VEPR

Working Paper
WP-18

DEVELOPMENT CHARACTERISTICS OF SME SECTOR IN VIETNAM:

Evidence from the Vietnam Enterprise Census 2006-2015

Pham Thi Tuyet Trinh, Nguyen Duc Thanh

University of Economics and Business, Vietnam National University, Ha Noi

Working Paper WP-18

DEVELOPMENT CHARACTERISTICS OF SME SECTOR IN VIETNAM:

Evidence from the Vietnam Enterprise Census 2006-2015

Pham Thi Tuyet Trinh, Nguyen Duc Thanh[*]

Supported by:

Friedrich Naumann STIFTUNG FÜR DIE FREIHEIT

The Friedrich Naumann Foundation for Freedom

[*] Microeconomic and Development Issues Team, Viet Nam Institute for Economic and Policy Research (VEPR)

TABLE OF CONTENT

LIST OF FIGURES

LIST OF TABLES

LIST OF BOXES

ABSTRACT

This paper provides an overview of development characteristics of small- and medium-sized enterprises (SMEs) in Vietnam over the 2006-2015 period. Employing large-scale data from the Vietnam Enterprise Census, we found that SMEs in Vietnam have experienced different development trends in two separate stages. Before 2010, number of enterprises, number of employees, total capital as well as total revenues of SME sector all enjoyed progressive increase. Since 2011, however, most of them suffered sharp decrease with different extent before showing some positive signs in 2015. Our analysis has also shown that SMEs have increased considerably in quantity but not in quality. In particular, a growing proportion of enterprises in the business sector is either micro- or small-sized; and the number of employees per enterprise has decreased over time. There have been shifts of SME labor and capital from agriculture, forestry, fisheries and manufacturing to services with a considerable number of SMEs operating in less knowledge-intensive service industries. In addition, SMEs have relatively lower business performance compared to large enterprises with respect to labor utilization, return to assets, return to equity, and return to sales. We also provide a literature review on the constraints to the sustainable development of Vietnamese SME sector, as well as review on the international experience of SME development in Japan, South Korea, and Taiwan.

1. INTRODUCTION

In line with the remarkable economic development of Vietnam since Doi Moi (Renovation) 1986, small and medium-sized enterprises (SMEs) in Vietnam have experienced phenomenal growth, especially since 2000 when the Enterprise Law was promulgated.

According to the Annual Business Report 2016 by Vietnam Chamber of Commerce and Industry, Vietnam witnessed a considerable increase in the number of new enterprises registered, number of employees, as well as total capital during the 2007-2015 period. It is, however, apparent that the proportion of micro and small-sized enterprises has been increasing rapidly; whereas the proportion of medium- and large-sized businesses has been shrinking. By 2015, in accordance with classification criteria regulated in the Decree No. 56/2009/ND-CP, in terms of labor scale, nearly 98 percent of total enterprises in Vietnam are classified as micro, small and medium-sized enterprises while large-sized enterprises account for the remaining 2 percent. In terms of total capital, the figures are slightly different with SMEs and large-sized enterprises accounting for 93.8 percent and 6.2 percent, respectively, of the total enterprises. SMEs sector has played a key driver to the development of Vietnamese economy, contributing 40 percent of the total GDP and accounting for over 20 percent of exports (Yoshino and Wignaraja, 2015).

A recent study conducted by the Japan External Trade Organization (JETRO) (2017) found that SMEs in Vietnam have been encountering different barriers, of which three main obstacles include lack of financial accessibility, the ineffectiveness of support from the government, and limited business capacity. Such obstacles have deterred the development of SMEs in Vietnam.

In order to contribute to the ongoing discussion about promoting the development of SMEs in Vietnam in the coming time, this study will provide an overview of the development characteristics of SMEs sector in Vietnam over the 2006-2015 period.

With the aim of preliminarily providing a comprehensive map of issues in the sector, the study will focus on three aspects as follows. First, using the Vietnam Enterprise Census (VEC), we will examine the characteristics of Vietnamese SMEs with respect to different aspects, such as the number of enterprises, the number of employees, as well as total capital and total revenue, and their distributions over the time. In addition, an assessment of the key performance of SMEs in Vietnam will also be presented. Second, the study will review main constraints to the sustainable development of SMEs in Vietnam. These constraints include not only internal factors (for example, ability and capability of the enterprise) but also external factors (for example, business environment, financial accessibility, the role of local authorities) which negatively affect the development of SMEs in Vietnam over the past time. Third, we will review the international experience of Japan, South Korea, and Taiwan on facilitating and promoting the development of SMEs for the purpose of proposing policy recommendations in the last section.

This overview study would be a start for further studies or broader research program on SMEs and industrial development of Vietnam.

2. DEVELOPMENT CHARACTERISTICS OF SMEs IN VIETNAM

2.1. Definition

During the 2001-2009 period, an enterprise is considered as SME if it is an independent business establishment with registered capital not exceeding Vietnamese Dong (VND) 10 billion or annual average number of permanent workers not exceeding 300 (See Article 3 of Decree No. 90/2001/ND-CP).

Since August 2009, with the stipulation of Decree No. 56/2009/ND-CP, SMEs are defined as business establishments that have registered in accordance with the Enterprise Law and are categorized into three levels: very small, small, and medium based on capital scale (measured as total assets identified on the accounting balance sheet) or labor scale (measured as average number of employees). Among these two criteria, total capital size is the priority.

Table 1. Enterprise size categories by capital scale and labor scale

	Micro-enterprise	**Small-enterprise**		**Medium-enterprise**	
	Number of employees (Person)	Total capital (VND billion)	Number of employees (Person)	Total capital (VND billion)	Number of employees (Person)
Agriculture, forestry, and fisheries	No more than 10	No more than 20	From more than 10 to 200	From more than 20 to 100	From more than 200 to 300
Industry and construction	No more than 10	No more than 20	From more than 10 to 200	From more than 20 to 100	From more than 200 to 300
Trade and service	No more than 10	No more than 10	From more than 10 to 50	From more than 10 to 500	From more than 50 to 100

Source: The Authors' Compilation from Decree No. 56/2009/ND-CP

In the newly established Law on Facilitating SME sector (No. 04/2017/QH14), which will be in force from January 1, 2018, an enterprise is considered as SME if it meets either the following criteria: (i) total capital should not exceed VND 100 billion; or (ii) total turnover of the preceding year should not exceed VND 300 billion. It should be noted that micro-enterprises, small enterprises, and medium enterprises would be identified differently in the fields of agriculture, forestry and fishery; industry and construction; trade and services (See Article 4).

In this study, we consider enterprises as SMEs based on the capital scale criterion in accordance with the Decree No. 56/2009/ND-CP, unless otherwise stated.

Box 1: Definition of SMEs in ASEAN and neighboring countries

When it comes to SME classification, different official definitions of SMEs have been used by each country, which makes it difficult to capture a comprehensive picture of SMEs across countries. Among ASEAN countries, all the members use the number of employees per enterprise as a common criterion. The cut-off lines, however, vary from country to country.

Table. A comparison of official definitions of SMEs

Countries	Number of workers	Other criteria
Brunei	100	-
Cambodia	200	-
Indonesia	100	Assets, Sales
Laos	100	Assets, Sales
Malaysia	150	Sales
Myanmar	100	Horsepower, Investment, Sales
Philippines	200	Assets
Singapore	200	Assets, Local ownership
Thailand	200	Assets
Vietnam	300	Capital
Japan	300	Capital

Source: Sato (2007)

Except for Brunei and Cambodia, all other countries use such additional criteria as assets, capital, and sales to classify SMEs. The cut-off lines are measured in local currencies and revised every few years. In addition, some countries, for example, do not have cut-off lines to separate micro-enterprises from SME category. The inclusion of micro-enterprises in SME could significantly affect the size structure, challenges, and policy implications (Sato, 2007).

2.2. Development Characteristics of SMEs in Vietnam, 2006-2015

2.2.1. Data

In order to analyze the development characteristics of SMEs in Vietnam, we use data from the Vietnam Enterprise Census (VEC), which is a micro firm-level data set and has been conducted by the General Statistics of Vietnam since 2001. The census collects rich information on the demographic characteristics, ownership type, industry type, employment, income of employees, as well as other financial information of registered enterprises in Vietnam. As for business performance and other financial information, the census which has often been implemented in the early months of the year will collect information of the preceding year. For example, the VEC 2016 will cover the enterprise' information till December 31, 2015. In this paper, to cover the development characteristics of SME sector over the 2006-2015 period, we use the VEC 2007 to 2016.

When studying SMEs, we can alternatively use such other source as SME survey which have been conducted under collaboration between three partners: the Central Institute for Economic Management of the Ministry of Planning and Investment of Vietnam; the Institute of Labor Science and Social Affairs of the Ministry of Labor, Invalids and Social Affairs of Vietnam; and the Development Economics Research Group of the University of Copenhagen. However, there are several reasons that lead us to choose VEC over SME survey. The first is SME survey covers only a sample of about 2,500 enterprises in ten representative provinces, whereas the VEC covers a larger number of enterprises across all provinces, which enables us to make a comparison in the characteristics and business performance between SMEs and large enterprises. Second, while SME survey has been conducted biennially, the fact that VEC has been conducted annually could better capture the business activities of enterprises over time. Last but not least, as we want to study the dynamics of SMEs by ownership and by industry, VEC is a better choice as it covers all types of ownership and industries, whereas SME survey covers only non-state manufacturing SMEs.

It should be noted that, with respect to small non-state enterprises, VEC covers a sample of them and the sampling rate has varied by province, by industry, and by time. As such, we have carefully taken into account the sampling rate using available information on sampling methodology of each survey round.

For the purpose of analyzing the characteristics and key business performance of SMEs over time, we create a data panel using firm-specific identification. The panel includes all firms which are classified as small-sized, medium-sized, and large-sized over the 2006-2015 period, in other words, we do not include micro-firms (firms with no more than 10 employees) in the sample.[2] The number of employees and total capital (total assets on the balance sheet) are measured at the end of the year. Such money-value variables as revenues and income of employees are adjusted to the constant 2010 VND, using GDP deflators. It is worth mentioning that VEC might not be an ideal dataset to study the business sector in Vietnam in general and the SME sector in particular, given its questionable quality. More specifically, we suspect the duplications of demographic and financial information of a considerable number of enterprises in the data set in the same round of survey. To the best of our efforts, we carefully clean and process the data, excluding all those enterprises with erroneous data or no data on key variables such as revenues and income of workers from the dataset (around 2% of the total observations). To preserve the sample size as much as possible, we have to minimize the number of indicators to be used to assess the business performance of SMEs, that is, only labor-utilization indicators will be presented.

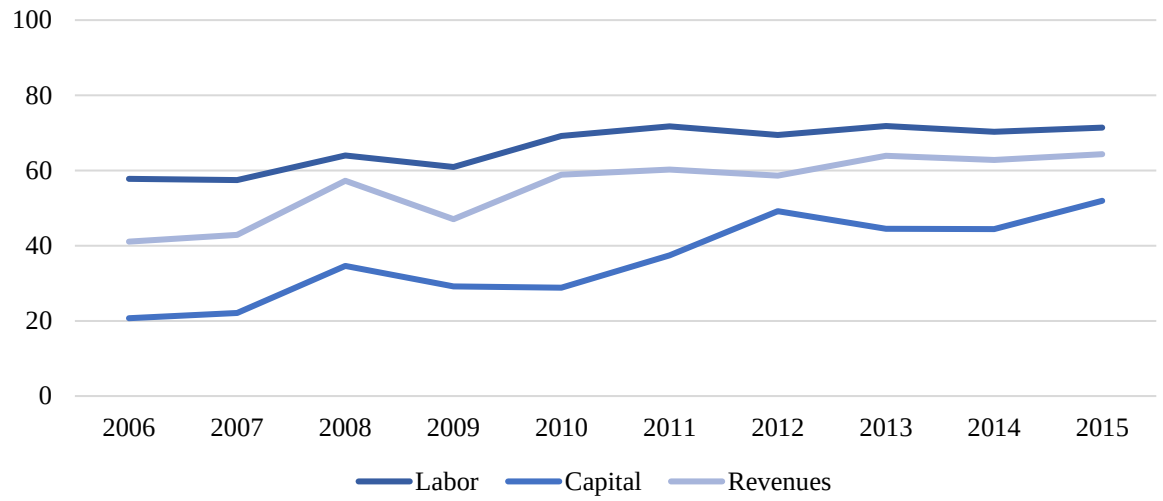
[2] We included the micro-sized enterprises in another analysis for the purpose of comparison. In this paper, SMEs denote small and medium enterprises only; whereas MSMEs denote micro, small, and medium enterprises.

In the next sub-sections, we will present our analysis on the growth of SME sector in Vietnam, in terms of the number of enterprises, employment, capital, and revenues at both aggregate- and firm-level.

2.2.2. Growth of SMEs

In general, while absorbing about 70 percent of the total employment who are working in the business sector (including SMEs and large enterprises), SMEs have accounted for 50 percent of the total capital and contributed to around 60 percent of the total sales of the business sector during the 2006-2015 period. Including micro enterprises, these numbers would increase to 90 percent, 80 percent, and 85 percent respectively.

Figure 1. Contributions of SMEs to business sector in Vietnam, 2006-2015 (%)

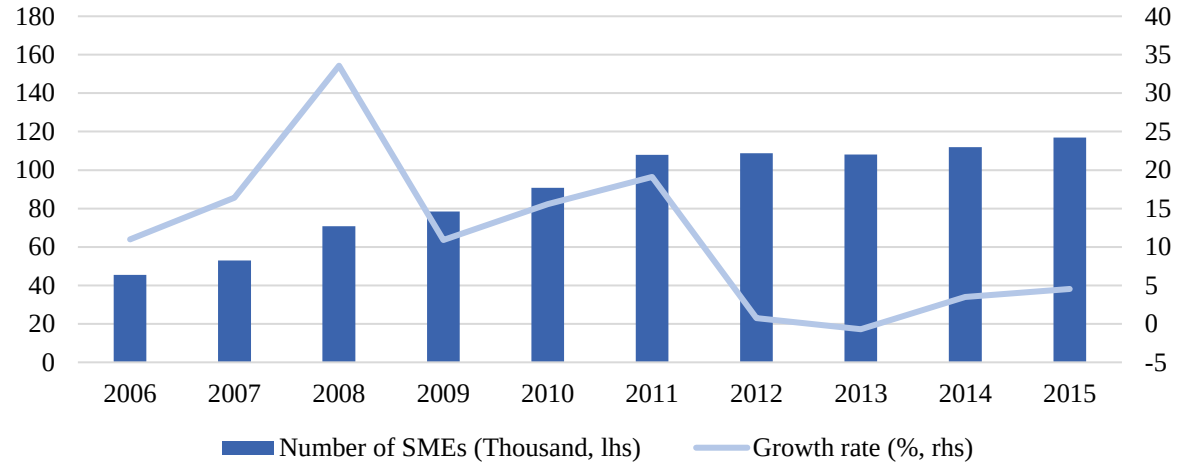


Notes: Business sector denotes SMEs (micro-enterprises not included) and large enterprises.

Source: The Authors' Calculation from Vietnam Enterprise Census

SME sector in Vietnam has witnessed a remarkable increase in the number of enterprises during the 2006-2015 period (Figure 2). To be more specific, from around 45 thousand enterprises in 2006, the number of SMEs has increased to over 120 thousand in 2015, roughly 2.6 times compared to 2006. The average growth rate of this period reached the level of approximately 14 percent per year. It should be noted that, if the growth rates of SMEs was pretty high during the 2006-2011 period (19 percent on average), such high growth rates could not be observed in more recent years (2 percent on average), indicating the hardships of the economy. There is, however, some positive signs in 2015 with higher growth rate compared to the previous two years. Our analysis (not reported) also shows incredible growth of the micro enterprises during the same period. In particular, the average growth rate of the micro, small, and medium enterprises (MSMEs) was 30 percent and 10 percent during the 2006-2011 and 2011-2015 period respectively.

Figure 2. Number of SMEs in Vietnam, 2006-2015

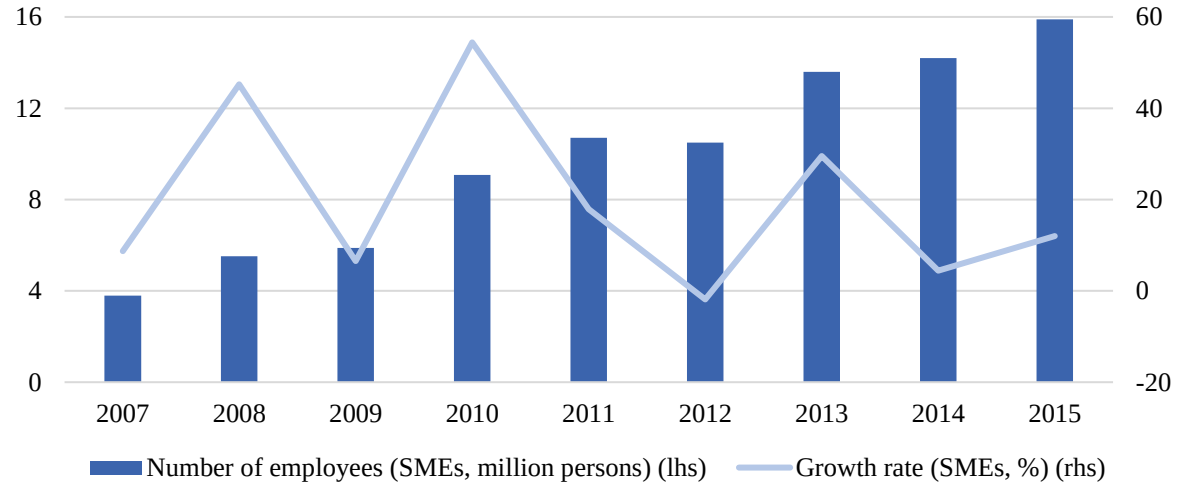


Notes: Micro-enterprises not included.

Source: The Authors' Calculation from Vietnam Enterprise Census

A similar growth pattern could also be seen in the total employment of SMEs during the 2006-2015 period, as shown in Figure 3. In particular, if the 2006-2011 period witnessed an increasing growth in the number of employees, with the average rate of around 25 percent per year, the latter period experienced declining growth rate of only 10 percent per year. Similar can be observed for the MSME sector. The growth trend of SME (MSME) employment is similar to that of the total business sector (VCCI, 2016), suggesting that the number of new jobs created in the past several years has dropped dramatically.

Figure 3. Total employment of SMEs in Vietnam, 2006-2015



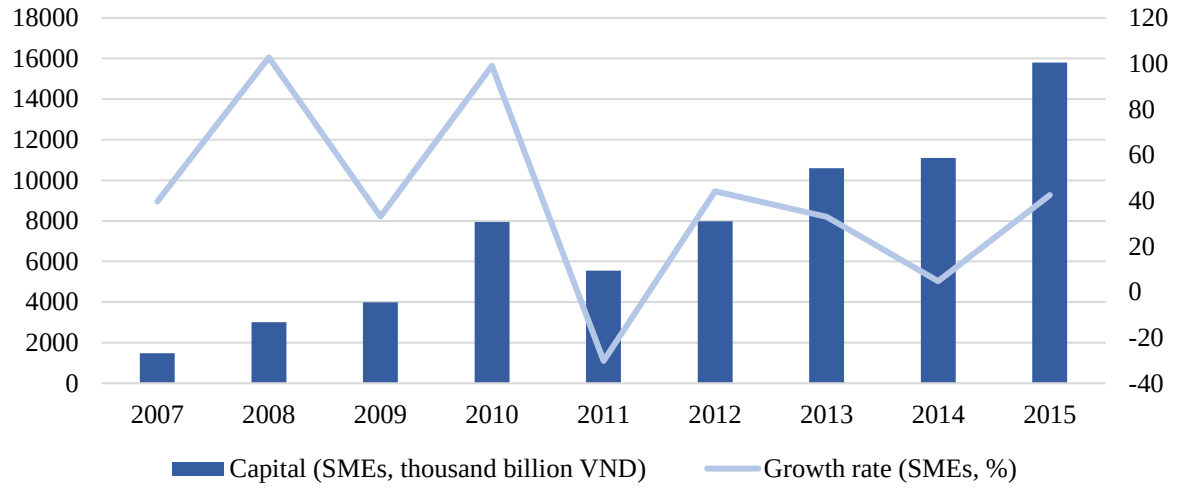
Notes: Employees working in micro-enterprises not included.

Source: The Authors' Calculation from Vietnam Enterprise Census

Figure 4 shows the growth of the total capital of SMEs in Vietnam. If the average growth rate of total capital was pretty high during 2006-2010, roughly 50 percent per annum,

the average growth rate during the latter period was much lower, down to 26 percent per annum, reflecting the slowdown in the economic growth.

Figure 4. Total capital of SMEs in Vietnam, 2006-2015

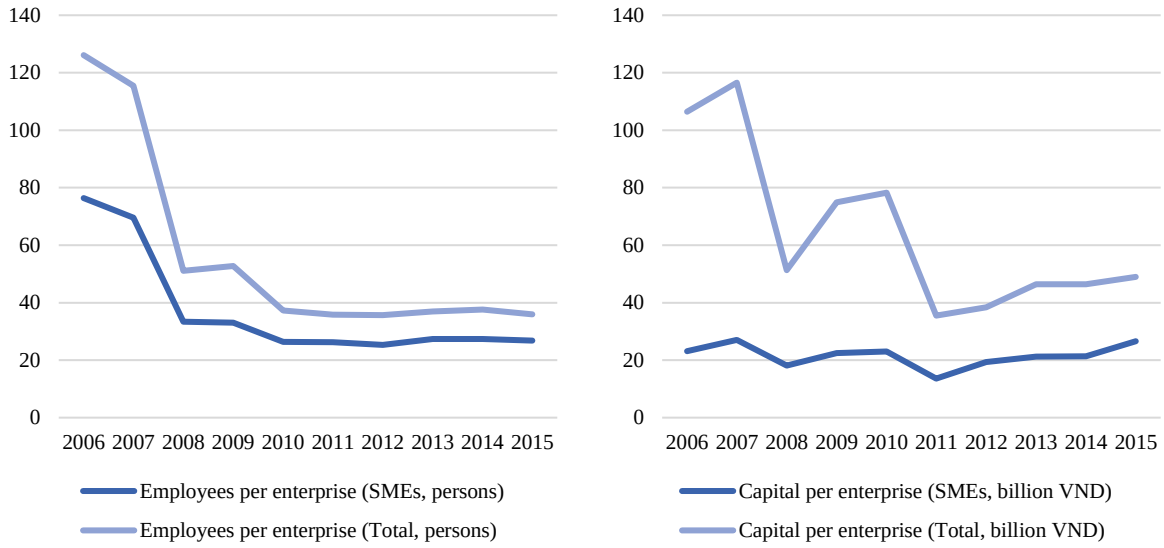


Notes: Capital measured in constant 2010 VND. Micro-enterprises not included.

Source: The Authors' Calculation from Vietnam Enterprise Census

The considerable growth of total capital in 2015 could be a result of either a significant increase in the number of SMEs, or a significant increase in the per-enterprise capital amount, or both. As Figure 2 and Figure 5 demonstrate, it seems to be a combination of the two factors.

Figure 5. Employment and capital per enterprise in Vietnam, 2006-2015



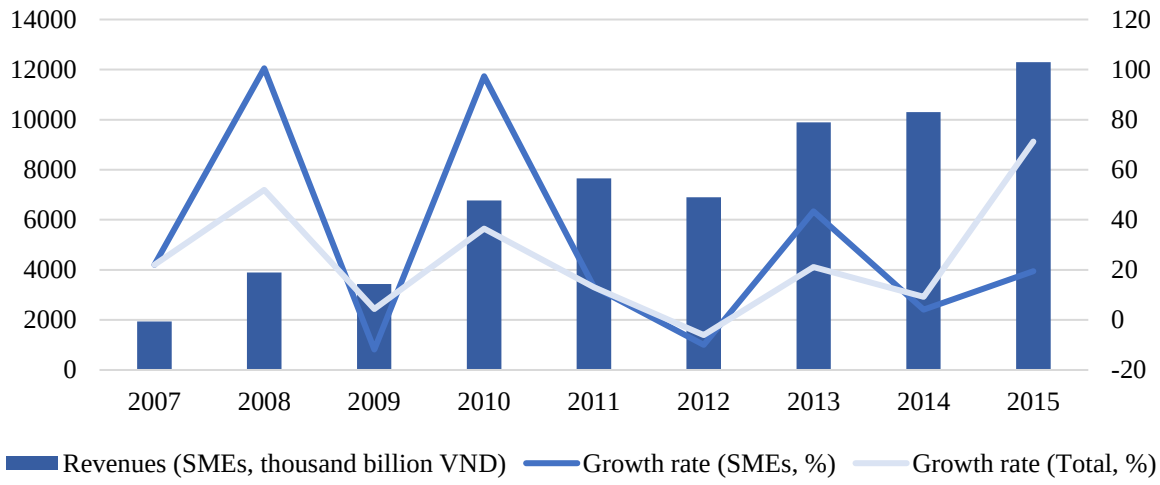
Notes: Total denotes SMEs (micro-enterprises not included) and large enterprises. Capital measured in constant 2010 VND.

Source: The Authors' Calculation from Vietnam Enterprise Census

As for each enterprise, it could be seen from Figure 5 that the number of workers per enterprise of the business sector in general, and of the SME sector in particular, has been decreasing. The average number of employees in the enterprise (SME) has fallen from 126 (76) in 2006 to around 35 (26) in 2015. This reflects the reality of increasing share of small-sized while lacking medium-sized enterprises in Vietnam.[3] While employment per SME decreases, capital per SME in real terms seems rather stable (increasing in nominal terms), suggesting that the development of small and medium business depend critically on capital growth rather than labor growth. At first, this seems to be a paradox as low labor cost has long been considered a comparative advantage of Vietnam. However, as figured out in the next section on the constraints to the sustainable development of SMEs, the "once" low labor cost has now posed an onerous burden of doing business in Vietnam.

With respect to revenues, the real average growth rate of total revenues of SMEs (25 percent) are found to be higher than the average growth rate of the total number of employees (18 percent) but still lower than the real average growth rate of total capital (35 percent) during the 2006-2015 period. Compared to total enterprises, the growth rate of revenues of SMEs seems more vulnerable. The real growth rate continued to suffer from significant decrease until 2012, before showing some signs of recovery in more recent years (Figure 6).

Figure 6. Total revenues of SMEs in Vietnam, 2006-2015



Notes: Total denotes SMEs (micro-enterprises not included) and large enterprises.
Revenues measured in constant 2010 VND.

Source: The Authors' Calculation from Vietnam Enterprise Census

In conclusion, the analysis above shows that the development of SMEs in Vietnam during the 2006-2015 period has experienced two different trends in two separate stages.

[3] In another analysis, we included all micro enterprises in the sample and found similar trends. However, due to the large proportion of micro enterprises in the Vietnamese total business sector (up to 80 percent in 2014), the average size of the enterprises was found to be only 17 in 2006, and 11 in 2014.

Before 2010, the number of enterprises, the number of employees, the total capital as well as the total revenue all enjoyed progressive increase. In 2011, however, most of them suffered sharp decrease with different extent. In response to this, economic restructuring, including corporate restructuring has been implemented since 2012, bringing about positive effects, resulting in the more stable development of enterprises, which has been exhibited in similar, albeit pretty slow, the growth of labor, capital, and revenue (VCCI, 2016). It should be noted that in terms of capital development, the decreasing trend during the 2013-2015 period seems to reflect the difficulties in accessing and mobilizing capital given banking restructuring (VCCI, 2016). In addition, the development of this sector seems to depend much on capital growth rather than labor growth.

In the next sub-section, we will provide an analysis on the distribution of SMEs, in terms of the number of enterprises, employment, capital, and revenues by ownership, by industry, and by economic region.

2.2.3. Distribution of SMEs

Using two classification criteria in accordance with Decree No. 56/2009/ND-CP, we categorize enterprises into different groups. It could be seen from Table 2 that most of the micro- and small-sized enterprises in terms of labor are small-scale enterprises in terms of capital. Similarly, large-sized enterprises in terms of labor are often medium and large-scale enterprises in terms of capital. It should be noted, however, that there are discrepancies in the share of medium-sized enterprises in terms of labor and capital. To be more specific, micro- and small-sized enterprises in terms of labor account for a large proportion of medium-sized enterprises in terms of capital; whereas nearly 50 percent of large-sized enterprises in terms of capital is actually small-sized enterprises in terms of labor in 2015.

Table 2. Distribution of enterprises by two firm size classifications, 2006-2015 (%)

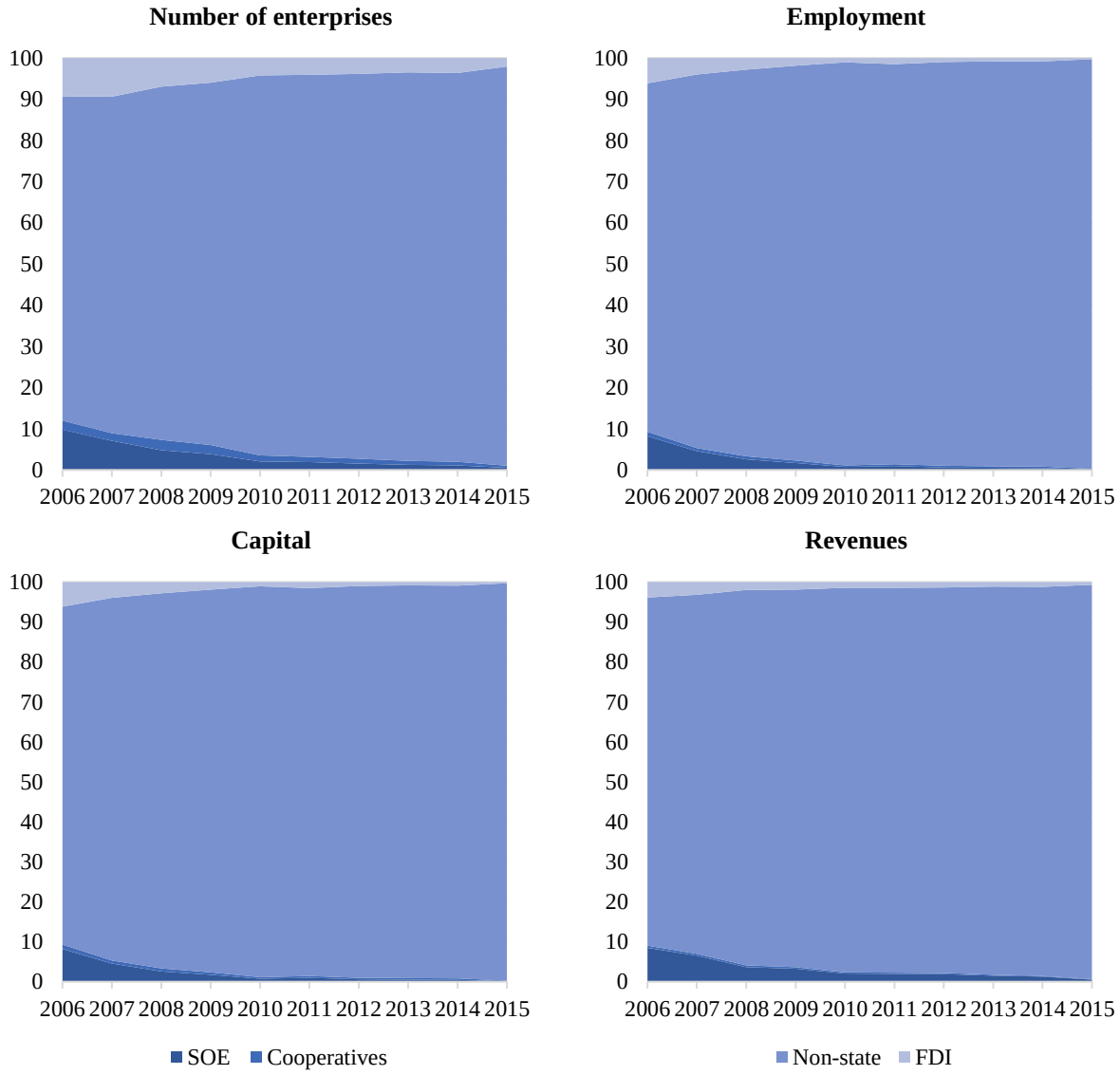
		Capital							
		2006				2015			
Labor	Firm size	Small	Medium	Large	Total	Small	Medium	Large	Total
	Micro	88.74	1.23	0.00	89.97	71.38	19.79	0.09	91.26
	Small	7.24	0.90	0.07	8.21	2.97	3.74	0.26	6.98
	Medium	0.11	0.20	0.04	0.35	0.01	1.41	0.01	1.43
	Large	0.39	0.77	0.31	1.47	0.05	0.22	0.07	0.34
	Total	96.48	3.09	0.43	100.00	74.40	25.17	0.43	100.00

Notes: All enterprises are included.

Source: The Authors' Calculation from Vietnam Enterprise Census

Another worth noting point is that compared to 2006, the proportion of small-sized enterprises in terms of capital dropped quickly, by 20 percent; whereas a corresponding increase was mostly observed in medium-sized enterprises in 2015. In terms of labor, the growth rate of micro- and small-sized enterprises was much higher than that of medium- and large-sized enterprises.

Figure 7. Distribution of SMEs by ownership, 2006-2015 (%)



Source: The Authors' Calculation from Vietnam Enterprise Census

In terms of ownership, Figure 7 shows that non-state SMEs experienced a rapid increase in both number and proportion. With respect to the number of enterprises, if non-state SMEs accounted for about 79 percent of the total SMEs nationwide in 2006, this figure nearly reached 97 percent by 2015. For FDI SMEs, despite an increase in the number of enterprises, the proportion of this sector has actually been decreasing, from 9 percent in 2006 to around 2 percent in 2015. State and cooperatives SMEs both showed a rapid decline in their share in the total number of SMEs nationwide.

With respect to employment, non-state SMEs have absorbed a large proportion of employees of the SME sector. Specifically, if nearly 85 percent of SMEs employees worked in non-state enterprises in 2006, this figure increased to over 99 percent in 2015. The share of employees working in state and FDI SMEs has decreased over time.

In addition, the share of state, cooperatives, and FDI SMEs in terms of capital also experienced considerable reduction over time. If around 8 (6) percent of the total capital of SMEs were concentrated in the state (FDI) SMEs in 2006, this number declined to less than 1 (1) percent in 2015. Similar can be observed regarding the revenues.

In terms of industry, we use the classifications of OECD and NACE (See Appendix A). Accordingly, the business sector is categorized into 11 major industries, including agriculture, forestry and fisheries; mining, electricity and water; manufacturing (4 groups); and services (6 groups). Table 3 shows that most of SMEs operate in less-knowledge service industries, accounting for more than 45 percent of total SMEs in 2015. Manufacturing industries account for a relatively small proportion compared to service industries, 23.1 percent and 55.8 percent of the total SMEs nationwide respectively.[4]

Table 3. Distribution of SMEs by industry, 2006-2015 (%)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agri-forestry-fisheries	2.98	2.57	2.68	2.73	1.39	1.17	1.6	1.33	1.22	0.73
Mining, electricity, water	3.44	3.18	1.58	1.58	1.43	1.36	1.31	1.05	1.01	0.64
Construction	19.28	18.46	16.52	16.71	20.26	17.77	17.53	18.03	17.95	19.68
Low-tech M	17.46	16.38	13.81	12.33	11.36	10.84	10.67	10.99	10.74	11.75
Medium-tech M	9.28	9.03	7.18	7.37	6.94	7.36	7.32	7.29	7.66	8.28
High-tech M	4.63	4.3	3.5	3.12	2.87	2.91	2.85	3.02	2.99	3.07
KI market services	3.83	4.19	7.67	6.79	7.03	8.48	8.62	8.93	8.89	7.09
High-KI services	1.01	0.99	1.94	1.71	0.34	0.39	0.39	0.35	0.36	0.35
KI financial services	0.58	0.64	0.32	0.36	0.34	0.33	0.67	0.31	0.27	0.41
Other KI services	0.99	1.03	1.5	1.29	1.48	1.54	1.72	1.86	2.11	2.16
Less KI services	36.51	39.24	43.3	46.01	46.56	47.85	47.31	46.85	46.79	45.83

Notes: M and KI stand for manufacturing and knowledge-intensive, respectively.

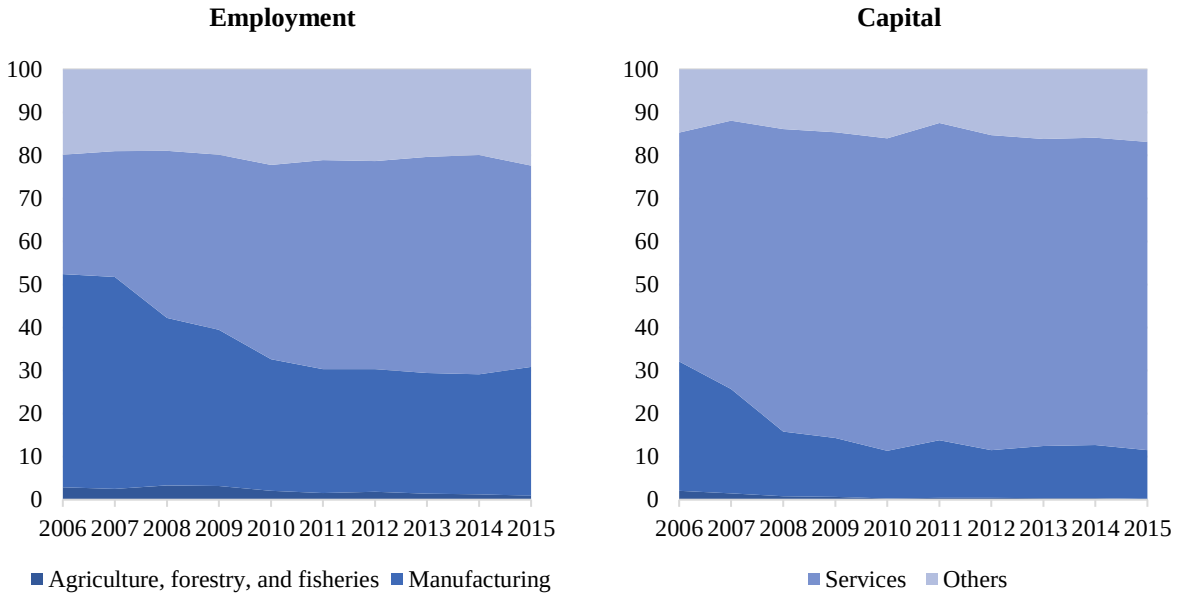
Source: The Authors' Calculation from Vietnam Enterprise Census

A closer look at the number of employees working in these industries shows the labor shift from agriculture, forestry and fisheries, and manufacturing industries to service

[4] With the inclusion of micro enterprises in the sample, we found a higher proportion of MSMEs in the service sector (70 percent) and lower proportion of MSMEs in the manufacturing sector (13 percent). In addition, most of micro enterprises in Vietnam are found to operate in the less knowledge-intensive service industries.

industries. Similarly, the 2006-2015 period also witnessed a considerable growth of capital in services and modest growth in agriculture, forestry and fisheries, and manufacturing industries, which led to the declining capital share of these industries in the total capital of SMEs (See Figure 8).[5]

Figure 8. Distribution of employment and capital of SMEs by industry, 2006-2015 (%)



Source: The Authors' Calculation from Vietnam Enterprise Census

Being the two largest socio-economic centers of Vietnam, it is no doubt that most of SMEs are based in the Southeast and Red River Delta regions. The proportion of SMEs in these two regions has increased over time, from around 62 percent in 2006 to 85 percent in 2015.[6]

Table 4. Distribution of SMEs by economic region over time, 2006-2015 (%)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Red River Delta	29.65	28.57	43.03	46.76	32.95	40.76	41.11	44.00	43.73	42.47
Northeast	7.73	7.42	2.71	2.89	2.73	3.22	2.80	2.54	2.37	2.17
Northwest	1.69	1.61	0.65	0.71	0.60	0.57	0.62	0.50	0.46	0.44
North Central Coast	7.01	6.92	3.16	3.44	4.81	4.49	4.20	3.60	3.40	3.38
South Central Coast	8.50	8.66	3.43	3.50	5.10	4.76	4.47	3.81	4.41	3.91
Central Highlands	3.17	3.21	1.24	1.33	1.57	1.58	1.49	1.24	1.15	0.95
Southeast	32.80	34.84	42.21	37.64	47.60	39.99	40.70	40.72	40.98	42.87
Mekong River Delta	9.46	8.76	3.57	3.73	4.64	4.63	4.60	3.60	3.50	3.81

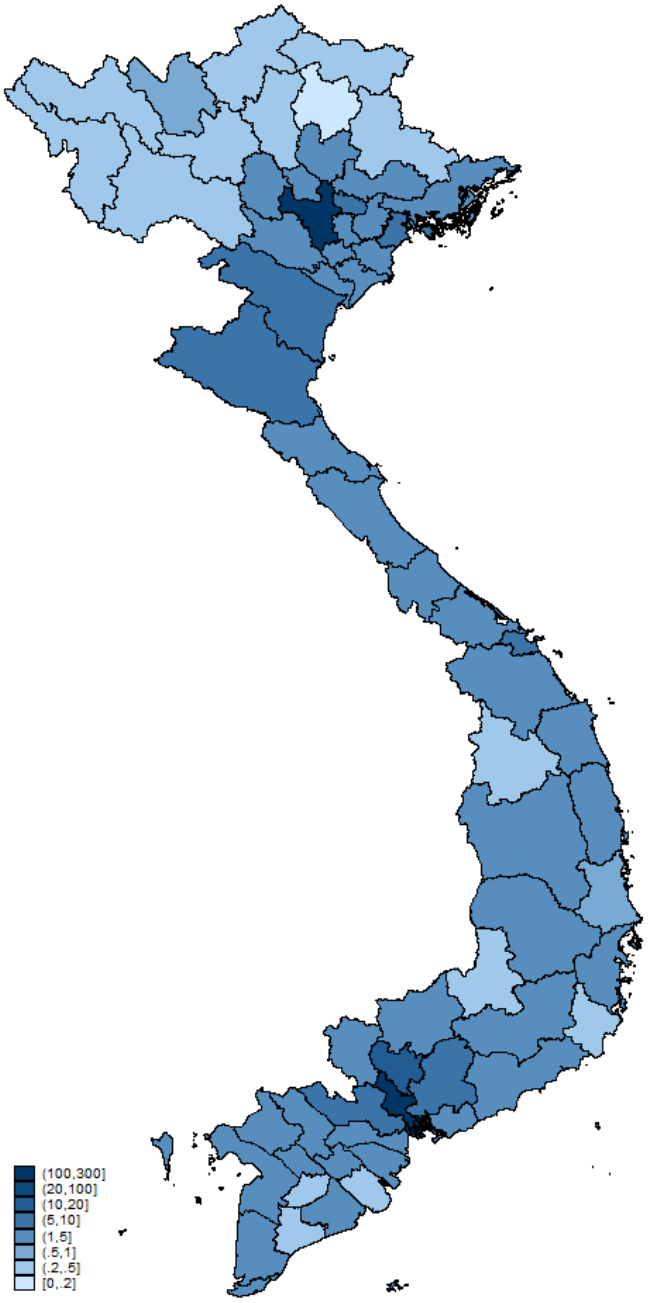
Source: The Authors' Calculation from Vietnam Enterprise Census

[5] Similar trends can be observed with the inclusion of micro enterprises in the sample.

[6] These numbers are 67 percent and 90 percent respectively if taking micro enterprises into account.

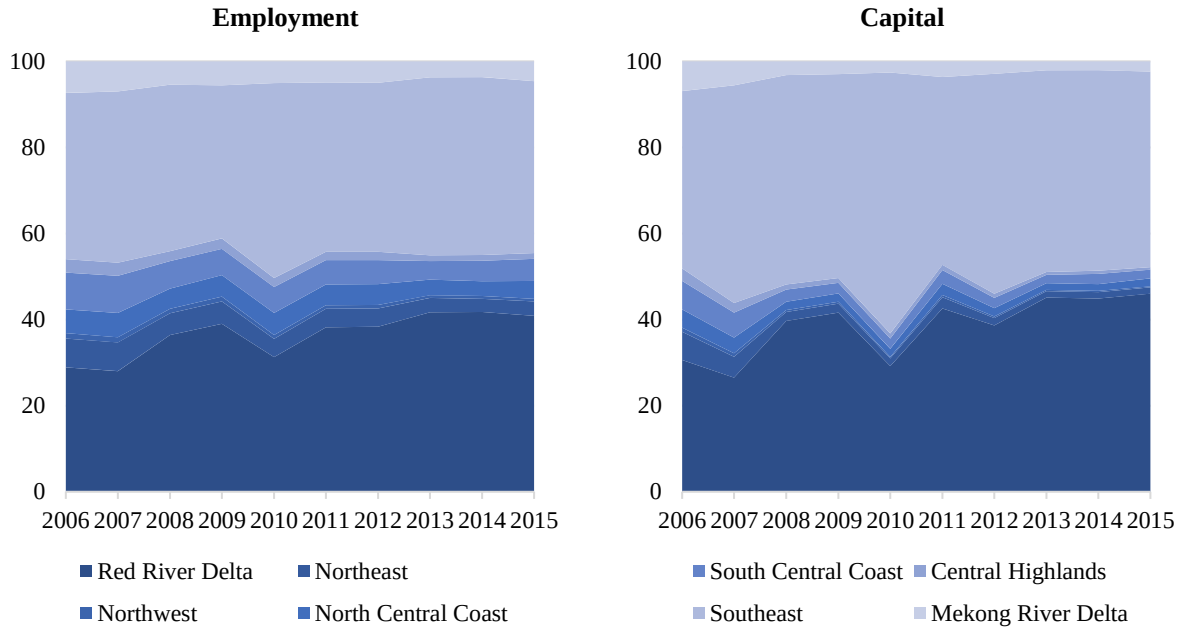
In addition, with respect to specific province/city, Ho Chi Minh City and Hanoi collectively are the home to more than 50 percent of total SMEs. Other provinces with a considerable number of SMEs are Hai Phong, Da Nang, Dong Nai, and Binh Duong. As for other regions, although the number of SMEs has been increasing, the proportion is low and tends to decrease over time. This is similar to the overall trend of the total business sector in Vietnam: expanding business in Hanoi and Ho Chi Minh City areas (VCCI, 2016). Similar pattern can be observed with respect to the distribution of employment and capital and SMEs (See Figure 10).

Figure 9. Distribution of SMEs by province, 2015 (thousand enterprises)



Source: The Authors' Illustration using Data from Vietnam Enterprise Census

Figure 10. Distribution of employment and capital of SMEs by region, 2006-2015 (%)



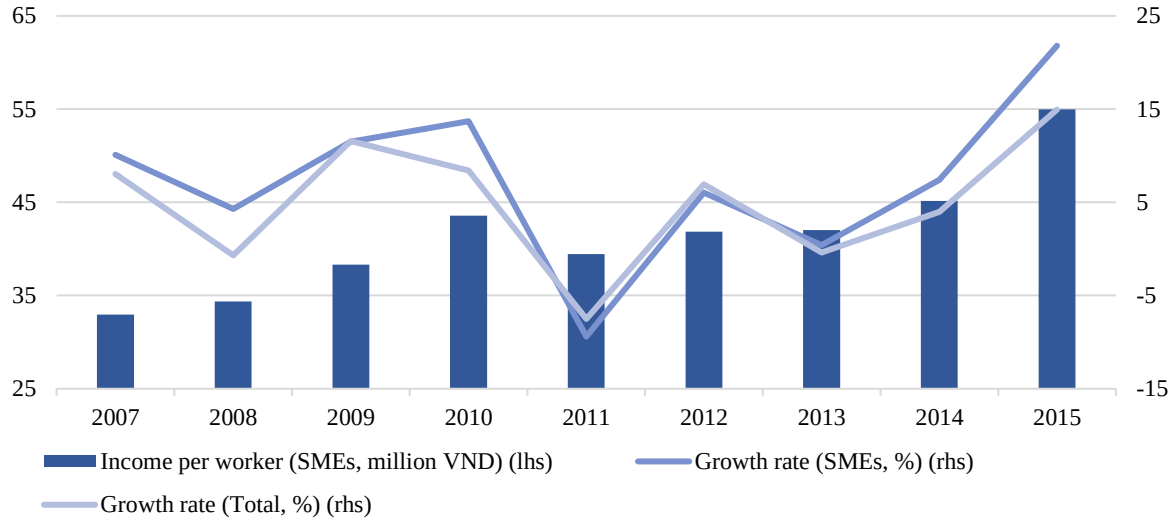
Source: The Authors' Calculation from Vietnam Enterprise Census

2.2.4. Key Business Performance

In this section, we will mainly focus on the labor utilization of SMEs, which can be examined by three main indicators: income per worker, revenues (sales) per worker, and the ratio of revenues to income per worker. Other business performance indicators such as return on assets (ROA), return on equity (ROE), and return on sales (ROS) will also be reviewed using the findings reported by VCCI (2016).

The average income of the employees seems proportional to the size of the enterprise. Specifically, workers in large enterprises could earn the highest income compared to their counterparts who work in SMEs. The average growth of income in SMEs is generally faster than that of larger enterprises but is also more vulnerable (See Figure 11). For example, in the 2009-2011 period, when the average income of workers in the whole economy experienced a sharp decline, the decrease was even more drastic among SMEs. The recovery of the business sector in recent years, with the faster growth of SMEs compared to large enterprises, has narrowed the average income gap between workers in the two sectors. If workers in large enterprises earned 1.8 and 1.4 times more than workers in small-sized and medium-sized enterprises respectively in 2010, these figures have dropped to 1.6 and 1.1 times respectively in 2015. In addition, average income per worker is found to be highest in the state sector, 1.2 and 1.0 times higher than the average income per worker in non-state and FDI sectors respectively in 2015. This is quite similar to the total business sector (VCCI, 2016).

Figure 11. Income per worker of SMEs in Vietnam, 2007-2015

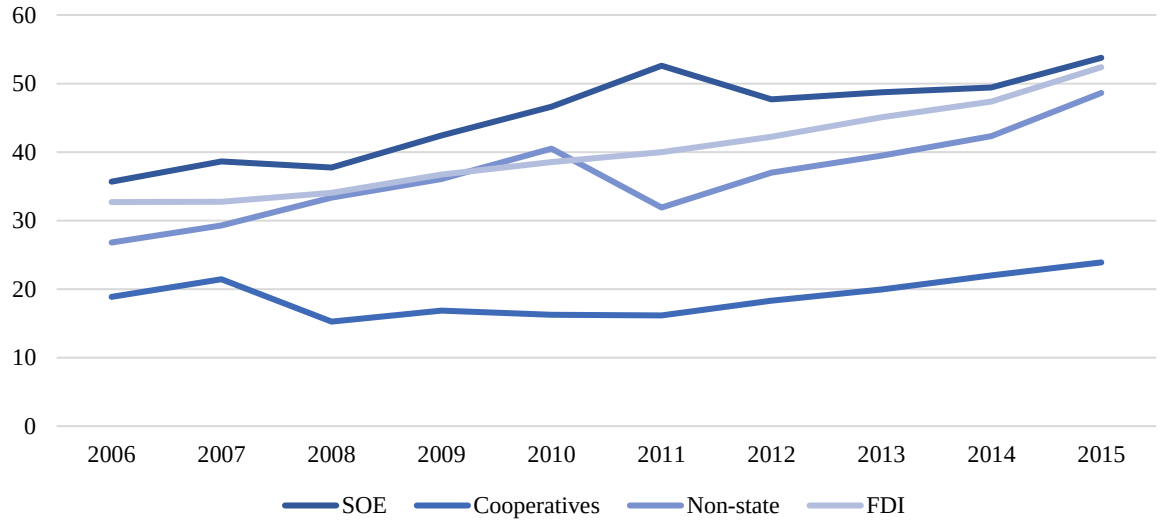


Notes: Total denotes SMEs and large enterprises. Income measured in constant 2010 VND.

Source: The Authors' Calculation from Vietnam Enterprise Census

In terms of ownership, the average income per worker is found to be highest in the state sector. The gap in the per-employee income between the state sector and FDI sector, as well as non-state sector, seems to decrease over time (See Figure 12). This is similar to what observed in the whole business sector (VCCI, 2016).

Figure 12. Income per worker of SMEs by ownership in Vietnam, 2007-2015

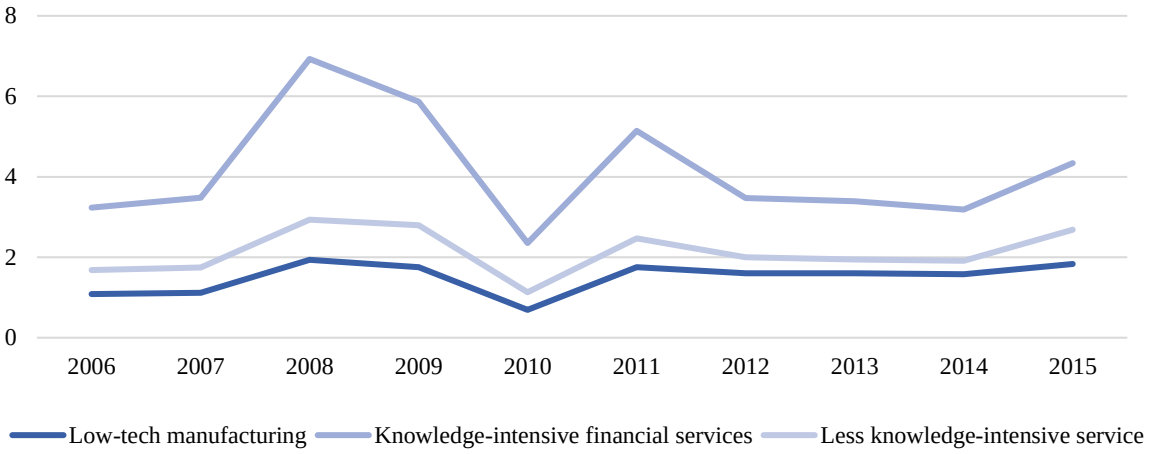


Notes: Income measured in constant 2010 VND.

Source: The Authors' Calculation from Vietnam Enterprise Census

By industry, laborers in services, especially knowledge-intensive services, are paid much higher than those work in such labor-intensive industries as agriculture, forestry, and fisheries; construction, or low- and medium-tech manufacturing (See Figure 13).

Figure 13. Income per worker of SMEs by industry in Vietnam, 2007-2015

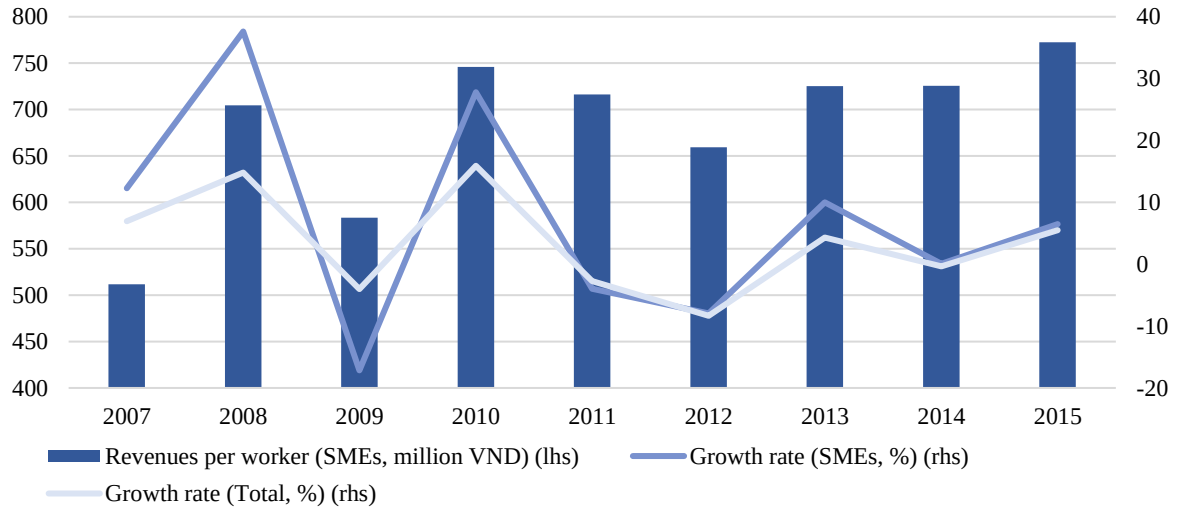


Notes: Income expressed in ratio to per-worker income in agriculture-forestry-fisheries.

Source: The Authors' Calculation from Vietnam Enterprise Census

Similar observations could be made when using revenues per worker as an indicator. In general, the data shows that the average real turnover of workers in the SME sector decreased in 2009-2012, reflecting the general trend of the whole economy. However, this reduction was sudden and larger than the average reduction of the total business sector (See Figure 14).

Figure 14. Revenues per worker of SMEs, 2006-2015

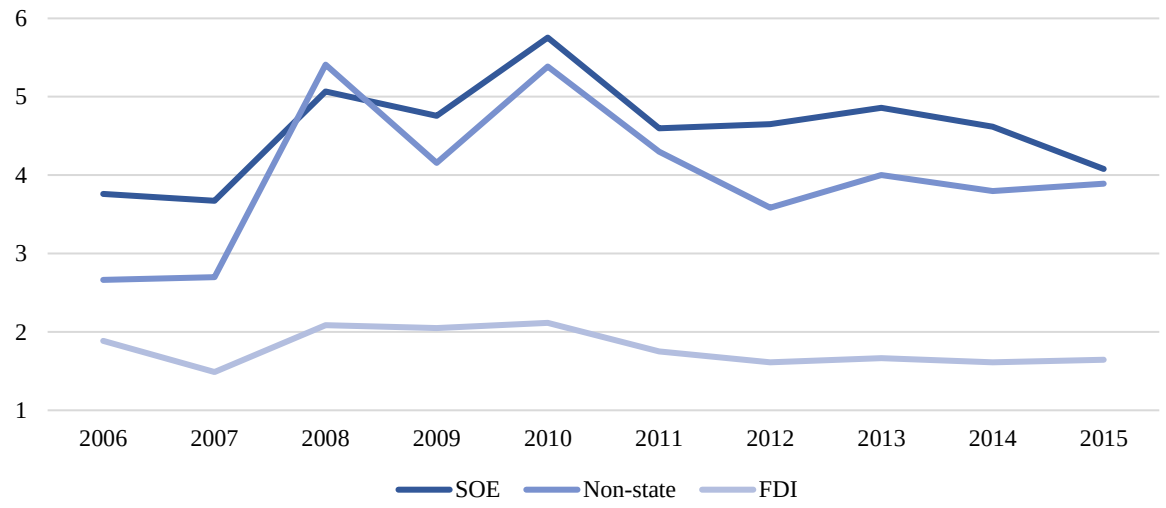


Notes: Total denotes SMEs and large enterprises. Revenues measured in constant 2010 VND.

Source: The Authors' Calculation from Viet Nam Enterprise Census

By ownership, the average turnover per worker of state SMEs is higher than that of private and FDI SMEs, while the cooperatives have the lowest average turnover and average income per worker. Moreover, if the average real revenues of the state sector tend to increase over time, the real average turnover of workers in the remaining sectors have been almost unchanged (for the private sector, real revenue per worker actually fell during the 2009-2012 period before showing signs of recovery since 2013) (See Figure 15).

Figure 15. Revenues per worker of SMEs by ownership, 2006-2015



Notes: Revenues expressed in ratio to per-worker revenues in cooperatives.

Source: The Authors' Calculation from Viet Nam Enterprise Census

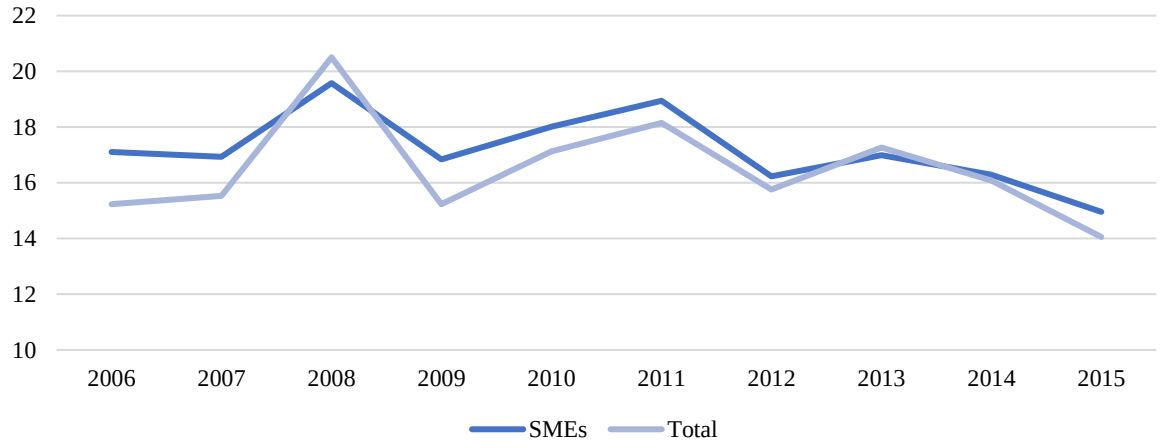
According to VCCI (2016), that workers in state-owned enterprises have higher turnover and income than those in other economic sectors could be explained by two main reasons. The first is that these enterprises are generally relatively larger in size compared to SMEs in other sectors, which helps to take advantage of economies of scale. The second is that state-owned enterprises often enjoy more incentives from the government, and often operate in high-turnover industries.

Compared to the general level of total enterprises (SMEs and large enterprises), the labor utilization indicator, measured as the ratio of revenue per worker to income per worker, of SMEs is relatively low. The labor utilization indicator of SMEs as well as of the whole economy decreased during the 2009-2011 period, coinciding with the time of the world economic crisis. Although signs of recovery could be observed in 2012, such positive signs tend to no longer be observed in more recent years (See Figure 16).

In terms of ownership, SMEs of all sectors have shown declining labor utilization over the 2006-2015 period (Figure 17). Although non-state SMEs experienced highest levels of labor utilization during the first sub-period of 2006-2010, they have been superseded by state-owned SMEs in the latter sub-period. Meanwhile, FDI sector has always experienced

the lowest levels of labor utilization, partly reflecting the misalignment between the growth of income and revenue per worker.

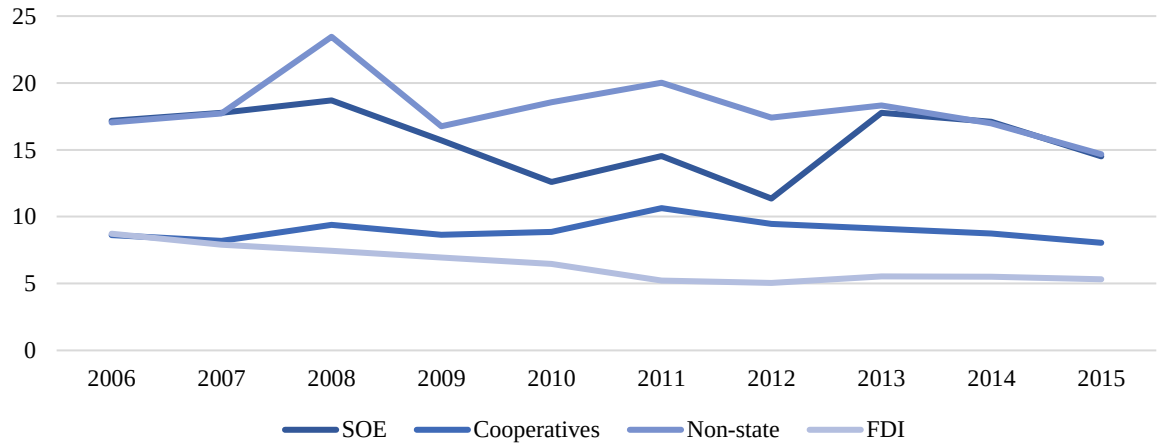
Figure 16. Labor Utilization of SMEs and Total Enterprises, 2006-2015



Notes: Total denotes the SMEs and large enterprises.

Source: The Authors' Calculation from Viet Nam Enterprise Census

Figure 17. Labor Utilization of SMEs by ownership, 2006-2015



Source: The Authors' Calculation from Viet Nam Enterprise Census

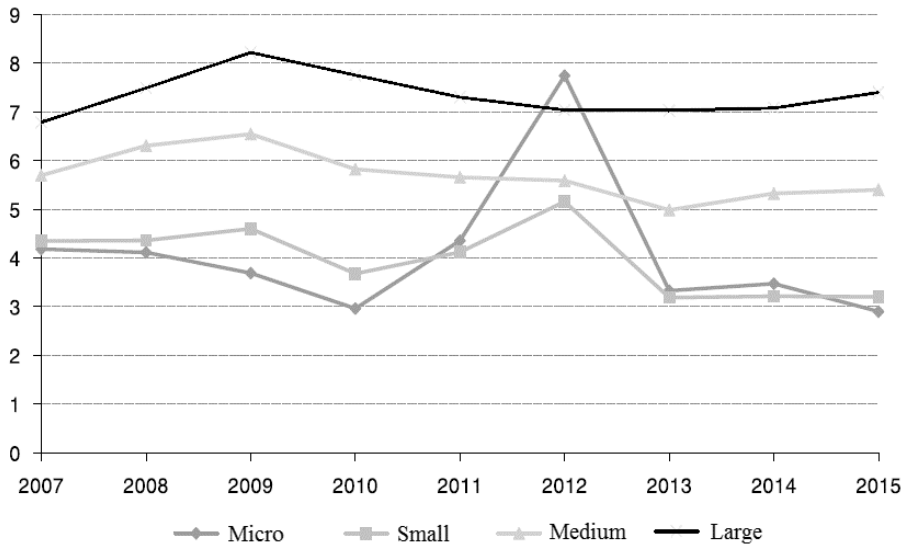
All in all, it could be seen that the gap between revenues per worker and income per worker of SMEs has narrowed over time. In other words, it seems that in spite of the wage increase, the quality of Vietnamese employees has not improved adequately.

Regarding other key business indicators, according to VCCI (2016), the current ratio and quick ratio have been found irreversibly proportional to the scale of enterprises, that is, the ratios are highest for micro- and small-sized enterprises, lower for medium-sized and lowest for large-sized enterprises. This could reflect the difficulties of SMEs in having access to bank loans and deferred payments, compared to large-sized enterprises. This is confirmed by the low

share of equity in the total equity and liability of SMEs during the period (VCCI, 2016).

As for return on assets (ROA), there seems to be a positive correlation between ROA and firm size. In particular, ROA of large- and medium-sized enterprises tend to be highest and of similar patterns – pretty stable over time. Micro- and small-sized enterprises, however, experienced much fluctuation in ROA: from the level of more than 4 percent in 2007, ROA dropped to the level of around 3 percent in 2015, the lowest level among all enterprises.

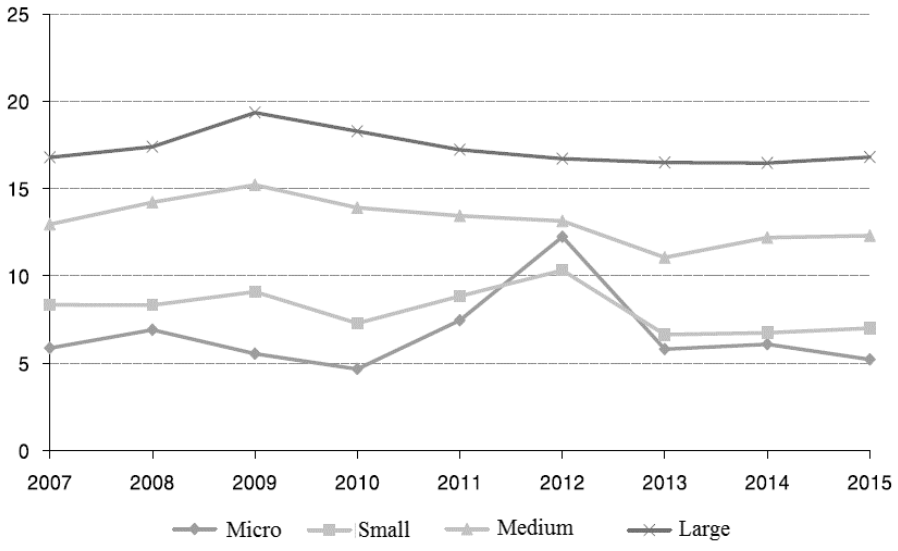
Figure 18. ROA of enterprises in Vietnam by labor scale, 2007-2015 (%)



Source: VCCI (2016)

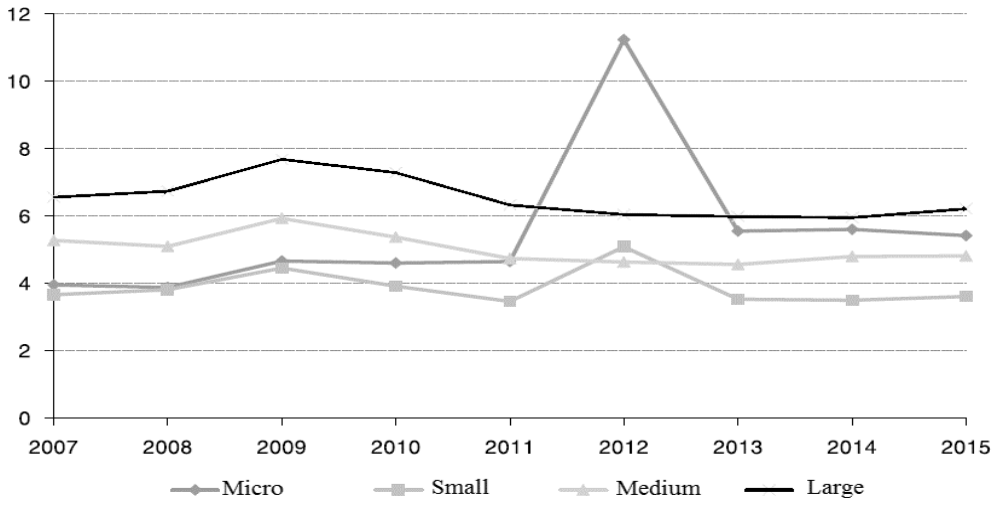
Similar observations could be made with respect to return on profits (ROE) and return on sales (ROS) (See Figure 19 and 20).

Figure 19. ROE of enterprises in Vietnam by labor scale, 2007-2015 (%)



Source: VCCI (2016)

Figure 20. ROS of enterprises in Vietnam by labor scale, 2007-2015 (%)



Source: VCCI (2016)

3. CONSTRAINTS TO THE DEVELOPMENT OF SMEs IN VIETNAM

In this section, we will review the literature on the barriers to the sustainable development of SME sector in Vietnam. There has been growing body of evidence on such barriers, which will be grouped into two categories: internal and external factors.

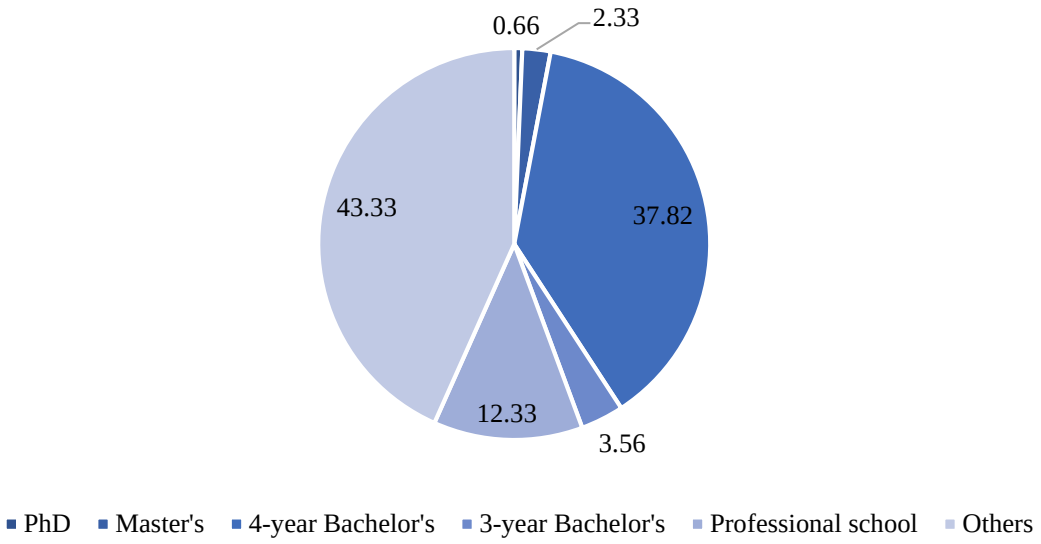
3.1. Internal Factors

Main internal barriers include limited management and technological capability.

Regarding the management capability, although there has been a remarkable improvement in the capacity of SMEs over the time, there still remains weaknesses that have not yet been completely overcome - the number of SMEs whose leaders are qualified and experienced with management skills. According to a recent survey by JETRO (2017), up to 55.6 percent of the business managers of SMEs in Vietnam do not have sufficient knowledge, especially in the field of business and corporate governance, business law.

There has been some empirical evidence that the poor managerial skills is a disadvantage for all enterprises, and most seriously for SMEs (Ketels et al., 2010). Specifically, the lack of training and required skills lead to the lack of vision and activeness when such leaders manage to conduct their business. As a consequence, they could not come up with strategic business plans to achieve long-term goals, and the business is mostly operated based on their limited experience, following short-term plans and catching temporary opportunities. Such characteristics will be more likely to make the enterprises run into considerable difficulties in human resource and financial management when expanding their businesses, which might then result in poor performance and cost ineffectiveness.

Figure 21. Education level of managers of SMEs, 2014 (%)



Source: To Hoai Nam (2014)

As for technological capability, according to Tran Tien Cuong et al. (2007), of the three stage of technology development: adoption, mastering, and creation, Vietnam is still at the first stage. A survey conducted by NASATI (2009) shows that few resources are devoted to research and development (R&D) and innovation by enterprises in Vietnam, in both absolute and relative terms; and R&D is mostly concentrated in large enterprises. According to Nguyen Thi Tue Anh and Luu Minh Duc (2010), SMEs have a small number of scientists, only 4 per 1,000 enterprises; whereas this figures of SOEs and foreign-invested enterprises are 94 and 31 per 1,000 enterprises respectively. This could be an inevitable consequence of the limited access to resources like capital and production premises, as well as of the government insufficient and ineffective policies, which would be analyzed in the next section.

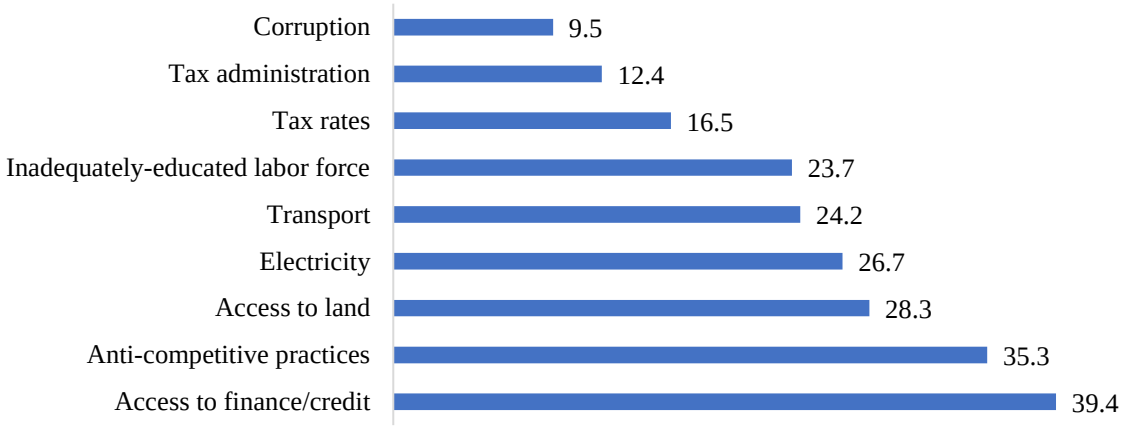
3.2. External Factors

As for external factors, access to finance/credit, access to land, physical infrastructure, labor force, as well as the practices of competitors in informal sectors are considered as the main obstacles (Wignaraja, 2013). Of such obstacles, the issue of access to finance seems most severe for SMEs in Vietnam.

Regarding financial accessibility, there has been a big gap between the potential needed for formal credit and actual formal credit provided to SMEs (i.e. undersupply of credit). This gap is found to be approximately US$ 42 thousand per enterprise in 2011. In fact, SMEs mainly finance their investment projects with internal sources (nearly 80 percent) rather than external sources (Yoshino and Wignaraja, 2015). As for external finance, SMEs typically use non-bank sources rather than banks and those borrow from banks are found to

undergo financial audits, be older, and have exporting activities (Wignaraja and Jinjarak, 2015). Several reasons behind the undersupply of credit include the asymmetric information, high default risk, and lack of collateral. To be more specific, the difficulties in appraising business plans of SMEs, especially those operating in new and special fields as well as in controlling the cash flow due to lack of information about enterprises also make credit institutions reluctant to provide loans to SMEs. It should be noted that with respect to collateral, land, building and personal assets of SME owners tend to matter more as collateral for SMEs to borrow from the banks (Le, 2012; Wignaraja and Jinjarak, 2015). On the government side, the fact that there has not been any agency specializing in the provision of financial services support for start-up firms at the central level could also be a barrier.

Figure 22. Perceived major obstacles to conducting business of SMEs in Vietnam (percent of SMEs)



Source: Wignaraja (2013)

The inadequately educated labor force is reported as a problem by 23.7 percent of SMEs in Vietnam in 2013, partly reflecting skill shortages and rising labor costs associated with full employment status. As for the acute paucity of qualified human resources in SMEs, this could be mainly explained by the demand-side constraints in the labor market (OECD and the World Bank, 2014). According to Vietnam Institute for Economic and Policy Research (2017), Vietnam has experienced a 1.5-fold increase in average real wage during the 2007-2015 period. The associated payments on social security, consisting of social insurance, health insurance, and unemployment insurance have also increased over time. The wage growth rate, however, has outpaced the labor productivity growth rate, which will be likely to negatively affect the competitiveness of the whole economy in general and of the SME sector in particular. With salaries being a great constraint, SMEs might be unable or unwilling to offer the necessary compensation. As a consequence, they could not attract high-qualified or skilled employees and hence, are losing competitiveness against large enterprises. In addition, the shortage of students who are enrolled in natural and physical science on the supply-side could also explain this problem. In fact, there has always been a

mismatch between youth qualifications and requirements of enterprises (Nguyen Ngoc Anh et al., 2015). To be more specific, 23.8 percent of young workers are found to be engaged in an occupation above their level of acquired skill (under-education), whereas 23.5 percent work below their skill level (over-education). Moreover, up to 75 percent of workers in SMEs have not yet been provided professional and technical training (To Hoai Nam, 2014).

With respect to tax policy, the types and levels of taxation are believed to affect the incentive to innovate of enterprises, as well as the returns to innovation. Of different types of taxation, corporate income tax and capital gains tax are the two most important factors affecting the business investment (OECD, 2013). Although the Vietnamese government has made a great effort in addressing inefficiencies and alleviating the burden on SMEs, for example, by allowing SMEs to delay value-added tax payments, simplifying tax administration and reducing the burden of compliance, providing preferential tax rates, there still remains inadequacies in the tax policy. For instance, the corporate income tax (CIT) rate of 20 percent is considered pretty high to SMEs, as besides this tax, SMEs also suffer from other irregular taxes such as excise taxes, value added tax, export tax, environmental protection tax, non-agricultural land use tax. These, in combination with increasing level of associated costs (social security contribution, and trade union contribution) have posed a great burden on SMEs. In addition, that micro-, small-, and medium-sized enterprises are applied the same level of CIT seems unfair. Reasonable tax policy from the government will lead to capital accumulation, reinvestment, expansion of production and business, reduction in reliance on bank loans, thereby improving the competitiveness of SMEs.

Electricity costs and some fluctuation in supply, the quality of transport systems, as well as access to land appear to be more of problems for SMEs in Vietnam. Regarding land policies, although the government has made positive changes in the land law, land ownership and land use for business purposes are still under bureaucratic control. The lack of land records and land databases, which may lead to conflicts of interests between landowners, as well as the lack of information about land issues (for example, resources, industrial zones, high rental fees, and bureaucratic procedures involved in renting) have hindered the development of SMEs (Nguyen Thanh Hai et al., 2009). In addition, SMEs have also faced the lack of information on available technology, product requirements and distribution channels (Tran Ngoc Ca, 2007). These obstacles have been again demonstrated in the study conducted by VCCI and USAID (2016).

With respect to SME policy, the ERIA SME Research Working Group (ERIA) has assessed the SME policies of 10 ASEAN member countries in terms of 8 dimensions: (i) institutional framework, (ii) access to support services, (iii) cheaper and faster start-up and better legislation and regulation for SMEs, (iv) access to finance, (v) technology and technology transfer, (vi) international market expansion, (vii) promotion of entrepreneurial education, and (viii) more effective representation of small enterprises' interests. According

to ERIA (2014), in overall, Vietnam index score is equal to the ASEAN average, and lower than Singapore, Malaysia, Indonesia, Thailand, and the Philippines.

In terms of SME institutional framework, Vietnam is poorly ranked on intra-governmental coordination in policy formulation as well as facilitation for a transition from informal to formal (registered) sector. Similarly, the country ranking is low on the policy framework for supporting services (especially one-stop-shop business development centers), and the promotion of E-services (especially online portal for SMEs). Many support policies do not have clear and specific incentives such as office and production premises, procurement, public service delivery, which do not meet the true needs of SMEs. For example, as for office and production premises, SMEs generally cannot really access the production premises in industrial zones: only 19 percent, 8 percent, and 3 percent of medium-, small-, and micro-sized enterprises' land respectively are in industrial parks. Basically, SMEs are still taking advantage of residential land, or living areas of business owners, which will be more likely to become unfavorable for long-run development. Moreover, the implementation progress of policies supporting SMEs usually takes a long time. It often takes two to three years to develop the legal normative documents for the purpose of guiding the implementation of such policies as the National Technology Innovation Program and the National High Technology Development Program. Another example is the Small and Medium Enterprise Development Fund, which was only established after more than three years of project development since 2013 and officially implemented in 2016.

In fact, the Regulatory Impact Analysis (RIA) has been applied since 2008, after the issuance of the Law on the Promulgation of Legal Document (No. 17/2008/QH12). However, the lack of official guidelines, of understanding of the role of RIA in drafting procedures, of resources and tools for the application of RIA, as well as the lack of monitoring and evaluation to ensure the proper application of the RIA process have made its implementation and application unsystematic and limited in Vietnam (ERIA, 2014). The lack of consistency and specificity in the implementation of support policies, as well as the cumbersome administrative procedures, tend to make the support inaccessible to some enterprises.

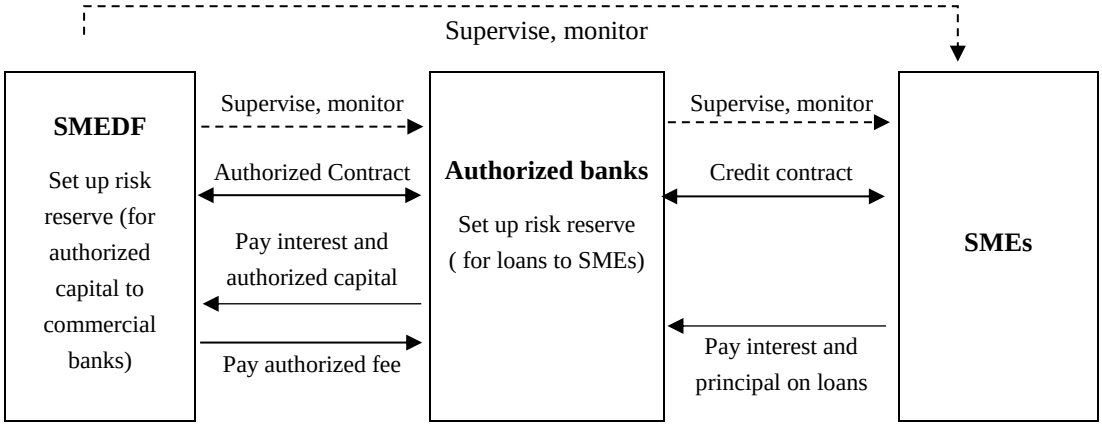
With respect to international market expansion, inadequate export promotion programs, export capacity building programs, or financial facilities for SMEs to export are also problems. Similarly, with respect to innovation development, inadequate information on innovation support services, as well as inadequate financial incentives and public research and development grants also pose constraints to the development of SMEs (ERIA, 2014).

Regarding entrepreneurial learning (education), Vietnam ranked only higher than Cambodia and Laos. The low performance of Vietnam in the promotion of entrepreneurial education has been mainly due to the weak support for entrepreneurial learning in basic education and in the entrepreneurial promotion policy.

Box 2: Small and Medium Enterprise Development Fund (SMEDF)

SMEDF is a State Financial Institution under Ministry of Planning and Investment (MPI), aiming to provide loans to SMEs through authorized banks in order to help SMEs reach their full potential, improve competitiveness and strengthen SMEs' positions the market. The authorized banks include Joint Stock Commercial Bank for Investment and Development of Vietnam (BIDV), Joint Stock Commercial Bank for Foreign Trade of Vietnam (Vietcombank), and Ho Chi Minh Development Joint Stock Commercial Bank (HDBank).

Figure: Lending Procedure of SMEDF



In order to be eligible for the loans, an enterprise should meet the following conditions:

- Being classified as SMEs according to Article 3, Circular 13/2015/TT-BKHDT;
- Having feasible project, production plan;
- Ensuring the minimum equity capital of 20 percent and full implementation of the project;
- Not receiving preferential loans from other stated financial institutions;
- Priority sectors: (i) innovative start-up; (ii) agriculture, forestry, and fisheries; (iii) manufacturing; and (iv) water supply, waste management and treatment.

Source: Ministry of Planning and Investment (2017)

It should be noted that corruption, in the form of unofficial charge or fee from the administrative offices of the government has still created a great burden on SMEs. Nearly 10 percent of the total SMEs surveyed reported the problem of corruption, with some cases suffering from high level of bribery, whose charge constituted 10-20 percent of the total cost (Wignaraja, 2013; JETRO, 2017).

The constraints on human and financial resources, as well as the lack of information and support services, call for a dedicated response from the government. As the increased competition from trade liberalization and the presence of MNE activity have shown a positive

impact on the innovation activities of SMEs (Nguyen Ngoc Anh et al., 2011), the greater openness of Vietnam could create more opportunities for technology transfer and adaptation for all enterprises in general and for SMEs in particular.

4. INTERNATIONAL EXPERIENCE IN FACILITATING SME DEVELOPMENT

According to Mazumdar and Sarkar (2013), there are three types of size structure in Asian industrialization: "dualistic" (bi-modal), "dominant large" (distinctly skewed to the right), and "equitable" (balanced).

With respect to "dualistic" pattern, in which the employment share of medium-sized enterprises is lower than those of small and large-sized enterprises, the main problem is that while employing a large proportion of total employment, the small-sized enterprises often have low productivity at low levels of technology, and hence, are generally not competitive. Vietnam seems to be under this category, as analyzed in Section 2.

Regarding "dominant large" pattern, in which large enterprises play a key role of manufactured experts and SMEs are associated with relatively high wage level and labor productivity, the main problem lies in the relatively limited labor absorption of large enterprises, and hence the manufacturing sector as a whole, due to high capital intensity. Consequently, the primary and tertiary sectors play a larger part in employment absorption. This leads to inequality of SME growth by sector.

While most ASEAN countries may fall into either "dualistic" or "dominant large" category where SMEs remain stagnant due either to low productivity or low employment absorption; Japan, South Korea, and Taiwan exhibit a relatively balanced pattern in terms of employment distributions across small, medium, and large enterprises as well as slight tendency of wage differentials. This model, compared to the other above-mentioned, is superior in the sense that SMEs participate as much in employment growth as large enterprises, which may induce growth with equity and balanced productivity. The following section will review development experience of SME sector in these countries.

4.1. Japan

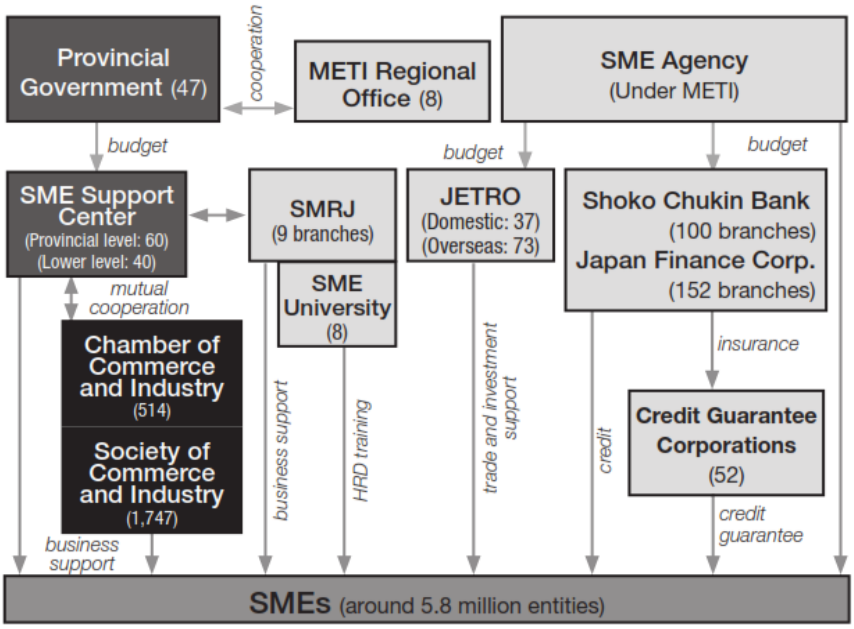
Japan experienced a competitive and dynamic development of SMEs. SMEs accounted for 99.7 percent of the total number of enterprises, absorbing nearly 70 percent of total employment.

Regarding SME policies, the country has experience with a wide range of policies at the central and local levels. According to Sato (2015), the policies can be classified into two categories, namely leveling the playing field for and revitalizing SMEs. The first category

consists of SME policies that focus on various aspects such as financing, management support services, preferential taxation, protection of subcontractor to regulate unfair transaction practices, and reconstruction support services. As for the second category, there are different policies that support the development of technology, human resource, overseas business, new business, and start-up; or the revitalization of local commercial areas and promotion of SMEs to bid for government-funded projects. Of such policies, financing and taxation, management, technology and human resource development have been the pillars of support services.

Figure 23 reflects the policy implementation and SME support in Japan. SME policies, mostly supported by specific laws and regulations, are implemented with the SME Agency serving as the headquarters, working together with governmental organizations (e.g., the Organization for SMEs and Regional Innovation, Japan – SMRI, and the Japan External Trade Organization - JETRO), government banks, credit guarantee corporations, regional governments and their SME support centers, business organizations (e.g., chambers of commerce and industry, societies of commerce and industry), cooperatives, professionals, universities, and so forth (Sato, 2015).

Figure 23. Institutions for policy implementation and SME support in Japan



Notes: Figures in parentheses refer to the total number of institutions.

Source: Sato (2015)

As for financing, just as in many other nations in their developing stage, during the country's high growth period 1950s-1970s SMEs in Japan experienced continuous difficulties in obtaining enough loans due to the low level of collateral and high interest rates. During the 1980s, due to significant decrease in the lending to large enterprises since such enterprises

developed various channels for financing equity and no more depended on the long-run contractual relationship with specific financers, financial institutions, in order to compensate for such decrease, became more eager to provide loans to SMEs, causing over-lending, which then led to the serious non-performing loan problem during the reform of financial structure (SMRI, 2007). Under such circumstances, public policy lending institutions and local private financial institutions appeared to play a significant role in SME financing in Japan (SMRI, 2007). With respect to policy-based institutions such as Peoples' Finance Corporation, Shoko Chukin Bank, and SME Finance Corporation, their share of the cumulative lending amount has been 10 percent of the total lending amount to SMEs by all financial institutions, indicating their stable role as the last resort for SMEs to access financial resources. Besides, a high proportion of the aggregate lending amount to SMEs has been shared by local private institutions. The consistent role of the local institutions could be sustained thanks to the quality of credit analysis which was backed by in-depth knowledge of the local industries as well as the sufficient legal infrastructure for debt-collection (e.g. security transaction law, and insolvency law) and public supports alleviating the financial risks (e.g. the government-led credit associations, Insurance Corporation for SME Financing) (SMRI, 2007).

While external assistance is among important factors that facilitated the development of SMEs, there is a consensus that internal learning and entrepreneurial activities in a competitive environment are the key drivers (Sato, 2015).

Regarding internal training (learning), SME policies, together with labor customs, to some extent have facilitated the successful skill-formation in the SME sector. In particular, the unique feature of equalizing the working conditions for blue-collars and white-collars in the form of, for example, monthly payment, lifetime employment, seniority-based payment and promotion system helps boost the incentives of workers to stay longer, work harder, and improve their abilities, thereby contributing to the success of the employer – the very source of their life-long stable payments and promotions. The link between labor customs and the skill formation has motivated employees at each production level from the SMEs to the large enterprises, contributing a great deal to the strength of and the sustainability of Japan's production chains (SMRI, 2007). It could be seen that the story of Japan is not the utilization of laborers employed at the minimum labor standard and paid with the lowest level of wage through vertical production networks, it is indeed the protection of "higher labor conditions as good as the white-collar workers", which have made considerable contribution to the formation and development of qualified and skilled laborers in the SME sector, thereby sustaining the technological quality of SMEs. In addition, studies on organizational behavior also demonstrate the important associations of trusting and supporting enterprise environment and the employees' capabilities in, and predisposition to, developing and embracing new technologies, products, processes, and solutions in SMEs (innovativeness) (Gilbert, 2007).

As for corporate governance, most of SMEs in Japan are privately-owned or family-

owned, with the leadership of owner-manager. On one hand, this can be positive in the sense that decision-making is relatively quick, and the relationship among employees is family-like, which might create a cooperative incentive for innovation. On the other hand, such system has its own limitations in access to market and latest technological information, which often leads to the dependence of SME owners on large enterprises (SMRI, 2007). Given such characteristics, the Japanese government, via Company Law, devises and provides minimum mandatory provisions which aim to strengthen the management oversight system in a private enterprise controlled by such leadership. Some of the provisions include the mandatory disclosure of audited financial statements which must be accessible to at least all shareholders and creditors; the optimization of proxy, special resolutions and the preemptive rights of dissenting shareholders to protect minority opinions in the procedures of the general shareholders meeting; management liability; model of collective decision-making with the participation of workers. It should be noted that the formal legal institutions under the Company Law are only effective given the customary tradition in the real economy (for example, cross-shareholding traditions and mutual credit extensions among daily transactional relationships).

In addition to the Company Law, such other non-law institutions as the SME analysts, the licensed tax accountants, and the credit analysis from the banks are considered as the most effective oversight mechanisms on the SME management in Japan (SMRI, 2007). However, in order to get effective results, it is important to carefully consider how such institutions are being integrated into the existing customary tradition and how fundamental infrastructures should be improved to meet such requirements. For instance, for a certified tax accountant system to be effective, there must be an improvement in the tax administration system so that SME owners are encouraged to seek professional assistance of tax accountant in response to the pressure of the tax administration (SMRI, 2007). Also, to increase the awareness of SME owners of the serious need of check by SME analysts, it is crucial to foster the competitive market environment. The past experience of Japan demonstrates the effectiveness of oversight mechanisms both in and out of an enterprise's market activities.

Regarding the competition of SMEs, this sector was not always exempted from the applications of competition law, but played an active role in the promotion of Anti-Monopoly law, especially for the purpose of limiting the superior transactional positions and the market dominant position in the vertical sub-contracting and horizontal market relationships respectively. Moreover, the inclusiveness, that is, the collective action by small-sized enterprises in rural and urban communities, clusters, and cooperatives helped SMEs overcome their size disadvantage (Sato, 2015).

It can be said that the combination of enterprises' effort and appropriate SME policies, which were carefully applied and not inconsistent with the basic legal infrastructure, have led to the successful development of SME sector in Japan. It should be noted, however, that although

it is widely observed that SME owners in Asian in general, and Vietnam in particular, are seeking more support from the government while trying to induce hints from the past interventionist measures, the actual path which Japan's SME sector has been taking "was not just an obedience to the government's leadership but rather a continuous endeavor of the self-help in order to acquire the competitiveness" through various methods like cutting cost, and continuously practicing "Kaizen" (SMRI, 2007). In other words, SMEs should be actively engaging in improving their own capabilities to sustain and flourish in the globalization era.

4.2. South Korea

Along the accepted wisdom that the Korean economic miracle has been made possible by the conglomerates (chaebols), growing body of literature has shown that SMEs played important share in employment and production during the entire course of dynamic growth (Nugent and Yhee, 2002; Bakiewicz, 2008; Sung et al., 2017). In 2006, SMEs accounted for 99.9 percent of total enterprises in South Korea (micro-sized enterprises alone contributed to 85.5 percent), employing 90 percent of the entire labor force (Bakiewicz, 2008). The size structure of the Korean economy has been strictly controlled by the state and the development of SME sector have not occurred by chance, that is, with the forefront position of chaebols, SMEs played their roles in response to tasks assigned to them by the national economic strategies (Bakiewicz, 2008).

Although it is undeniable that the development strategy of South Korea put more priority on the expansion of large industry, the government has, at least since the mid-1970s, implemented policies to promote the development of smaller businesses in accordance with important economic objectives.

Figure 24 presents the innovation of SME policies in South Korea over time. In short, during the 1960s and 1970s, the government implemented different policies whose aim was to favor the development of SMEs, mainly through the five-year economic development plans focusing on supporting and fostering the heavy and chemical industries. During the 1980s and 1990s, a number of SMEs became key component suppliers for automobile and electronics industries, upraising their status from those in labor-intensive light industry. During the 2000s, various initiatives for SMEs resulted in the enormous growth of venture businesses, which played leading role in the revitalization of the economy. In the 2010s, various business-friendly policies, with the "win-win" philosophy between large enterprises and SMEs have been implemented (Sung et al., 2017).

In response to daunting challenges on a global scale, the Korean government changed its SME policy with the aim of strengthening the innovative competencies of SMEs, as shown in Figure 25 (Choi, 2007; Kim, 2007).

Figure 24. Transformation of SME policies in South Korea

1960s: Created SME Policies
- Established a legal framework for assisting and fostering SMEs - Small and Medium Enterprise Association Act (1961), Private Contract with SME Association (1965), Basic Act on SMEs (1966)

⇩

1970s-1980s: Protected and fostered SMEs
- Fostered SMEs as a player of supplying parts to the heavy chemical industries - SME-exclusive industry (1975), Interrelated SMEs to Large Companies (1980) - Created Credit Guarantee Fund (1976), Small Business Corporation (1979), Technology Credit Guarantee Fund (1989)

⇩

1990s: Pursued structural improvement of SMEs
- Shifted policy focus to autonomy, opening, and competition with the inauguration of WTO (1995) - Announced Removal of SME-Exclusive Industry (1994), Reduced Private Contract with SME Association (1995), Enacted the Act on Structural Improvement and Management Stabilization of Small and Medium Business (1995), Established Small and Medium Business Administration - SMBA (1996)

⇩

Financial Crisis – 2002: Fostered venture businesses and promoted start-ups
- Emphasized venture policy as a growth engine such as IT and NT and established measures to complement weak areas such as Small and Women's business - Opened Korean Securities Dealers Automated Quotations – KOSDAQ (1996), Special Act on Venture Business (1997), Small Business Act (1997), Women's Business Act (1999)

⇩

2003- present: Strengthen Self-sustaining and Innovation Capacities
- Implemented the strategy to secure SME competitiveness suitable for the innovation-driven era - Comprehensive plan to enhance SME competitiveness (2004), Plan to vitalize venture business (2004), 12 tasks for policy innovation (2005), Comprehensive plan for self-employment (2005), Revision of financing policy (2005)

Source: Kim (2007)

Figure 25. SME innovation policy direction in South Korea

Focus on promoting innovative SMEs

⇩

Strengthening SME innovation capacity and global competitiveness

SME protection and promotion
Direct assistance
Constantly responding
Domestic-demand-oriented

⇨

Promote competition and cooperation
Establishment of infrastructure
Tailored to customer needs
Globalization-oriented

Source: Innovative SME Advisory Committee (2006), Kim (2007)

A key aspect of the development plans of modern Korea is the focus on dynamism and competitiveness on the world market, as opposed to many less developed countries, where the promotion of SME sector is mainly based on the assumption of employment and income-generational potential (Bakiewicz, 2008). SMEs are expected to actively seek for

opportunities in the domestic market, to cooperate with large exporters or to penetrate autonomously the global market. To be more specific, the chaebols with their huge demand frequently use the production linkages with SMEs to cut fixed costs and to get domestic sales of imported machinery and inputs. Goods manufactured by SMEs were then sold abroad by the chaebols to reach export targets set by the administration. The inclusiveness of SMEs in the production network is crucial to the development of SMEs over the time.

As of now, the rise of labor costs in the economy and changes in the external environment – mainly the economic expansion of China as well as vertical can horizontal production linkages development throughout global economy – create new challenges for Korean SMEs. Their traditional sources of achievements linked to low labor costs and linkages with large exporters are now losing their importance. The economic success is increasingly being related to individual marketing, the ability to make use of modern technology and flexible production systems, as well as innovativeness.

As for innovation policies, the government has implemented various policies with focus on four main areas: stimulating innovative SMEs that will lead technology innovation of SMEs; reinforcing networking of industry, academia and research institutes; fostering the commercialization of advanced technology; and encouraging public institutions' technological investment in SMEs (Kim, 2007). With respect to the first area, the country has run the SME Technology Innovation Program to foster innovative SMEs since 2007. The central government and the local government will support 50 and 25 percent of the costs. Under the successful program, the government will receive back 30 percent of its contribution. This program aims to accumulate R&D capacity and enhance the technological competitiveness through supporting the development of new products and processes. With respect to the networking reinforcement, the government encourages local SMEs to employ equipment and human resource of university and research institutes. Similar to the above-mentioned program, the central government and local governments will provide 50 and 25 percent of the costs of technology development in such Industry-University-Research Institute Consortium.

Since access to finance has always been considered a severe obstacle of SMEs, the Korean government has provided direct (venture capital market) and indirect financing support (credit guarantee service) to ensure the development of innovative SMEs. Based on the evaluation of the level of technology of SMEs as well as its commercialization and marketability, the credit guarantee funds will offer financial assistance. Such funds have been managed by the Korea SME Credit Guarantee Fund, the Korea Technology Guarantee Fund, and the Regional Credit Guarantee Foundation.

In addition to these policies, as the inflow of qualified and skilled employees is crucial for the sustainable development of SMEs, the government also implements policies

focusing on the development of human resources. In particular, the government induces the utilization of university human resources through region-based university-industry collaboration. Moreover, the Industrial Technician Selection program, which selects some of those who are obliged to do military service to work as industrial technicians for SMEs, has helped relieve the labor shortage problem of SMEs. The other program on Manpower Structure Upgrading has provided training to employees of SME cooperatives in each sector, thereby enhancing productivity and resolving their manpower paucity.

4.3. Taiwan

SMEs have made a significant contribution to the economic growth of Taiwan. As of 2015, SMEs accounted for 97.7 percent of the total number of enterprises in Taiwan, absorbing 78.2 and 72.5 percent of total employed persons and total paid employees respectively, and contributing to 30.4 percent of total sales (Taiwanese Ministry of Economic Affairs, 2016). If the chaebol-dominated industrial structure was nurtured, which then led to the scale-based technological development in South Korea, SME-based and networked industrial structure which inclined to integrate into global production networks were put more priority in in Taiwan (Wang, 2007).

In order to facilitate the development of SMEs, the Taiwanese government has implemented various policies, for example, strengthening the functions of SME service network, promoting the availability and accessibility of resources, establishing SME start-up and incubation platform.

With respect to the SME service network, the SME Troubleshooting Center, which was established in 1996, has helped SMEs solve their difficulties in operation as well as upgrade their economic performance. Besides its basic tasks of dealing with inquiries from SMEs, the Center also undertakes activities relating to investment, upgrading, and transformation, including matters regarding the acquisition of manufacturing land, giving assistance to SMEs in obtaining market information and new technology, taxation (Taiwanese Ministry of Economic Affairs, 2004). In fact, as SMEs encounter difficulty in having access to finance, more than 80 percent of the problems that the Center tackles with actually relate to this matter. The SME Troubleshooting Center, in coordination with the Credit Guarantee Fund, which was established in 1974 with the main functions of being intermediary, eliminating obstacles that SMEs had previously encountered due to lack of collateral, as well as increasing the willingness of financial institutions to grant loans to SMEs, and the Joint Guidance Center, which can provide financial diagnostic service, thereby making full use of a comprehensive financing function that incorporates financing, guarantees and guidance, have helped a number of SMEs to secure loans (dual-track financing system).

Another policy implemented to achieve a deepening and broadening of SME service network was the establishment of local SME service centers in every country and city in Taiwan. These local centers are expected to provide SMEs with immediate, effective services in the fields of training, guidance, referrals, and consultant (via phone and face-to-face).

Based on the SME Diagnostician system which was implemented in Japan, the Taiwanese government also began the SME Honorary Instructor system, in which business owners who are considered successful in their career and are willing to give a hand to others are encouraged to provide assistance to consulting services to local SMEs.

With respect to available resources, in order to raise the awareness of the available resources or newly implemented policies, the government has made use of both electronic and print media. The government also provide various incentives to promote the innovation, R&D, upgrading, and transformation of SMEs; as well as to show recognition for those who have helped SMEs.

Like South Korea, more effort has been made by the government to facilitate the utilization of technology and innovation of SMEs, so that they can develop new products and transform themselves into knowledge-intensive enterprises. Some of such efforts are the establishment of SME entrepreneurship and innovation colleges (which are expected to provide training, workshops, consultation services, and mentorship for SMEs; organizing entrepreneurship and innovation fairs as well as experience exchanges between entrepreneurs; ensuring access to capital for SMEs, strengthening the incubation function via providing financial assistance to incubation centers serving SMEs, promoting the establishment of incubation centers in industrial parks.

5. CONCLUSION

This research studies the development characteristics of SME sector in Vietnam over the 2006-2015 period. Using data from the Vietnam Enterprise Census, we found that the development of SMEs in Vietnam during the period has experienced two different trends in two separate stages. Before 2010, the number of enterprises, the number of employees, the total capital as well as the total revenue all enjoyed progressive increase. Since 2011, however, most of them have suffered sharp decrease with different extent before showing some positive signs in 2015.

Our analysis has shown that SMEs have increased considerably in quantity but not in quality. In particular, a growing proportion of SMEs (MSMEs) is small (and micro-sized) enterprises and the number of employees per enterprise has decreased over time. Most of SMEs are based in the in the Southeast and Red River Delta regions, operating in less-knowledge service industries. There have been shifts of labor and capital from agriculture, forestry, fisheries and manufacturing industries to service industries.

In terms of business performance, compared to non-state and FDI SMEs, state SMEs showed better business performance with respect to labor utilization. It should be noted that the declining labor utilization indicator of SMEs in general suggested that despite the wage increase, the quality of Vietnamese employees has not improved adequately.

SME sector in Vietnam has encountered various constraints to their development. In order to survive in the harsh international competition in the globalization era, numerous of tasks are there to accomplish such as the financial access, optimization of corporate governance, catch-up for the high-technology, competition with large corporations, etc. With the above discussion on the international experience of other countries in the region, we come to the suggestion as follows.

First, technological human resource development system. A common impediment for SMEs to enter the production networks is the shortage of human resources for high- and mid-level managers, as well as engineers, technicians, and supervisors. It is, therefore, important to ensure the human resource development, as clearly demonstrated in the experience of Japan on improving competence in industrial technology. On the lower-skilled worker side, Vandenberge and Trinh (2016), in their study on human capital and labor productivity in Asia, suggest that SMEs can boost productivity by hiring workers whose educational qualifications are no less than secondary school level and by providing their workers on-the-job training. It should be noted, however, that the government should also play its role in supporting these training, especially on basic managerial skills for the managers in the initial stage of their development as in Japan, South Korea, and Taiwan.

Second, SME credit facilitating systems. In order to reduce the supply-demand gap in SME finance, it is significant to lower the lending risks as well as barriers for SMEs to access financing. Of various initiatives which have emerged, credit guarantee schemes (CGS) appear to be worth testing. A CGS can be beneficent in various ways. First, by reducing or sharing the risks associated with lending, it can make lending more attractive. Second, as the guarantee is a form of collateral, it can increase the amount of fund to be lent to enterprises, which may be beyond the collateral limits of the enterprises. Third, serving as a loan assessor and monitor, CGS may help improve the quality of lending (Zander et al., 2013). CGS, taking the form of credit guarantee fund, has been mentioned in the newly-passed Law on Facilitating SME sector (No. 04/2017/QH14). Accordingly, the fund will be established by the local government, with the aim of providing credit guarantees for SMEs. The guarantees are based on collateral, feasible production and business plans, or credit rating of the enterprises. We believe that, if implemented successfully, such effort of the government will support the development of SME sector to a great extent.

Third, physical and soft infrastructure. It is necessary to build physical and soft infrastructures that are conducive to SME development. Some methods that could help

reduce their burdens include, for example, simplification of taxation, investment and trade procedures for SMEs; improvement of transportation, logistics, and communication infrastructure; and low-cost SME industrial estates. As demonstrated by the experience of Japan, sufficient infrastructure is important for the successful implementation of new institutions. In the Law on Facilitating SME sector, the government has clearly expressed its endeavor to provide incentives to the SMEs, including for example, tax support (SMEs will be entitled to a lower corporate income tax rate than the standard rate for a finite period of time), accounting procedures (SMEs can opt for a simpler accounting system), production space (domestic SMEs in industrial parks or high-tech zones will be eligible for reduction in land prices). In addition, those SMEs setting up such units as research and development, technology transfer, and intellectual protection, will benefit from the reduction of or exemption from land rent, land usage fees, and non-agricultural land use tax, and reduction of or exemption from corporate income tax for a definite period of time.

Fourth, the inclusiveness of SMEs in production chains. From the experience of Japan and South Korea, the participation of SMEs in the production networks is important for the development of this sector. In addition, it is crucial to building distribution channels to ensure the outputs of SMEs could reach the market.

Fifth, credibility index for SMEs. This index would aim to help potential SMEs entering into international production networks. The index is a composite index of enterprise-level capabilities made up of technological, financial, and human resources and other managerial aspects. The index could reduce information costs and search costs in business matching.

Sixth, professional certification for SME support officers. As figured out by Sato (2015), different types of consultants, counselors, and training officers have provided support services to SMEs in ASEAN countries. The quality of such support, however, varies and are often unstable as professionals. In Japan, SME support officers who work on a freelance basis or in connection with the regional chambers of commerce and industry, if qualified, are awarded the professional certificates. The formulation of certification systems in a uniform manner to guarantee the qualifications of support officers and pool them as professional business analysis practitioners will benefit both.

In the stage of economic transition, the government's role is of special importance since it can coordinate with existing market factors to provide policy support, external resources, and institutional infrastructure for the growth of SMEs. The experiences from Japan, South Korea, and Taiwan all have demonstrated such significant role of government. Such experiences, however, also suggest that their success also derives from the endeavor of self-development of each SME to grasp the competitiveness in the era of globalization.

REFERENCES

Bakiewicz, Anna. (2008). Small and Medium Enterprises in South Korea. In The Shadow of Big Brothers. *Asia and Pacific Studies*, (5), 45-71.

Choi, H. G. (2007). *Future of Korea Economy and SMEs*. Special Contributions on Policy Direction for SMEs. The Presidential Commission on Small and Medium Enterprises, Republic of Korea.

ERIA SME Research Working Group. (2014). ASEAN SME Policy Index 2014: Towards Competitive and Innovative ASEAN SMEs.

Gilbert, David H. (2007). Firm innovativeness in SMEs: lessons from Japan. *International Journal of Organisational Behaviour*, *12*(1), 126-143.

Hansen, Henrik, John Rand, and Finn Tarp (2009). Enterprise growth and survival in Vietnam: does government support matter?. *The Journal of Development Studies*, *45*(7), 1048-1069.

Japan External Trade Organization (JETRO). (2017). Policies Supporting SMEs – Experience from Japan. In *Workshop on Policies Supporting SMEs – Experience from Japan, Hanoi, Vietnam.*

Jung, Ku-Hyun (2002). An upsurge of entrepreneurship in Korea and its possible reasons. In *Expert Workshop on Entrepreneurship in Asia, Creating Competitive Advantage in the Global Economy, Hongkong*.

Ketels, Christian, Nguyen, Dinh Cung, Nguyen, Thi Tue Anh, Hoang, Trung Hai, Do, Hong Hanh, and Porter Michael E. (2010). Viet Nam Competitiveness Report 2010.

Kim, Joo-Yong. (2007). SME innovation policies in Korea. *The Policy Environment for the Development of SMEs. PEEC*, 129-150. Available at https://www.pecc.org/images/stories/publications/SME-2007-6-SME_Innovation_Policies_in_Korea-Kim.pdf

Le, Phuong Nu Minh (2012). What Determines the Access to Credit by SMEs?: A Case Study in Vietnam. *Journal of Management Research*, *4*(4), 90.

Lin, Carol Yeh-Yun (1998). Success factors of small- and medium-sized enterprises in Taiwan: An analysis of cases. *Journal of small business management*, *36*(4), 43.

Mazumdar, Dipak, and Sarkar, Sandip. (2013). *Manufacturing enterprise in Asia: size structure and economic growth*. IDRC, Ottawa, ON, CA.

Ministry of Planning and Investment. (2017). *Overview and Operation Direction of Small and Medium Enterprise Development Fund.* Hanoi, Vietnam.

National Assembly of Vietnam. (2017). Luật Hỗ trợ Doanh nghiệp Nhỏ và Vừa (Số 04/2017/QH14). *[Law on Facilitating Small- and Medium-sized Enterprises, No. 04/2017/QH14.]*

Nguyen, Ngoc Anh, Nguyen, Phuong Mai, Nguyen, Duc Nhat, and Nguyen, Dinh Chuc (2011). Trade Liberalization and Innovation Linkages Micro-evidence from Viet Nam SME Surveys, in Hahn, Chin Hee, and Dionisius Narjoko (ed), *Globalization and Innovation in East Asia*, ERIA Research Project Report, No. 004.

Nguyen, Ngoc Anh, Nguyen, Than Thuong, Nguyen, The Ha, Trinh, Thi Thu Nga and Nguyen, Van Thuy (2015). *Labour market transitions of young women and men in Viet Nam*, Work4Youth Publication Series No. 27 (Geneva, ILO). Available at http://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/publication/wcms_347256.pdf

Nguyen, Thanh Hai, Quamrul Alam, Marcia Perry, and Daniel Prajogo (2009). The entrepreneurial role of the state and SME growth in Vietnam. *Journal of Administration & Governance*, *4*(1), 60-71.

Nguyen, Thi Tue Anh and Luu, Minh Duc (2010). *Efficiency and Competitiveness of the Private Sector in Vietnam*, CIEM/DFID, Hanoi. Available at http://www.vnep.org.vn/Upload/Competitiveness%20of%20the%20private%20sector%20in%20Vietnam.pdf

Nugent, Jeffrey B., and Seung-Jae Yhee. (2002). Small and medium enterprises in Korea: Achievements, constraints, and policy issues. *Small Business Economics*, *18*(1-3), 85-119.

OECD. (2013). *OECD Reviews of Innovation Policy: Sweden*, OECD Publishing. http://dx.doi.org/10.1787/9789264184893-en.

OECD/The World Bank. (2014). *Science, Technology, and Innovation in Viet Nam*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264213500-en

Sato, Yuri (2015). Development of small and medium enterprises in the ASEAN economies. *Beyond 2015*.

SMRI. (2007). Small and Medium Enterprise Policies in Japan and ASEAN-Member Countries.

Sung, Chang-Yong, Ki-Chan Kim, and Sungyong In (2016). Small and medium-sized enterprises policy in Korea from the 1960s to the 2000s and beyond. *Small Enterprise Research*, *23*(3), 262-275.

Taiwanese Ministry of Economic Affairs. (2004). White Paper on Small and Medium Enterprises in Taiwan.

Taiwanese Ministry of Economic Affairs. (2016). White Paper on Small and Medium Enterprises in Taiwan.

To, Hoai Nam (2014). Doanh nghiệp nhỏ và vừa ở Việt Nam hiện nay và nhu cầu hỗ trợ pháp lý *[SMEs in Vietnam and the demand for legal support.] Tạp chí Dân chủ và Pháp luật.* Available at http://tcdcpl.moj.gov.vn/qt/tintuc/Pages/phap-luat-kinh-te.aspx?ItemID=35

Tran Ngoc Ca. (2007). Innovation Systems in Viet Nam: Toward an Innovation Policy for Competitiveness and Sustainable Development, *Journal of Science Policy and Research Management*, Vol.22, No. 2, pp. 117-125

Tran, Tien Cuong, Le, Xuan Sang, and Nguyen, Kim Anh (2007). Vietnam's small and medium-sized enterprises development: Characteristics, constraints and policy recommendations. *SME in Asia and Globalization, ERIA Research Project Report*, *5*, 323-364. Available at http://www.vnep.org.vn/Upload/Vietnam%E2%80%99s%20Small%20and%20Medium%20Sized%20Enterprises%20Development_Characteristics,%20Constraints%20and%20Policy%20Recommendations_Sang_KimAnh.PDF

Vandenberg, Paul, & Trinh, Long Q. (2016). Small enterprises, Human capital, and productivity in Asia, in Vandenberg, Paul, Pornpinun Chantapacdepong, and Naoyuki Yoshino (ed), *SMEs in Developing Asia: New Approaches to Overcoming Market Failures*, Asian Development Bank Institute, Tokyo.

VCCI. (2016). Báo cáo thường niên Doanh nghiệp Việt Nam 2016. [Vietnam Business Annual Report 2016]. Information and Communications Publishing House: Hanoi.

VCCI and USAID. (2016). *Business Environment for Vietnam's Small and Medium Sized Enterprises.* Available at http://eng.pcivietnam.org/uploads/85874-SME%20REPORT%20EN%20WEBSITE%20FINAL.pdf

Vietnam Institute for Economic and Policy Research. (2017). Wage and Labor Productivity Growth in Vietnam. *In Workshop on Wage and Labor Productivity Growth in Vietnam, Hanoi, Vietnam.*

Wang, Jenn-Hwan (2007). From technological catch-up to innovation-based economic growth: South Korea and Taiwan compared. *The Journal of Development Studies, 43*(6), 1084-1104.

Wignaraja, Ganeshan. (2013). Can SMEs participate in global production networks, in Elms, Deborah K., and Patrick Low (ed), *Global Value Chains in a Changing World*, World Trade Organization: Geneva

Wignaraja, Ganeshan, and Yothin Jinjarak (2015). Why Do SMEs Not Borrow from Banks? Evidence from People's Republic of China and Southeast Asia. *ADBI Working Paper*, No. 509. Tokyo: Asian Development Bank Institute.

Yoshino, Naoyuki, and Ganeshan Wignaraja (2015). SMEs Internationalization and Finance in Asia. In *Frontier and Developing Asia: Supporting Rapid and Inclusive Growth IMF-JICA Conference Tokyo*.

Zander, Rauno, Calvin Miller, and Nomathemba Mhlanga (2013). *Credit guarantee systems for agriculture and rural enterprise development*. Food and Agriculture Organization of the United Nations (FAO).

APPENDIX A

Industrial Classification

Industries are classified according to the Statistical Classification of Economic Activities in the European Community (NACE) as follows:

Sector	Name of sector
Agriculture, forestry, and fishing	Agriculture and related service activities Forestry and related service activities Fishing and aquaculture
Mining, electricity, and water	Mining of coal and lignite Mining of metal ores Other mining and quarrying Mining support service activities Electricity, gas, steam and air conditioning supply Water collection, treatment, and supply Sewerage and sewer treatment activities Waste collection, treatment, and disposal activities; materials recovery
Construction	Construction of buildings Civil engineering Specialized construction activities
High-tech manufacturing	Manufacture of pharmaceuticals, medicinal chemical, and botanical products Manufacture of computer, electronic and optical products Manufacture of chemicals and chemical products Manufacture of electrical equipment Manufacture of machinery and equipment n.e.c Manufacture of motor vehicles; trailers and semi-trailers Manufacture of other transport equipment
Medium-tech manufacturing	Manufacture of coke and refined petroleum products Manufacture of rubber and plastics products Manufacture of other non-metallic mineral products Manufacture of basic metals Manufacture of fabricated metal products, except machinery and equipment Repair and installation of machinery and equipment
Low-tech manufacturing	Manufacture of food products Manufacture of beverages Manufacture of tobacco products Manufacture of textiles Manufacture of wearing apparel Manufacture of leather and related products Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials Manufacture of paper and paper products Printing and reproduction of recorded media Manufacture of furniture Other manufacturing
Knowledge-intensive market services	Air transport Legal and accounting activities Activities of head office; management consultancy activities Architectural and engineering activities; Technical testing and analysis Advertising and market research Other professional, scientific and technical activities Employment activities Security and investigation activities

High-tech knowledge-intensive services	Motion picture, video and television programme activities; Sound recording and music publishing activities
	Broadcasting and programming activities
	Telecommunication
	Computer programming, consultancy, and related activities
	Information service activities
	Scientific research and development
Knowledge-intensive financial services	Financial service activities (except insurance and pension funding)
	Financial service activities (except insurance and pension funding)
	Other financial activities
Other knowledge-intensive services	Publishing activities
	Travel agency, tour operator and other reservation service activities
	Education
	Human health activities
	Residential care activities
	Creative, art and entertainment activities
	Libraries, archives, museums and other cultural activities
	Lottery activities, Gambling and betting activities
	Sports activities and amusement and recreation activities
	Activities of other membership organizations
Less-knowledge intensive market services	Wholesale and retail trade and repair of motor vehicles and motorcycles
	Wholesale trade (except motor vehicles and motorcycles)
	Retail trade (except motor vehicles and motorcycles)
	Land transport, transport via railways, via pipeline
	Warehousing and support activities for transportation
	Postal and courier activities
	Accommodation
	Food and beverage service activities
	Real estate activities
	Renting and leasing of machinery and equipment (without operator); of personal and household goods; of no financial intangible assets
	Services to buildings and landscape activities
	Office administrative and support activities; other business support service activities
	Repair of computers and personal and households goods
	Other personal service activities

Disclosure appendix

Author's Certification

The following author who are primarily responsible for this report, certify that the opinion on the subject or issues and/or any other views or forecasts expressed herein accurately reflect their personal views and that no part of their compensation was, is or will be directly or indirectly related to the specific recommendations or views contained in this research report: Pham Thi Tuyet Trinh, Nguyen Duc Thanh (VEPR Microeconomic and Development Issues Team).

This document has been prepared and is being distributed by Viet Nam Institute for Economic and Policy Research (VEPR) and is intended solely for the customers of VEPR and is not for publication to other persons, whether through the press or other means. Advice in this document is general and should not be construed as personal advice.

Additional disclosures

This report is dated as December 21st, 2017. All data included in this report are dated December 20th, 2017 unless otherwise indicated in the report.

VEPR has procedures in place to identify and manage any potential conflicts of interest that arise in connection with the authors. Any confidential and/or sensitive information is handled in an appropriate manner. All contributions and exchange please send to: Viet Nam Institute for Economic and Policy Research, Room 707, E4 Building, 144 Xuan Thuy Street, Cau Giay district, Ha Noi. Email: info@vepr.org.vn

VEPR

☐ MORE WORKING PAPERS

WP 17 The 19th National Congress of the Communist Party of China: Preparation for a New Era

WP-16 Learning, Upgrading, and Innovation in the Telecommunications Industry in Vietnam: A Rent Management Analysis

WP-15 Technology, Gender Inequality, and Fertility

PD-07 Evaluation of the Law on Public Debt Management of Vietnam and some Policy Implications

PD-06 Minimum Wages in Viet Nam: Preliminary Observations

PD-05 A brief on impacts of Brexit on the World Economy and Vietnamese Economy

VMM17Q3 Viet Nam Quarterly Macroeconomic Report, Quarter 3 – 2017

VMM17Q2 Viet Nam Quarterly Macroeconomic Report, Quarter 2 – 2017

VMM17Q1 Viet Nam Quarterly Macroeconomic Report, Quarter 1 – 2017

CONTACT US

Viet Nam Institute for Economic and Policy Research
University of Economics and Business, Viet Nam National University, Ha Noi
Address: Room 707, Building E4
144 Xuan Thuy strt, Cau Giay dist
Ha Noi, Viet Nam
Tel: (84-4) 3 754 7506 - 704/714
Fax: (84-4) 3 754 9921
Email: info@vepr.org.vn
Website: www.vepr.org.vn