year 2001, Vietnamese government, aims at fostering the process of industrialization and modernization, announced its support policies for SMEs. The target of this decree is, though the support policies by ministries and local governments, to enhance SMEs efficiency and therefore their competitiveness so that SMEs could help government to promote production, job creation and to improve the living condition for people.

In 2009, the definition of SMEs had been updated in accordance with changes in economic condition of Vietnam. The new definition of SMEs became more specifically across sectors, which summary as following:

Table A1 : Definition of SMEs in Vietnam

	2001		2009	
	Capital (K)	Labor (L)	Capital (K)	Labor (L)
Agriculture	K ≤ 10 billion	L ≤ 300 persons	K ≤ 100 billion	L ≤ 300 persons
Industry and Construction	K ≤ 10 billion	L ≤ 300 persons	K ≤ 100 billion	L ≤ 300 persons
Service	K ≤ 10 billion	L ≤ 300 persons	K ≤ 50 billion	L ≤ 100 persons

Appendix 2 : Distribution of SMEs Across Sectors

(Unit : Percentage)

Sector	2000	2001	2002	2003	2004	2005	2006	2007	2008
Agriculture	1.96	1.48	1.37	1.15	0.99	0.86	0.75	0.68	3.52
Mining	0.86	1.16	1.34	1.39	1.27	1.11	1.02	1.07	1.05
Manufacturing	22.93	22.38	21.97	21.84	20.90	19.98	19.24	18.80	17.78
Construction	8.89	10.54	12.02	13.22	13.23	13.39	13.48	13.46	13.73
Wholesale and retail	34.87	33.11	32.76	33.25	32.21	32.80	34.30	33.68	34.07
Restaurant	4.74	4.83	4.69	4.73	4.44	4.28	3.97	3.96	3.48
Logistic	8.22	9.71	10.27	11.06	11.60	11.73	11.45	12.31	8.87
Others	17.54	16.78	15.59	13.36	15.37	15.86	15.79	16.04	17.50

(Source: Calculated by the author from GSO enterprises census data)

Appendix 3 : Distribution of Technical Efficiency Level across type of SMEs

(Source : Calculated by the author)

The study also test the relationship between total production output with material cost, labor cost and capital. The result of the regression is

	Ln(y)	=	4.454	+	0.725*Ln(m)	+	0.053*Ln(k)	+	0.195*Ln(l)
			(9.86)		(33.51)		(2.07)		(6.09)

The adjusted R²=0.935. This model explained the fact that textile industry in Vietnam

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