

Chapter 7

Clusters of Modern and Local Industries in Vietnam

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Introduction

Since the introduction of the *Doi Moi* ('renovation') economic reform in 1986, Vietnam has experienced a transformation of its economic management, from a central planning economy to a market-oriented economy. High economic growth, created by the liberalization of activities in all sectors of the economy, has changed the economic structure of the country, and the once agriculture-based and poverty-stricken land now generates a midlevel income and possesses many industrial bases.

Economic growth has also changed the landscape of the country. Business complexes have been built in metropolises like Ho Chi Minh City and Hanoi, and rice fields have been converted into industrial zones. As the number of enterprises increased, areas began to emerge where many enterprises agglomerated. Some of these 'clusters' were groups of cottage industry households, while many others were large-scale industrial clusters.

As Porter [1998] argues, industrial clusters are the source of a nation's 'competitive advantage'. McCarty et al. [2005] indicate that in some key industries in Vietnam, some clusters of enterprises have been created, although the degree of agglomeration differs from one industry to another. Using industry census data from 2001, they include dot density maps for the 12 leading manufacturing industries in Vietnam. They show that most of the industries analyzed are clustered either in Hanoi

or Ho Chi Minh City (or both). Among these 12 industries, the garments industry has the greatest tendency to cluster, followed by textile, rice, seafood, and paper industries. The fact that industrial clusters have begun to form in some areas could be a positive sign for Vietnam's future economic development.

What is lacking in McCarty et al. [2005], however, is the identification of the participants in the industrial clusters. Some argue for the importance of small and medium enterprises (SMEs) in Vietnam's economic development (e.g. Nguyen Tri Thanh [2007], Tran Tien Cuong et al. [2008]), while others stress the impact of foreign direct investments (FDI) (for example, Tuan Bui [2009]). Adding information about the participants in the above cluster study (and in other studies of spatial patterns of location of enterprises¹) may broaden the scope for analysis of economic development in Vietnam.

This study aims to reveal the characteristics of industrial clusters in terms of their participants and locations. The findings of the study may provide basic information for evaluating the effects of agglomeration and the robustness of the effects in the industrial clusters in Vietnam. Section 1 describes the characteristics of economic entities in Vietnam such as ownership, size of enterprise, and location. Section 2 examines qualitative aspects of industrial clusters identified in McCarty et al. [2005] and uses information on the size and ownership of clusters. Three key industries (garments, consumer electronics, and motor vehicle) are selected for the study. Section 3 identifies another type of cluster commonly seen in Vietnam, composed of local industries and called 'craft villages'. Many such villages have been developed since the early 1990s. The study points out that some of these villages have become industrialized (or are becoming industrialized) by introducing modern modes of production and by employing thousands of laborers.

1. The structure of economic entities in Vietnam

1.1. Transformation of the economic structure

The shift in the economic management system after *Doi Moi* has caused significant changes in the composition of domestic economic entities. The number of state-owned enterprises (SOEs) was cut in half, from about 12,000 to 6,000, by the mid-1990s and has gradually diminished thereafter (3,494 enterprises by the end of 2007).

In contrast, the introduction of a market-oriented economy has stimulated the activities of non-state sectors. The promulgation of the Enterprise Law in 1999 accelerated this shift, which resulted in the establishment of many private enterprises and individual business entities. The number of non-state enterprises has increased roughly fourfold, from 35,004 in 2000 to 147,316 in 2007. Similarly, the number of foreign-invested enterprises (FIEs) has also increased, from 1,525 to 4,961, during the same period. The non-state sectors and FDI sectors also saw a rapid rise in employment, creating in total more than 4.1 million new employees between 2000 and 2007 (GSO [2009a]).

The geographic distribution of enterprises has also changed during this period. Table 1 shows the number of the enterprises in the six geographical divisions of Vietnam. As Table 1 indicates, the number of enterprises in the Red River Delta region, where Hanoi is located, shows a remarkable increase, and the South East region, where Ho Chi Minh City and neighboring provinces (such as Dong Nai province, Binh Duong province, and Ba-Ria Vung Tau province) are located, has attracted many local and foreign investments. Further enterprises have been established in the northern part of the Central Coast region, such as Thanh Hoa province, Nghe An province, Ha Tinh

province, and Da Nang.

Table 1: Number of enterprises in six regions

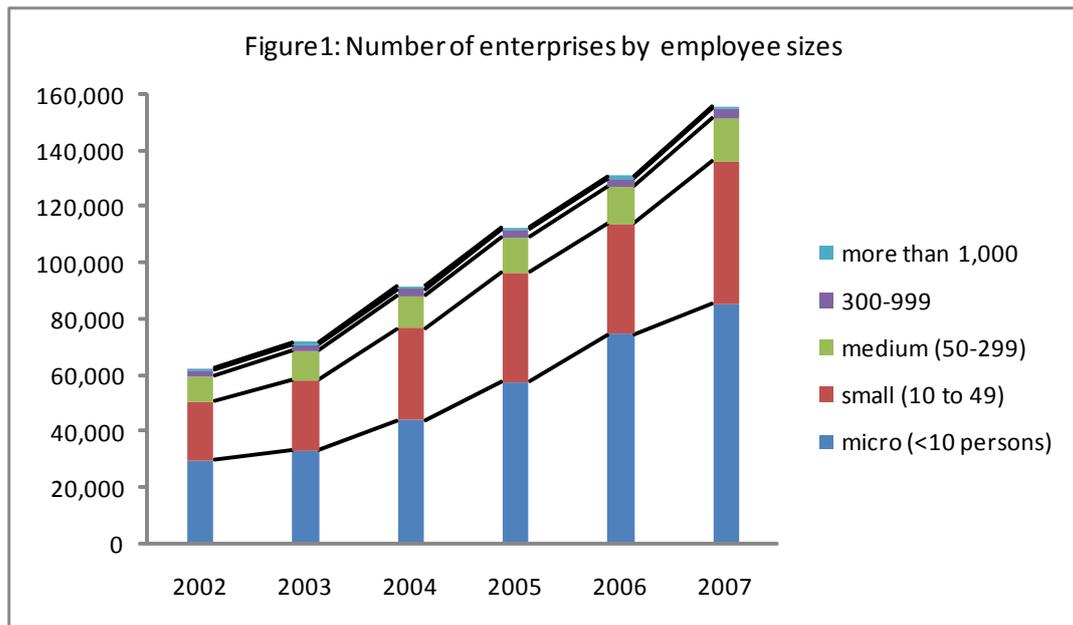
	2000	2007
Red River Delta	9,356	43,707
Northern Highlands	1,988	9,153
Central Coast	6,767	23,476
Central Highlands	1,827	4,597
South East	12,329	57,022
Mekong Delta	9,837	17,652

Source: GSO [2009a]

Note: as of 31 December in each year

1.2. Sizes of enterprises

During the transitional period, Vietnam formulated a somewhat unique economic structure composed of a small number of large enterprises and hundreds of thousands of petty economic entities. Figure 1 shows the distribution of enterprise sizes from 2002 to 2007. In 2002, the proportion of SMEs (below 300 laborers²) was as high as 95.1%. In 2007, as the total number of enterprises increased sharply (about 2.5 times compared with that of 2002), the proportion of SMEs also increased, to 97% (about 150,000 enterprises). Conversely, there were slightly over a thousand enterprises with more than 1,000 laborers (of which, only 86 companies had more than 5,000 laborers). Of the SMEs, 96% are in the non-state sector, which implies that the majority of the newly established enterprises since 2002 were private SMEs. Moreover, the proportion of ‘micro’ enterprises, those with less than 10 laborers³, exceeded 55% of the total number of enterprises in 2007.



Source: GSO [2006], [2009b]

Note: as of 31 December in each year

1-3 SMEs and small business establishments in the manufacturing sector

The impact of SMEs on Vietnam's economy is not limited to their large share of the total number of enterprises. They contributed 39% of the GDP in 2006 and 85% of the total workforce of enterprises in 2004 (Tran Tien Cuong et al. [2008: 324]). The contribution of SMEs to the national budget (7.4%) was higher than that of FIEs (6%) in 2002 (Nguyen Tri Thanh [2007: 305]). In this sense, we should properly value the presence of SMEs in discussing agglomerations and geographical distributions of some industries in Vietnam.

Table 2: Number of SMEs in six regions in 2007

	Employee size			Total SMEs
	less than 10 persons	10-49	50-299	
Red River Delta	21,899 (25.5%)	16,023 (31.7%)	4,635 (30.4%)	42,557 (28.0%)
(Hanoi)	13,961 (16.3%)	8,403 (16.6%)	1,917 (12.6%)	24,281 (16.0%)
Northern Highlands	3,779 (4.4%)	4,035 (8.0%)	1,151 (7.5%)	8,965 (5.9%)
Central Coast	12,248 (14.3)	8,370 (16.5%)	2,398 (15.7%)	23,016 (15.2%)
Central Highlands	2,409 (2.8%)	1,570 (3.1%)	516 (3.4%)	4,495 (3.0%)
South East	33,896 (39.5%)	15,884 (31.4%)	5,533 (36.3%)	55,313 (36.5%)
(Ho Chi Minh City)	28,607 (33.3%)	12,186 (24.1%)	3,352 (22.0%)	44,145 (29.1%)
Mekong Delta	11,666 (13.6%)	4,703 (9.3%)	1,024 (6.7%)	17,393 (11.5%)
Total	85,897 (100%)	50,585 (100%)	15,257 (100%)	151,739 (100%)

Source: GSO [2009b]

Note: as of 31 December in each year

Let us turn to the regional distribution of SMEs. As Table 2 shows, many SMEs are concentrated in the southern part of the country. The number of SMEs in southern regions, namely, the South East and Mekong Delta, accounts for 48% of the total number of SMEs. Furthermore, large cities appear to be the bases of many SMEs; Hanoi and Ho Chi Minh City together absorb 45% of total SMEs.

Useful though they may seem, these figures provide us with a limited view of Vietnam's economy. The figures mentioned above refer only to the economic entities registered as 'enterprises'. In Vietnam, another category of small-sized entities called 'individual business establishments' (*co so san xuat kinh doanh ca the*) accounted for more than 3.7 million units in 2007. An individual business establishment is defined by Decree 109 of 2004 (109/2004/ ND-CP: 2 April 2004) as a business owned by one individual or household, solely registered in one place,

with no more than 10 employees. As is defined by the Decree, individual business establishments are small entities, with an average labor force of 1.76 persons per establishment. However, their economic impact is far from negligible; the value created by them accounted for 16% of the GDP in 2006 (GSO [2008: 25]). Twenty-two percent of the total individual business establishments are in the manufacturing sector, producing cheap, low-quality, domestic consumption goods such as processed foods, bamboo products, and wooden furniture.

Table 3 shows the regional distribution of individual business establishments. Individual business establishments are highly concentrated in the northern part of Vietnam, particularly in the Red River Delta region. This contrast in distribution between SMEs (mainly in the south) and individual business establishments (in the north) is also a unique aspect of Vietnam's economic structure.

Table 3: Number of individual establishments in six regions (2007)

	total	manufacturing sector
Red River Delta	1,008,045 (26.9%)	345,234 (42.6%)
(Hanoi)	117,034 (3.1%)	14,066 (1.7%)
Northern Highlands	334,604 (8.9%)	81,502 (10.1%)
Central Coast	847,515 (22.6%)	197,120 (24.3%)
Central Highlands	155,550 (4.2%)	22,563 (2.8%)
South East	616,970 (16.5%)	59,820 (7.4%)
(Ho Chi Minh City)	342,052 (9.1%)	32,451 (4.0%)
Mekong Delta	785,454 (21.0%)	103,745 (12.8%)
Total	3,748,138 (100%)	809,984 (100%)

Source: GSO [2008]

Note: as of 31 December in each year

2. Characteristics of clusters and their spatial distributions

2.1. Locations of industrial clusters in Vietnam

This section attempts to illustrate the characteristics of geographic distribution patterns in the garments, consumer electronics, and motor vehicle industries. The data are based on an establishment census conducted in 2007⁴. The three industries selected in this study are among those analyzed in the cluster study produced by McCarty et al. [2005]. The present study aims to produce qualitative information supplementary to the analyses of McCarty et al. [2005] and tries to identify the changes, if any, in the location of clusters and in their degree of agglomeration between 2001 and 2007.

These industries are also part of the ‘leading industries’ (electronics, garments and footwear, food processing, software, and motorcycle⁵) selected by Ohno [2005] to be promoted and developed in the ‘next 5 to 10 years’. According to Ohno, Vietnam should formulate an effective ‘industrial policy’, which begins by selecting leading industries whose development will be promoted. Ohno’s selection of these industries is based upon his evaluation of Vietnam’s present position in the development stage, as well as on internal (labor force, domestic market, etc.) and external (production in other countries, international trade agreements, etc.) conditions. However, in his evaluation, Ohno does not emphasize the importance of industrial clusters or their locations. Analyzing the location of clusters as well as their characteristics may provide new and useful insights and also policy implications for Vietnam’s industrial development, especially from the view point of spatial patterns.

2-2. Garments

Garment firms appear to be highly concentrated in southern Vietnam, in particular, in Ho Chi Minh City and the neighboring two provinces, Dong Nai and Binh Duong. The garments industry cluster, consisting of these three neighboring provinces, is composed of large FIEs as well as many medium- to small-sized non-state enterprises. There are some 1,399 enterprises⁶ (57% of the total garment enterprises in Vietnam) in this area, including 297 FIEs and 1,097 non-state enterprises. Binh Duong alone has attracted 73 firms, as many as the total number of FIEs in the northern regions of Vietnam. The average number of employees in FIEs in this area is 710 persons per enterprise, while that of non-state enterprises is much smaller at 141⁷. Moreover, this area also has quite a large number of small individual business establishments in the garments industry (11,980).

We can assume that these FIEs produce garments mainly for export. For FIEs who export their products and who also rely heavily on the importation of production materials, it makes good business sense to locate in this easily accessible area near the Saigon River ports. The existence of many non-state enterprises and individual business establishments indicates the presence of large-scale domestic markets. Therefore, the Ho Chi Minh City-Dong Nai-Binh Duong area can be characterized as a place where export-oriented firms and producers for the domestic markets coexist with a high level of cluster.

On the other hand, among the garments industry clusters in the north, Hanoi accommodates more SOEs and fewer FIEs compared to those in the south. Out of 219 garments enterprises, 7 are SOEs (compared to 5 SOEs in the Ho Chi Minh City-Dong Nai-Binh Duong area) and 17 are FIEs. Firm sizes are smaller in Hanoi; on average there are 131 employees in non-state enterprises, 333 in FIEs, and 747 in SOEs. The cluster in Hai Phong is much smaller than those in the south and Hanoi, consisting of 59 enterprises. However, 12 of the 59 are FIEs, presumably exporting their products

from Hai Phong port. In the north, Nam Dinh province contains a higher concentration of firms consisting of a large SOE, several local non-state enterprises, and two large FIEs (Korean investment). In addition, several FIEs also exist along National Highway 5.

2-3. Consumer electronics

On the subject of consumer electronics, McCarty et al. [2005] state that ‘...virtually all the firms are clustered very tightly in and around either Hanoi or Ho Chi Minh City’ (p.69). In our data, the cluster in Ho Chi Minh City is widened to include Dong Nai and Binh Duong, while some firms can be identified in the provinces along National Highway 5 in the north (although not very many are clustered).

Ohno [2005] reveals high expectations for the future growth of this industry and suggests formulating an agglomeration of FDI assemblers. However, from the point of view of the spatial distribution of firms, it is still uncertain whether or not this industry has the potential to grow. Although many firms, including FIEs, are located close to the domestic market, the degree of concentration of firms in this industry does not appear to be strong. In the Ho Chi Minh City-Dong Nai-Binh Duong area, there are 83 enterprises, including 12 FIEs. These 12 FIEs are spatially dispersed, with no district having more than two, except for the Thuan An district in Binh Duong which has three.

Enterprises are generally on a smaller scale than those in the garments industry. The average number of employees is 517 persons in FIEs, 73 in SOEs (only one firm), and 36.2 in non-state enterprises. Hanoi has 18 enterprises, including just one FIE (with more than 1,100 employees), a medium-sized SOE (154 employees), and non-state enterprises averaging 35 employees.

2-4. Motor vehicle and parts

Fifty-four motor vehicle enterprises are listed in our data, of which 17 are automobile assemblers registered by the Vietnam Automobile Manufacturers' Association (VAMA) and the remaining 37 enterprises are either motorbike makers or producers of small-scale vehicles, such as agricultural vehicles. An additional 644 individual business establishments participate in the production of certain other motor vehicles. Moreover, 235 enterprises produce bodies, parts, and accessories for motor vehicles (hereafter referred to as 'the parts and components industry').

The motor vehicle industry caters almost exclusively to the domestic market, and hence does not require a location strategy for exportation. Although we cannot distinguish among automobile producers, motorbike producers, and producers of other vehicles from our data, it can be observed that motor vehicle firms are located in places with good access to the domestic markets. In the north, FIEs have invested not only in Hanoi but also in Vinh Phuc, Hai Duong, and Ha Tay. There are also some local enterprises in Hai Phong, Hung Yen, and Nam Dinh. However, it is only Hanoi that has a moderate degree of concentration of motor vehicle firms (6 FIEs and 13 local firms). Contrary to the garments and consumer electronics industries (and possibly many other industries), the motor vehicle industry is not concentrated in and around the area of Ho Chi Minh City. There are only 8 enterprises, including 3 FIEs, in the Ho Chi Minh City-Dong Nai-Binh Duong area, employing 2,700 persons (3,900 employees in Hanoi).

The location of firms in the parts and components industries appears to be determined by the locations of large FDI motor vehicle producers. In the north, parts and components factories are clustered in Hanoi (36 enterprises) but are scattered in the provinces neighboring Hanoi and National Highway 5 (36 enterprises). In the Ho Chi Minh City-Dong Nai-Binh Duong area, there is a high concentration of parts and components industries (contrary to the limited number of motor

vehicle industries in the same location). There are 119 parts and components enterprises employing more than 25,000 persons in total (12,000 employees in and around Hanoi). A strong concentration of firms appears in Dong Nai (57 firms), where one district (Trang Bom) houses 38 parts and components firms. The motor vehicle industry in this area can be described as a small cluster of motor vehicle enterprises surrounded by many parts and components enterprises. The existence of certain degrees of linkage between parts and components firms and motor vehicle firms and among parts and components firms themselves can be assumed.

One characteristic of the parts and components industry in Vietnam is its high presence of FIEs. Out of 235 parts and components producers, 100 are FIEs, 70 of which are located in the Ho Chi Minh City-Dong Nai-Binh Duong area. One may conclude, therefore, that the production of motor vehicles relies heavily on FDI parts and components suppliers. Compared to the low rate in automobile production (less than 10% on average), the rate of localization of parts and components in motorbike production is believed to be high. In some FDI enterprises, the localization rate can be as high as 90% (Master Plan of Motorcycle Industry for 2006-2015⁸). However, our data shows that the rate of localization in motor vehicle production by Vietnamese enterprises is still limited.

3. Clusters of local industries

3-1. Craft villages: Vietnam's local industrial clusters

In Vietnam, there are clusters of 'local' industries in rural areas called 'craft villages' (*lang nghe*). Compared to the industrial clusters introduced in Section 2, agglomeration in these villages is more apparent, and hundreds to thousands of households in one village are engaged in the economic activities of certain industries. Many of these villages are described as 'traditional' and some have

100 year-old histories. However, many of these ‘traditional’ craft villages saw their level of production decline during the era of the central planning economy, and they resumed their production in the present form only after *Doi Moi* reform. Thanks to the new policy, many households that had restricted their activities to growing rice under the central planning economy were now able to commence non-agricultural economic activities, and they formed clusters in their villages. The improvement of land productivity in the 1990s also allowed these households to spare their workforce for non-agricultural activities.

Products of craft villages vary from processed local foods to traditional handicrafts and housewares that contribute to the domestic market. After more than 15 years of development, some craft villages have increased their size and level of industrialization. Some such as Bat Trang (ceramics), Van Phuc (textile) and Dong Ky (wooden furniture) have even been successful in exporting goods, while others such as Duong O (paper) and Da Hoi (steel) have become suppliers of industrial goods. The business establishments in these ‘industrialized’ craft villages are engaged in various types of production and services, attracting thousands of laborers not only from in and around their villages but also from other provinces. Even though many of the business establishments in these villages still maintain household-level production, more sophisticated and complex ‘linkages’ among the households can be observed.

3-2. Locations of craft villages

According to the results of the agricultural census in 2006, there are 1,077 craft villages in Vietnam (Table 4)⁹. Many of the entities in such villages are small individual business establishments that employ 2.56 laborers on average. These craft villages are concentrated in the Red River Delta region and in the Central Coast region. The development of craft villages in these regions is a

consequence of various factors over a long period of time, such as high population density, an abundance of natural resources, a surplus of agricultural labor (because of improved agricultural productivity), an accumulation of skills, and a solid infrastructure.

Table4: Number of Craft Villages in six Regions (2006)

	number of craft villages	number of participating households	number of participating labors
Red River Delta	615	167,868	412,228
Northern Highlands	43	8,492	20,196
Central Coast	289	54,248	143,835
Central Highlands	7	292	474
South East	11	3,938	9,361
Mekong Delta	112	21,207	69,712
Total	1,077	256,045	655,806

Source: GSO [2007] p.211-214.

The agriculture census data from the craft villages indicate that these village-level clusters are located mainly in areas with better access to the domestic markets for their products. Fifty-four percent of craft villages are located in provincial centers (*thanh pho* or *thi xa*) or in districts neighboring these cities. Among the villages that are located elsewhere, 64% are situated in districts that are connected directly to the provincial centers with major national roads¹⁰. Infrastructure connecting the markets surely plays an important role in determining the locations of these craft villages. The value added to their products is probably too small to be produced in cities where labor costs are too high or in remote areas where transportation costs to market are high (or where motorbikes cannot be used for their transportation).

Many of these craft villages are small clusters consisting of, on average, 238 households per village. Most of the ‘industrialized’, large-scale craft villages are located in the north. Among the 1,077 villages listed, 170 villages contain more than 1,000 regular laborers and 116 out of the 170

are located in the Red River Delta region. The largest village in terms of number of laborers is Dong Ky, a village located in Bac Ninh that produces wooden furniture. Dong Ky is home to more than 12,000 regular laborers.

3-3. 'Recycling clusters'

One might argue that even though the number and concentration of producers is high, these craft villages in Vietnam cannot be categorized as Porter-type industrial clusters: an industrial cluster, in Porter's definition, usually includes various types of economic entities in every part of the value chain, such as suppliers of specialized inputs, components, machinery, services, and even manufacturers of complementary products (Porter [1998]). Many of the craft villages do not have such complicated networks of value chains. According to DiGregorio's anthropological research on craft villages, concerning Hanoi in the early 1990s, while Hanoi may have some degree of division of labor among producers, there are too few steps from raw materials to final products. Moreover, the relations among sellers of materials, producers, and buyers are in a primitive state based upon social networks and hierarchy that has remained unchanged since at least the 1930s (DiGregorio [1994]).

'Recycling villages' (*lang nghe tai che*) may be the exception. In the Red River Delta region and the Central Coast region, there are at least 17 recycling villages, according to a report of Hanoi University of Technology (INEST-HUT [2004]). In these villages, manufacturing activities that use scraps and waste as materials take place on a village-wide (or commune-wide) scale. In these villages, iron, other metals (copper, aluminum etc.), paper, plastic, and even lead-acid batteries are collected and recycled into primary materials (ingots of metals, plastic pellets, etc.) or final products (construction materials, housewares, toilet paper, etc.). As reported by some scholars¹¹, there are

various types of entities, each of which takes on certain parts of the production process in one village. Take the example of Da Hoi, an iron steel village in the Chau Khe commune, Bac Ninh (Sakata [2009]). There are producers of final products (wire rods, deformed bar, V-shape bar, nails, etc.) and intermediate goods (cast ingot, cut plate, cut bar, wire rods, etc.), creators of products (plating, painting, etc.), and entities in the service sector (weighing scraps, separation of mixed materials, transportation, repairers of machinery, banks, etc.). The existence of a dense network of value chains can be observed among these entities as well as with others outside the commune.

Certain types of value chains also exist among recycling villages in Hanoi and its outskirts. At the southern end of Hanoi, Trieu Khuc village has become famous as a scavenger's collection point, accumulating various mixed waste and scraps from households, shops, and factories mainly in Hanoi. Waste and scraps are separated in the village, and then plastics are taken by the villagers, steel scraps are sold to Da Hoi, paper waste to Duong O (Bac Ninh), and aluminum to Man Xa (Bac Ninh). Similarly, in the neighboring provinces, households in iron, steel, and metal recycling villages who purchase mixed waste containing types of metals (air-conditioners, transformers, PCs, etc.) sell their scraps to other recycling villages. Aluminum is sold to Man Xa, plastics to Minh Khai (Hung Yen), steel parts to Da Hoi, copper parts to Dai Bai (Bac Ninh), and so on¹².

Conclusion

As the obligation to fully implement the AFTA requirements in 2018 is approaching, the competitiveness of Vietnamese industries with neighboring countries is becoming a growing concern. If industrial clusters are the source of Vietnam's national competitiveness, then the current formation of clusters in some industries could be a positive sign. In the three industrial clusters

examined, both export-oriented industries and industries for domestic markets, FIEs and local enterprises, and large enterprises and SMEs are highly concentrated in Hanoi or in the Ho Chi Minh-Dong Nai-Binh Duong area.

However, as McCarty et al. [2005] conclude, ‘...clusters of the kind seen in countries such as the USA and Japan have yet to emerge’ (p.103). They argue that access to land and infrastructure leading to urban markets and ports is what is most important for developing countries like Vietnam. In this sense, the completion of large infrastructure projects in 2009 in the south, such as new ports along the Saigon River and the Cai Mep-Thi Vai River (in Ba Ria-Vung Tau), and new bridges between Ho Chi Minh City and Dong Nai will further accelerate the formation of clusters. In the north, the positive effects of renovating National Highway 5 are already apparent in our data, and on-going and planned projects such as the Noi Bai-Lao Cai and the Hanoi-Hai Phong expressways will undoubtedly have an immense impact on future cluster formation.

Two more important determinants for future cluster formation and location are the availability of human resources and business networks. In this sense, SMEs and individual business establishments (of local industrial clusters in particular) could potentially play important roles. Although each of these firms is small, they have large labor reserves as well as experience with industrial work and manual work. They would be able to serve as sources of labor and/or as upstream providers in industry value chains.

¹ The Economic Research Institute for ASEAN and East Asia (ERIA) has conducted a series of studies on the location of enterprises in Vietnam by ownership and size of enterprise in some industrial sectors. Please refer to IPSI [2008], CIEM [2008], Tran Tien Cuong et al. [2008], and Truong Chi Binh [2008].

² Decree 90 of 2001 (90/2001/GD-CP: 23 November 2001), which supports the development of small and medium-sized enterprises, defines SMEs in Vietnam as enterprises with annual labor not exceeding 300 persons or with registered capital not exceeding 10 billion Vietnamese Dong.

³ According to the SME development Plan for 2006-2010, SMEs are further divided into three

categories: micro (with less than 10 laborers), small (with 10 to 49 laborers), and medium-sized (with 50 to 299 laborers) enterprises.

⁴ Data are obtained from the Central Institute for Economic Management.

⁵ In this study, the ‘motor vehicle’ industry has been selected for analysis instead of the ‘motorbike’ industry (the latter is in Ohno’s [2005] leading industries list). This is due to the categorization of our available data. McCarty et al. [2005] do not distinguish ‘automobile’ and ‘motorbike’ in their analyses either.

⁶ The figures for ‘enterprises’ in the data include those of headquarters and branches (or factories outside the headquarters).

⁷ In Ho Chi Minh City there are two very big enterprises: one is the national SOE (3,573 employees) and the other is Ho Chi Minh City’s government-run SOE (2,235 employees).

⁸ Master Plan for the Development of Motorcycle Industry in the Period of 2006-2015, with a Vision of 2020 (http://www.vdf.org.vn/Doc/2007/MMP_ApprovedNov07E.pdf)

⁹ There are two other studies on craft villages that give different figures for them. The JICA and The Ministry of Agriculture and Rural Development of Vietnam [2004] conclude that the number of the craft villages is 2017, while a study by a team from the Hanoi University of Technology (Dang Kim Chi ed. [2005]) finds the number to be 1450. This is because the definition of craft village in each study differs. There is no official definition announced by the government.

¹⁰ ‘Big’ national roads connect at least two provincial capitals or they connect to national border towns. Those roads include Nos.1, 2, 3, 5, 10 and 32 in the north, Nos.1, 7, 14, 15, 19, 24, 25, and 26 in the center, and Nos.1, 13, 14, 20, 22, 27, 28, 50, 51, 55, 56, 61, 80 and 91 in the south.

¹¹ For example, Vu Tuan Anh [2006] reports on paper villages, and Sakata [2009] and Vu Hoang Nam, Sonobe and Otsuka [2009] have written about iron-steel villages.

¹² These observations are based on the survey conducted by the author from 2006 to 2009.

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