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Participation of SMEs in Vietnam's Exports: An Evaluation from RCA Perspective, 1985-2010

Souksavanh VIXATHEP *

Abstract

In view of evaluating the contribution of small- and medium-sized enterprises (SMEs) to Vietnam's exports, the paper studies the export structure focusing on sectors with high SME participation for 1985-2010 using the RCA index. We find that (i) exports have largely concentrated in some agricultural commodities (rice, coffee, spices) and seafood commodities (crustaceans, shrimps); yarn and textile products; raw materials and some manufactured goods (rubber, wood products, furniture, electric machines); (ii) crude oils have maintained both competitiveness and leading position in exports over the decades; (iii) garment and footwear products have gained competitiveness and occupied a crucial position the country's exports since mid-1990s; and (iv) trade diversification occurs, but the degree is rather moderate.

In the new SME development plan, the government aims to promote SME participation in such export sectors as agro-processing, seafood, and textile and garment industries in the next five years. Hence, sound development and trade policies are essential to promote sectors with comparative advantage, and thereby move to more capital-intensive industries and higher value added commodities in the longer term.

I. Introduction

Endowed with rich natural and human resources, Vietnam is said to possess great potential for growth and becoming a major economy in Southeast Asia. However, up until the early 1980s, Vietnam was a centrally planned economy characterized by state command over inputs, outputs and prices, government

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dominance in businesses via state-owned enterprises, and a very limited role of the private sector. The economy was viewed as being distorted in many aspects such as allocation of resources and provision of incentives. Following the Indochina war, the country suffered from hardship and experienced low growth, industrial stagnation and a decline in agricultural production. These adverse events had led to importation of food in large amount. In the second half of the 1980s, unfavorable internal development (e.g. severe food shortage and starvation in the northern part of the country caused by bad weather conditions) and external developments (e.g. the end of aid from the former Soviet Union and demise of the Eastern bloc) clearly pointed to the need of economic reform and transition.

The economic transition in Vietnam started in the mid-1980s. The so-called *Doi Moi* policy (Renovation Policy) covers many areas of the economy, ranging from macroeconomic stabilization to reforms in various sectors including trade and industry, private sector development, small- and medium-sized enterprise (SME) promotion, and policy enhancement in many other areas. The reforms set the stage for remarkable economic growth during 1990-2010. Poverty incidence declined steadily from 58% in 1989 to 32% in 2000, while average household per capita expenditure increased by 41% during 1993-1998 (Pham and Vo, 2003), just to name some. SMEs, on their part, have played a crucial role in promoting the country's industrialization and creating jobs for the bulk of workforce. The economy is also characterized by the dominance of SMEs in the non-agricultural sectors.

Within this framework the government has gradually opened up and increasingly integrated the economy to the regional and global economy. Vietnam has established trade relations and agreements with major economies in the world, joined regional and international trade organizations, and changed from a rice importer to a rice exporter. Economic transition and trade liberalization would undoubtedly exert significant impacts on the country's comparative advantages and competitiveness.

Literature on comparative advantages for developing Indochina's countries is still limited (for example, Le (2010) for Vietnam; Vixathep (2011) for Laos). A noticeable work on Vietnam is the study on trade regime and comparative advantage by Mi Nguyen (2002). The author evaluated Vietnam's trade reform policies and their consequences by analyzing the rates of protection, export similarity and Revealed

Comparative Advantage (RCA) between Vietnam and six selected ASEAN members. The study concluded that the country's export structure is closer to that of Indonesia, Malaysia and Thailand, and that the country could be competitor of Indonesia and the Philippines in some commodities. It was also revealed that Vietnam has RCA in some agricultural, mining, wood and light-industrial products, such as, coffee, oil-seeds, rubber, fish, coal, wood, crude oils, textiles and garments, footwear, and furniture. Nevertheless, using trade data of 1995-1998 the analysis of RCA focuses merely on a short period at the two-digit level of the Standard International Trade Classification (SITC). Also, the export similarity was examined for only three years (1997-1999) for commodities in the Japanese markets.

In view of addressing the impacts of SMEs on exports of Vietnam, the present paper evaluates the patterns of comparative advantage (CA) and analyzes the trade structure in sectors with strong SME participation. Despite analyzing the impacts in an indirect manner, the analysis includes all exported commodities and provides an economy-wide investigation of the country's trade structure and RCA for 1985-2010. The main focus is to examine the patterns of international trade and the changes in RCA of Vietnam for the period 1985-2010 in such sectors with high SME share.

The remaining of the paper is organized as follows. Chapter 2 briefly presents the concept and the index of revealed comparative advantage, and describes the data used in the empirical analysis. A brief description of the Vietnamese economy is provided in Chapter 3 with an emphasis on SME and trade development. Chapter 4 presents and discusses the results of the empirical analysis. Chapter 5 presents some conclusions and major policy implications.

II . Analytical Framework

II.1 Concept of Revealed Comparative Advantage

The history of comparative advantage dates back to the trade theory developed by Ricardo, and Heckscher and Ohlin. Apart from factor endowment, a country's comparative advantage in such theories is related to autarkic prices, which are not observable in the real world. Using post-trade prices scholars have long tried to infer real comparative advantage from nations' export performances that are revealed from the international trade. Above all,

Balassa (1965) introduced a fairly simple but influential approach. The concept of “revealed comparative advantage” refers to the relative export performance of a country in a particular commodity trade. Under the assumption that the trade pattern reflects relative costs and differences in non-price factors (quality, goodwill, services), the commodity pattern of trade would “reveal” the comparative advantage of trading countries.

The RCA index of country i in commodity group j is defined as:

$$RCA_{i,j} = (X_{i,j}/X_{i,tot})/(X_{w,j}/X_{w,tot}) \quad (1)$$

where $RCA_{i,j}$ denotes the revealed comparative advantage index of country i in commodity group j , $X_{i,j}$ country i 's exports of commodity group j , $X_{i,tot}$ country i 's total exports, $X_{w,j}$ the world's exports of commodity group j , and $X_{w,tot}$ total exports of the world.

The RCA index takes a non-negative value. An index of greater/less than unity is regarded as “high RCA”/“low RCA”. For example, an RCA index of unity means that Vietnam's export position in a given commodity is as large as its share in total exports, while a value of 0.5 means the country has comparative disadvantage in the respective commodity group.

Solely relying upon the absolute terms of the RCA index could lead to a misinterpretation of comparative advantage, because a certain commodity group could hardly increase its export share if it has already occupied a large portion of the nation's exports. Moreover, as the range of a country's export commodities becomes more diversified, it is more difficult for any commodity group to increase its share in this market (Lee, 1995). Hence, in this analysis both the value and the ranking of the RCA index are considered, since they show the trends and the changes of RCA, and thereby illustrate the dynamics aspects of comparative advantages.

II.2 Data

This study applies commodity trade data from the Comtrade and Trade Statistics Yearbook of the United Nations Statistical Division (UNSD) for the analysis. Even in such a comprehensive database, trade data reported by Vietnam are available only for 1997 onward. Hence, a good option is to use the data reported by her trading partners for the early years covered under study (1985; 1990; 1995). For these three years Vietnam's exports are represented by *cif*-import data and imports by *fob*-export data of her trading partners. Hence,

to some degree the value of imports and exports for the period 1985-1995 would differ from the actual values, had the country's data been available. However, compared to the value of goods, the cost for insurance and freight is usually small and would not alter the trends of the RCA.

Based on data availability and the importance of trading partners in Vietnam's exports, 51 countries are included in the analysis, namely: 18 Asian economies (Bangladesh; China; Hong Kong; India; Indonesia; Iran; Iraq; Japan; Korea; Kuwait; Malaysia; Pakistan; Philippines; Saudi Arabia; Singapore; Sri Lanka; Thailand; UAE), 26 countries from Europe (Austria; Belgium; Bulgaria; Czech Republic¹; Denmark; Finland; France; Germany²; Greece; Hungary; Ireland; Israel; Italy; Luxembourg; Netherlands; Norway; Poland; Portugal; Romania; Russian Federation; Spain; Sweden; Switzerland; Turkey; Ukraine; United Kingdom;), 5 countries from North and Latin America (Canada; United States; Mexico; Argentina; Brazil), and Australia, and New Zealand. For 1985-1990, commodity trade with the selected partners covered about 50-60% of the country's merchandise exports, mainly because trade data of many countries of the former Eastern bloc are not available in Comtrade, although much of Vietnam's trade during that period was done with those countries.

With regard to commodity classification, the analysis is based on the 1-digit and 3-digit levels of SITC. This has some advantage, because the 3-digit level is considered to represent industries. Due to the constraint by the world data, the SITC Revision 2 was used for 1985-1995 and Revision 3 for 2000-2010. The choice of the study period has some merit in that it covers an era with some important economic events: the adoption and implementation of the Doi Moi policy in the late 1980s, trade agreements with EU in 1992 and the US in 1994, the accession to ASEAN in 1995, the membership of APEC in 1998, the NTR with the US in 2002 and the WTO membership in 2007.

Data obtained from international sources often show higher quality and reliability owing to their superior accuracy in the recording and compiling process. However, the use of trade data reported by partners has some disadvantages. The following points should be borne in mind when interpreting the results. First, although the sample of countries selected is not complete, it contains all significant trade partners, except for 1985. Second, the aggregation of national data of individual countries, with their different rules and definitions in data collection and processing, has some impacts on the RCA index. However, the trend of RCA index would sufficiently provide some inferences on the country's comparative advantage for 1985-1995.

III . Recent SME and Trade Development in Vietnam

III.1 Brief Overview

Table 1 Selected macro-indicators

Description	1985	1990	1995	2000	2005	2010
GDP (U\$ mil., 2000 prices)	11,889	15,018	22,276	31,173	44,769	62,832
GDP per capita (U\$, 2000 prices)	202	227	309	402	543	723
Average GDP growth (annual %)	3.81 ^e	4.79 ^a	8.21 ^b	6.96 ^c	7.51 ^d	6.10 ^e
Trade/GDP (%)	23.22 ^g	81.32	74.72	112.53	142.90	165.34
Exports/GDP (%)	6.62 ^g	36.04	32.81	55.03	69.36	77.53
Imports/GDP (%)	16.60 ^g	45.28	41.91	57.50	73.54	87.81
Exports (U\$ mil., 2000 prices)	N.A.	2,030	6,834	17,155	39,373	52,719
Imports (U\$ mil., 2000 prices)	N.A.	2,045	7,274	17,923	41,288	63,753
Average export growth (annual %)	N.A.	23.54 ⁱ	19.27 ^b	22.09 ^c	17.90 ^d	18.27 ^e
Average import growth (annual %)	N.A.	7.26 ⁱ	27.30 ^b	15.03 ^c	18.99 ^d	19.70 ^e
Gross saving/GDP (%)	N.A.	-2.28	19.24	31.27	35.78	31.86
Gross investment/GDP (%)	N.A.	13.17 ^h	25.42	27.65	32.87	35.56
External debt/GNI (%)	0.43	384.01	123.98	41.73	36.61	36.48

Source: Author compiled; data are from Key Indicators (various issues), Asian Development Bank; World Development Indicators (various issues), World Bank.

Notes: 1. "N.A." means the data were not available. 2. The superscript denotes: a) average of 1986-1990; b) average of 1991-1995; c) average of 1996-2000; d) average of 2001-2005; e) average of 2005-2010; f) value of 1985; g) value of 1986; h) value of 1989; and i) value of 1990.

The main focus of the analysis is trade and small- and medium-sized enterprise (SME) development in the period of reform 1985-2010. However, some macroeconomic reforms were introduced in the early 1980s. The actual transition began in 1986 with the approval and initial implementation of the Doi Moi Policy. The program encompasses reforms in many sectors, such as agricultural sector reform; private sector development and state-owned enterprise (SOE) reform; trade, investment and banking sector reform; and labor market reform. Early successes stimulated acceleration of the transition process and gave rise to the adoption of a comprehensive reform package in 1989.

Table 1 presents main macroeconomic indicators that reflect further successes of the reform package for the period 1985-2010. With a population of over

87 million, Vietnam has been growing steadily with an annual average rate of 6.9%. Five-year average breakdowns show acceleration in growth since the early 1990s, in which annual growth averaged around 6.1-8.2% as compared to 4.8% for 1985-1990. GDP increased remarkably from U\$12 billion to U\$63 billion and GDP per capita reached U\$723 in 2010. Other macroeconomic indicators presented in the table also suggest remarkable economic performance over the last 25 years.

III.2 Small- and Medium-sized Enterprise Development³

Definition of SMEs: SME definitions typically differ across countries and industries⁴. In Vietnam, the SME definition was first formulated in 2001 with fewer than 300 workers or registered capital less than VND10 billion (Le and Harvie, 2010). The latest definition is given in the Decree No. 56/2009/ND-CP, which classifies enterprises into micro-, small- and medium-sized enterprises for three major economic sectors (agriculture, forestry and fishery; industry and construction; and trade and service) based on number of workers and total capital. As such, an SME in manufacturing shall have up to 300 workers and/or VND100 million.

Role of SMEs: SMEs play a crucial role in the national economy, contributing to output; producing new products and commodities for domestic markets and export; and creating employment. In economic terms they contributed 39% to GDP in 2006 and employed about 10% of the 4.1 million laborforce in manufacturing industries in 2009. But it is barely possible to pinpoint an accurate trend of SMEs' share in GDP over the recent period because of lack of systematic data collection and reliable information (Tran et al., 2008). SMEs are flexible in activities, because they can change products relatively quickly in response to market conditions. They also contribute to regional development, as they can be located in various places and in rural areas.

SME development plan: The first five-year SME development plan for 2006-2010 has been completed. Yet, there is no evaluation report made available for public access. The second SME development plan for 2011-2015 has been drafted by the Ministry of Planning and Investment (MPI) (incorporating provincial SME development plans into a national plan) and is under review by Line Ministries. The delay in the formulation process would undoubtedly affect the implementation.

In order to help promote SME development, the government has, among other things, established various institutions to assist SMEs in their businesses, such as the Vietnam Association of Small and Medium Enterprises (VINASME) and the Vietnam Association of Small and Medium Industrial Enterprises (VASMIE). The main functions of these associations are to enhance competitiveness, increase commercial production and raise social responsibility; and to protect the interests of Vietnam's SMEs. Furthermore, under inflationary pressure and other economic hardships, the government has reduced tax burden for enterprises by means of tax delaying,

Table 2 SMEs in manufacturing industries, 2000-2009

	2000	2001	2002	2003	2004	2005	2006	2009
<i>Manufacturing SMEs</i>	<i>9150</i>	<i>10982</i>	<i>13143</i>	<i>15003</i>	<i>18434</i>	<i>21840</i>	<i>24553</i>	<i>41361</i>
<i>% share in total manufacturing firms</i>	<i>88%</i>	<i>89%</i>	<i>89%</i>	<i>89%</i>	<i>90%</i>	<i>91%</i>	<i>91%</i>	<i>94%</i>
Food and beverage	3252	3338	3663	3791	4156	4735	5089	6430
Tobacco products	13	16	12	14	14	14	14	18
Textile	314	391	512	585	713	901	1093	1698
Wearing apparel dressing and dyeing of fur	372	531	680	820	1127	1303	1483	3036
Tanning, dressing of leather & luggage/handbags	103	148	181	199	292	364	362	718
Wood processing, products made from bamboo	695	834	1012	1116	1400	1642	1973	3508
Pulp paper and paperboard	365	461	527	645	779	949	1063	1615
Publishing, printing & reprod. of recorded media	256	396	551	735	1052	1269	1713	2893
Coke, refined petroleum and nuclear fuel	11	12	13	10	17	15	30	44
Chemicals and chemical products	352	463	570	694	830	999	1158	1602
Rubber and plastic products	426	574	756	846	1087	1378	1564	2609
Other non-metallic mineral products	983	1088	1143	1197	1436	1594	1690	2671
Manufacture of metal	106	156	209	250	304	389	448	775
Metal products	586	830	1190	1516	2060	2536	2979	5940
Machine and other equipment	211	288	363	453	553	653	717	907
Office accounting and computing machinery	2	5	10	14	23	22	24	585
Engines and other electrical equipment	140	168	211	253	339	375	410	807
Motor vehicles and trailers	163	198	244	231	276	337	218	270
Other transport equipment	223	279	312	354	399	475	504	610
Furniture and other products	462	669	817	1082	1312	1583	1652	2309

Source: Le and Harvie (2010), Table 3, p. 22 (computed based on Enterprises Census 2000-2007, GSO); Statistical Yearbook of Vietnam, 2010, Hanoi: General Statistics Office.

Notes: 1. SMEs are defined as enterprises with up to 299 employees.

2. The notion "high SME participation" is used more qualitatively, as there can be no quantitative measure established for the decision making.

postponement and exemption in 2012. The estimated package is VND29 billion equivalent.

Job creation: One of the objectives of the Doi Moi is to reduce the number of SOEs, and thereby requiring job creation in the private sectors. Roughly 1.5 million new jobs are needed annually, of which 90% are created in the private sectors. Vietnam has nearly 90 million people with good demography for development. The average working age is about 32 years old. The annual birth rate is 1.2%, meaning that there are roughly one million more people every year. Currently, the agriculture has the largest share in population, but the transition of laborforce to industry is progressing. During 1990-2000 there were about 40000 private establishments, but in 2000 alone 45000 private enterprises were established (findings from a field survey in August 2012).

SMEs in industry and export sector: SMEs are, in a large part, to support the agriculture and light industry, i.e. to process agricultural products and produce light-industrial commodities. According to VASMIE they share about 95-97% in industry in terms of number and are concentrated in textile and garment, plastic, (chemical) fertilizer and machinery industries. Derived from our recent field survey, overall SMEs contribute about 29% of the total export revenue. They can also function as supporting industries for industrialization. The export sector includes agriculture and seafood; garment (with about 2500 SMEs in export business); textile; footwear; wood processing; food and agro-processing; and plastic industries. SMEs share a considerable portion in such industries in terms of enterprise numbers.

In the first decade of the reforms, various laws concerning enterprises and private ownership were passed, leading to a modest trend in enterprise registration up to 1999. In the 2000s, however, the numbers of registration have increased remarkably and reached a cumulative level of 414000 over the decade 2000-2009 (Le and Harvie, 2010). Manufacturing is by any standard one of the most important sectors for SME participation. The share of SMEs in manufacturing has increased steadily from 88% in 2000 to 94% in 2009 (Table 2). This sector is crucial for stable job creation and exports (Le and Harvie, 2010).

Challenges and difficulties: The most challenging issue for SMEs is the financial and capital problem. More than 70% of SMEs are micro and very small

enterprises, which have difficulty in access to finance or borrowing due to their small capital and weakness in collateral. Furthermore, the capacity of SMEs in formulating business plans and utilizing appropriate accounting systems is rather low. SMEs possess a low level of technical capabilities, face difficulties in securing appropriate production premises and moving to industrial zones, and possess very limited market information (information on new technologies, markets for products, participations in trade fairs and exhibitions etc.).

III.3 Trade Liberalization

Trade, investment and banking sector reform is a very significant component of the Doi Moi policy. Indeed, decentralization of the foreign-trade sector in 1981 was among the first macroeconomic reforms introduced in the early 1980s. Substantial trade liberalization was launched in 1989 with the removal of import duties on industrial inputs and adoption of real-exchange-rate policy, followed by the introduction of export processing zone in 1991. Major developments are evident after Vietnam entered into a preferential trade agreement with the EU in 1992 and the US lifted the embargo in 1994.

Trade development and economic integration have progressed further when Vietnam joined the Association of South East Asian Nations (ASEAN) in 1995 and the Asian Pacific Economic Cooperation (APEC) in 1998. Vietnam signed a bilateral trade agreement (BTA) with the US in 2000 and has been granted the normal trade relations (NTR) status since 2002. It became the 150th member of the WTO in 2007. To date, Vietnam has trade agreements with about 60 countries and trade relations with some 150 countries around the world.

During 1990-2010 exports and imports have grown remarkably at an average rate of 20% per annum, from U\$2 billion to U\$53 billion and U\$64 billion, respectively. Trade as percentage of GDP increased from 23% in 1986 to 165% in 2010 (Table 1). Apart from economic growth, trade has partly contributed to poverty reduction, as illustrated in the declining incidence from 58% in 1993 to 37% in 1998 based on total poverty line (the corresponding figures based on food poverty line are 25% and 15%) (Pham and Vo, 2003, figure 9.1).

IV. Results and Discussions

IV.1 Structure of International Trade

a) Commodity composition of exports

During 1985-2010 Vietnam's exports expanded steadily from U\$369 million to U\$72 billion. Table 3 reveals that until 1990 exports of Vietnam were concentrated in some sectors, such as 'food and live animals' (SITC0); 'crude materials without fuels' (SITC2); and to a lesser extent 'manufactured goods' (SITC8), which together accounted for about 65-81%. An observation at the 3-digit level of 1985-exports shows that major export items were: marine products (SITC036) 28%; vegetables (SITC054) 3%; spices (SITC075) 3%; oil-seeds and oleaginous fruits (SITC222) 10%; crude animal and vegetable materials (SITC291, 292) 9%; and garment products (SITC84) 6%.

Since the mid-1990s, however, the composition has shifted to oils and manufactures, such as 'mineral fuels and lubricants' (SITC3); 'manufactured goods' (SITC6, 8); 'machinery and transport equipment' (SITC7), which increased the share from 61% in 1997 to 73% in 2010. For example, major representative products of 2010-

Table 3 Commodity composition of exports (% share of total)

Description	SITC	1985	1990	1995	2000	2005	2010
Food and live animals	0	46.31	37.61	32.46	24.42	19.52	18.59
Beverages and tobacco	1	1.61	0.1	0.08	0.12	0.46	0.42
Crude materials, inedible, except fuels	2	24.65	18.29	5.33	2.62	3.77	4.56
Mineral fuels, lubricants	3	4.7	28.5	21.70	26.41	25.76	11.05
Animal and vegetable oils and fats	4	1.8	0.3	0.97	0.43	0.05	0.15
Chemicals and related products, n.e.s.	5	0.78	0.38	0.57	0.96	1.64	2.60
Manufactured goods (class. by material)	6	3.41	4.79	5.07	5.39	6.64	11.62
Machinery and transport equipment	7	0.59	0.59	1.62	8.67	9.65	15.89
Miscellaneous manufactured articles	8	10.09	8.64	31.62	27.77	32.06	34.50
Other commodities and transactions	9	0.81	0.82	0.48	3.21	0.44	0.64
<i>Total (U\$ mil., current prices)</i>		<i>369</i>	<i>1,377</i>	<i>5,245</i>	<i>14,483</i>	<i>32,447</i>	<i>72,237</i>
<i>Total (U\$ mil., 2000 prices)</i>		<i>7,639</i>	<i>8,274</i>	<i>13,906</i>	<i>14,483</i>	<i>14,775</i>	<i>14,753</i>

Source: Author compiled (data are from UN Comtrade online database).

Note: 1. For 1985-1995, trade data are reported by trade partners. 2. Real value is based on Export Value Index (base year=2000) (WDI, 2012).

exports are: fish products (SITC03) 7% crude petroleum oils and oil-minerals (SITC333) 9% and apparel products (SITC84) 15%. Export commodities of manufactures and machinery groups (SITC6 and 7) are more widespread without a dominant product.

On the other hand, despite a decreasing trend, ‘food and live animals’ (SITC0) remains an important commodity group with an average share of 23% for 1997-2010. The representative products of 2010-exports are: fish and marine products (SITC034, 036) 5% and fresh and dried fruits and nuts (SITC057) 2%. In particular, two agricultural products – rice (SITC042) and coffee (SITC071) – increased its share to about 10% and 5% in the late 1990s, and have since stabilized at about 4% and 2%, respectively.

b) Commodity composition of imports

The commodity composition of Vietnam’s imports has not changed much during 1985-2010 (Table 4). It is apparent the country largely imports equipment, material inputs and fuels for production. Main components of imports are: products of petroleum oils (SITC334); organic chemicals (SITC51); medical and pharmaceutical

Table 4 Commodity composition of imports (% share of total)

Description	SITC	1985	1990	1995	2000	2005	2010
Food and live animals	0	3.94	6.44	3.89	3.99	5.30	7.28
Beverages and tobacco	1	0.23	1.11	5.41	0.65	0.48	0.35
Crude materials, inedible, except fuels	2	1.89	1.88	2.16	3.76	4.40	5.28
Mineral fuels, lubricants	3	15.58	0.8	9.58	13.51	14.60	9.60
Animal and vegetable oils and fats	4	0.06	0.03	0.95	0.55	0.51	0.82
Chemicals and related products, n.e.s.	5	15.49	16.46	16.09	15.30	14.39	14.70
Manufactured goods (class. by material)	6	24.52	22.35	22.02	21.67	27.53	26.39
Machinery and transport equipment	7	24.26	37.27	33.35	30.01	25.07	29.19
Miscellaneous manufactured articles	8	3.23	4.98	4.94	7.26	5.12	4.92
Other commodities and transactions	9	4.02	8.16	0.83	3.28	2.60	1.48
<i>Total (US\$ mil., current prices)</i>		<i>592</i>	<i>948</i>	<i>8,232</i>	<i>15,637</i>	<i>36,761</i>	<i>84,839</i>
<i>Total (US\$ mil., 2000 prices)</i>		<i>4,985</i>	<i>5,385</i>	<i>15,784</i>	<i>15,637</i>	<i>15,790</i>	<i>15,873</i>

Source: Author compiled (data are from UN Comtrade online database).

Notes: 1. For 1985-1995, trade data are reported by trade partners. 2. Real value is based on Import Value Index (base year=2000) (WDI, 2012).

products (SITC54); plastics in primary forms (SITC57); chemical materials (SITC59); leather (SITC611); textile products (SITC65); iron and steel (SITC67); metal manufactures (SITC 69); industrial machines and equipment (SITC72, 74, 77); and vehicles (SITC78). In contrast to exports where high shares can be found at the three-digit level, imports are much more widespread except for products of petroleum oils (SITC334) with an average share of 10%.

IV.2 Patterns of Vietnam's Comparative Advantages⁵

Table 5 RCA index and percentage share in exports

	SITC	1985	1990	1995	2000	2005	2010
Food, live animals	0	5.98(46.3)	4.96(37.6)	4.60(32.5)	4.63(24.4)	3.62(19.5)	3.10(18.6)
Beverages, tobacco	1	1.77(1.6)	0.05(0.1)	0.07(0.1)	0.14(0.1)	0.55(0.5)	0.52(0.4)
Crude materials excluding fuels	2	4.90(24.7)	4.86(18.3)	1.61(5.3)	0.86(2.6)	1.14(3.8)	1.06(4.6)
Mineral fuels, lubricants	3	0.32(4.7)	2.69(28.5)	3.06(21.7)	2.51(26.4)	1.99(25.8)	0.79(11.0)
Animal, vegetable oils, fats	4	3.10(1.8)	0.78(0.3)	1.86(1.0)	1.40(0.4)	0.14(0.1)	0.26(0.1)
Chemicals incl. related products	5	0.11(0.8)	0.05(0.4)	0.07(0.6)	0.11(1.0)	0.15(1.6)	0.23(2.6)
Basic manufactured goods	6	0.25(3.4)	0.29(4.8)	0.31(5.1)	0.39(5.4)	0.48(6.6)	0.89(11.6)
Machinery, transport equipment	7	0.02(0.6)	0.02(0.6)	0.04(1.6)	0.21(8.7)	0.26(9.6)	0.47(15.9)
Misc manufactured goods	8	1.30(10.1)	0.76(8.6)	2.8(31.6)	2.25(27.8)	2.90(32.1)	3.24(34.5)
Unclassified goods	9	0.40(0.8)	0.30(0.8)	0.15(0.5)	1.01(3.2)	0.12(0.4)	0.12(0.6)
Export value (U\$ million)		369	1,377	5,245	14,483	32,447	72,237

Source: Author's calculations (data are from Comtrade online database)

Note: Percentage share is in parentheses.

The RCA index calculated at the 1-digit SITC level depicts the general picture of Vietnam's comparative advantage for 1985-2010 (Table 5). During the 1980s the country's comparative advantages were based largely on primary products, including food and live animals (SITC0); crude materials except fuels (SITC2), animal and vegetable oils (SITC4) and manufactured goods (SITC8). However, over the last two decades Vietnam has gained some comparative advantage in oils and lubricants (SITC3), machinery and transport equipment (SITC7) and manufactured commodities (SITC6, SITC8), although some of these products still have disadvantage with an RCA index of less than unity. Agricultural products have lost some competitiveness and share, but they still occupy a significant portion of exports.

Table 6 Trends of RCA of selected product groups with high SME share

Product	SITC	1985	1990	1995	2000	2005	2010
Fresh, chilled or frozen fish	034	1.17	1.41	3.64	3.55	5.92	8.22
Crustaceans, molluscs etc.	036	95.80	51.52	23.55	31.02	27.17	15.63
Fish, crustaceans, molluscs, etc.	037	0.95	4.84	5.45	0.88	6.25	8.69
Rice	042	4.03	76.31	36.38	44.94	41.80	32.04
Coffee and coffee substitutes	071	1.56	10.25	38.11	19.04	14.51	12.85
Tea and maté	074	15.29	4.74	3.42	9.07	7.56	5.44
Spices	075	39.23	10.54	22.17	25.91	17.99	15.93
Edible products and preparations	098	1.77	1.22	0.90	1.57	0.99	0.79
Oil-seeds and oleaginous fruits extracts	222	23.07	8.92	6.10	1.57	0.51	0.09
Oil-seeds and oleaginous fruits	223	38.00	0.25	0.18	0.72	5.89	4.16
Natural rubber and gums (unprocessed)	231	-	-	-	18.73	21.86	16.39
Synthetic and reclaimed rubber	232	5.89	11.35	9.48	-	1.31	0.21
Crude animal materials	291	36.24	9.44	2.83	1.58	0.55	0.35
Crude vegetable materials	292	19.68	4.90	1.83	1.40	0.48	0.29
Briquettes, lignite and peat	322	6.50	1.71	4.23	0.57	0.03	-
Crude petroleum oils and oil-minerals	333	-	4.77	4.79	4.08	3.47	1.07
Textile yarn	651	0.02	0.21	0.27	0.91	1.93	5.82
Made-up articles of textiles	658	1.98	2.35	4.80	2.41	2.60	3.65
Equipment for distributing electricity	773	-	0.01	0.06	1.31	2.66	2.93
Motor cycles, motorized and not	785	-	0.01	0.37	1.42	2.17	1.39
Furniture and parts thereof	821	0.12	0.12	1.63	1.64	4.37	4.48
Travel goods, handbags	831	0.00	0.44	9.21	4.39	5.04	4.35
Men's, boys' clothing, not knitted	841	-	-	-	8.49	7.85	8.71
Women's, girls' clothing, not knitted	842	-	1.66	9.14	4.08	6.04	6.86
Men's, boys' clothing, knitted	843	0.17	1.88	5.15	1.52	8.87	7.67
Women's, girls' clothing, knitted	844	3.51	2.94	7.18	1.35	7.56	5.87
Articles of textile apparel	845	0.11	0.39	3.14	2.76	3.32	5.97
Clothing accessories, of textile fabrics	846	0.25	0.70	3.42	2.63	1.39	1.31
Non-textile clothing, headgear	848	0.37	0.06	2.23	1.13	1.91	2.24
Footwear	851	0.54	0.17	11.43	13.76	15.46	11.30

Source: Author's calculations (data are from UN COMTRADE online database)

Note: "-" implies that the data was not reported by any of the trade partners.

The RCA index at the 3-digit SITC level would give clearer patterns of comparative advantage of product groups with high SME participation (Table 6). The indices of RCA are missing for some commodities in the earlier years. This is attributable to the use of partners' data or the trade regime during that period. In

addition, many partner countries of the former Soviet bloc did not report trade data to UNSD. It can be observed that Vietnam has mainly achieved revealed comparative advantages in some groups: agricultural commodities, crude materials and oils, machinery, textile garment and footwear products.

During the study period, some commodities of 'fish and preparations' (SITC03) and 'coffee, tea, cocoa, spices' (SITC07) have shown high competitiveness⁶, although there is a mixture of upward and downward trends among these commodities. In particular, crustaceans and marine products (SITC036), rice (SITC042), and coffee (SITC071) have maintained high CA, even though their share in exports has declined substantially.

Among mineral fuel products, lignite (SITC322) and crude petroleum oils (SITC333) show a decreasing RCA trend, although they make up a considerable portion of commodity exports. Especially, crude oils were the top export commodity until recent years and accounted for 16-28% of merchandise exports during 1990-2008. In contrast, apparel and clothing (SITC84) and footwear (SITC85) have gained both comparative advantage and significance in export markets. Specifically, most of garment products and footwear achieved high RCA in the mid-1990s and have since maintained their competitiveness. In terms of significance, during 1985-2010 apparel products have steadily increased the share from about 6% to 15% and footwear has grown from less than one percent to nearly 10%.

In addition, natural rubber and gums (SITC231), synthetic and reclaimed rubber (SITC232), textile yarn (SITC651), made-up articles of textile (SITC658), equipment for distributing electricity (SITC773), motorcycles (SITC785), furniture and parts (SITC821) and travel goods and handbags (SITC831) show high potential for exports, as they have gained more competitiveness. However, they still occupy less than one percent of the exports, except of electric generators and natural rubber with a share of about two percent in recent years. On the other hand, products of 'oil-seeds and oleaginous fruit extracts' (SITC222) and 'crude animal and vegetable materials' (SITC292) have lost their competitiveness and share in exports.

a) Agriculture and fishery

Two representatives, rice and crustaceans, have maintained the first and

second position of the rankings over much the study period (Table 7). Rice farming is a part of Vietnamese tradition and it has been exported to about 20 countries throughout the world, including the US, Japan, major members of the EU and ASEAN. During 1985-2010 its export value increased from U\$2.4 million to U\$3.2 billion. The percentage share, however, fluctuated from less than one percent to a peak at 12.3% in 1995, and then declined to 4.5% in 2010.

With regard to marine products, crustaceans and molluscs are exported to 19 countries, including Japan, Korea, China, Australia, the EU, the US and ASEAN. The export value has increased steadily from U\$103 million in 1985 to U\$2.0 billion in 2010. The share, however, has declined from 28.1% to 2.8%, as Vietnam's exports expanded significantly over the same period.

Some other agricultural products, like coffee, spices, fruits and nuts, and un-milled maize, were also dominant among the top rankings in the mid-1980s. However, only coffee is able to retain competitiveness and is among the top-ten over the whole period, whereas spices have gradually lost the export share despite maintaining competitiveness. Coffee has been exported to about 19 countries (the US, Japan, EU member countries, ASEAN members, Australia etc.). Similar to rice, over the last 25 years its value has increased steadily from U\$4.3 million to U\$1.9 billion, while its share rose to a peak at 12.3% in 1995 and fell back to 2.6% in 2010.

Table 7 RCA ranking trends of agricultural products, crude materials and manufactures

Industry/Commodity	SITC	1985		1990		1995		2000		2005		2010	
		RCA	Rank	RCA	Rank	RCA	Rank	RCA	Rank	RCA	Rank	RCA	Rank
Crustaceans, molluscs etc.	036	95.80	1/112	51.52	2/158	23.55	3/209	31.02	2/202	27.17	2/249	15.63	5/251
Rice	042	4.03	18/112	76.31	1/158	36.38	2/209	44.94	1/202	41.80	1/249	32.04	1/251
Coffee and coffee substitutes	071	1.56	29/112	10.25	9/158	38.11	1/209	19.04	5/202	14.51	5/249	12.85	7/251
Oil-seeds & oleaginous fruits extracts	222	23.07	5/112	8.92	13/158	6.10	14/209	1.57	33/202	0.51	78/249	0.09	187/251
Crude vegetable materials	292	19.68	6/112	4.90	18/158	1.83	31/209	1.40	38/202	0.48	82/249	0.29	131/251
Crude petroleum oils and oil-minerals	333	-	-	4.77	20/158	4.79	19/209	4.08	15/202	3.47	26/249	1.07	66/251
Equipment for distributing electricity	773	-	-	0.01	117/158	0.06	122/209	1.31	40/202	2.66	28/249	2.93	29/251

Source: Author's calculations (data are from Comtrade online database)

Note: 'Rank' is the ranking of a product group over the total number of exported items in the respective year.

On the other hand, agricultural products for industry, such as 'crude animal and vegetable materials' (SITC222, SITC292), ranked third to fifth in 1985, but they have lost both competitiveness and share in the subsequent years. Only 'unprocessed natural rubber and gums' (SITC231) have gained both competitiveness and export significance, albeit still ranked relatively low with less than three percent share. This is one of the products with potential for export expansion in future.

b) Crude oil

Representing the energy sector, 'crude petroleum oils and oil-minerals' have been among the top rankings for much of the period under study. They are one of Vietnam's leading export products for more than a decade. They have maintained high competitiveness over the study period, although the RCA ranking varied between 20/158 and 66/251 (Table 7). The export value increased from U\$379 million to a peak of U\$10.4 billion in 2008 before falling back to U\$5.0 billion in 2010, and the share declined from 28% in 1990 to below seven percent in 2010. Some major export destinations are Australia, Singapore, China, Malaysia, Japan and the US. Along with industrialization domestic demand for energy would increase, and at certain stage Vietnam might reduce export and increase import of oils or other fuel products.

c) Electric equipment

Vietnam's manufacturing industries have gradually moved to more capital-intensive section as reflected in an upward trend in export share of data processing equipment and parts, motorbikes, and certain manufactured articles etc. For example, 'equipment for distributing electricity' (SITC773) has slowly gained competitiveness, as its RCA index has surpassed the unity mark and its ranking has improved from 117/158 to 29/251 (Table 7). The export value has increased from U\$50,000 to U\$1.3 billion. It has been exported to 18 countries, including Japan, Australia, China, Hong Kong, the US, ASEAN members, and some European countries. To date, such products still occupy a tiny portion of the country's exports (less than two percent), but they possess great potential for export.

d) Garment and footwear industry

The garment and footwear products are the only manufactures that have

Table 8 RCA ranking trend of garment and footwear products

Industry/Commodity	SITC	1985		1990		1995		2000		2005		2010	
		RCA	Rank	RCA	Rank	RCA	Rank	RCA	Rank	RCA	Rank	RCA	Rank
Men's, boys' clothing, not knit	841	-	-	-	-	-	-	8.49	9/202	7.85	9/249	8.71	9/251
Women's, girls' clothing, not knit	842	-	-	1.66	32/158	9.14	12/209	4.08	14/202	6.04	15/249	6.86	15/251
Men's, boys' clothing, knitted	843	0.17	64/112	1.88	29/158	5.15	17/209	1.52	35/202	8.87	8/249	7.67	13/251
Women's, girls' clothing, knitted	844	3.51	21/112	2.94	25/158	7.18	13/209	1.35	39/202	7.56	11/249	5.87	18/251
Articles of textile apparel	845	0.11	67/112	0.39	56/158	3.14	25/209	2.76	21/202	3.32	24/249	5.97	17/251
Textile clothing accessories	846	0.25	58/112	0.70	49/158	3.42	23/209	2.63	23/202	1.39	37/249	1.31	53/251
Non-textile clothing, headgear	848	0.37	55/112	0.06	85/158	2.23	29/209	1.13	43/202	1.91	33/249	2.24	35/251
Footwear	851	0.54	50/112	0.17	69/158	11.43	7/209	13.76	7/202	15.46	6/249	11.30	8/251

Source: Author's calculations (data are from Comtrade online database)

Note: 'Rank' is the ranking of a product group over the total number of exported items in the respective year.

steadily gained competitiveness and significance in export markets in the last decade. In 1990, only 'not-knitted undergarment' could make to the top-ten list with just 1.6% share. However, from the mid-1990s onward the garment industry has slowly gained competitiveness with two or three clothing products among the first ten rankings and contribute about 10-14% to exports (Table 8). Similarly, from the mid-1990s footwear products have ranked among the first ten items with the value increasing from U\$495 million in 1995 to U\$5.2 billion in 2010 (the share has declined from a peak of 12% in 1999 to 7.2% in 2010). In combination, over the study period products of the garment and footwear industries comprise about 22% of commodity exports.

To date, they are exported to more than 40 countries in the world, such as the US, most of the EU and ASEAN members, Australia, Canada, and Russia. During 1985-2010 the export value (percentage share) increased from U\$23 million (6.3%) to U\$16 billion (21.6%). At the 3-digit level, until 1990 most of the garment and footwear products recorded a Balassa's index of less than unity and ranked rather low. However, since 1995 they have gained and maintained strong competitiveness, and their rankings have improved to 35/251-8/251 in 2010 (Table 8).

IV.3 Diversification of Exports

In order to examine the changes in the patterns of Vietnam's CA, two additional indicators are applied to evaluate the diversification in export products: the ratio of products with comparative advantage to overall exported products and the

Table 9 Products with high RCA and measure of export diversification

	1985	1990	1995	2000	2005	2010
High RCA products ($RCA > 1$) [A]	39	41	44	46	53	70
Total ranked products [B]	112	158	209	202	249	251
Ratio of high RCA products to total [A]/[B]	0.35	0.26	0.21	0.23	0.21	0.28
Share of high RCA products (%)	78.9	88.3	91.4	87.8	84.6	82.6
Standard deviation of RCA index	11.24	7.85	4.74	5.05	4.06	3.38

Source: Author's calculations (data are from Comtrade online database)

Note: For 1985-1995 the ratio of high RCA products is rather high, most likely due to the use of partners' trade data. For 1997-2010 Vietnam's trade data are used for analysis.

standard deviation of the RCA index (Table 9). First, during 1985-2010 the number of product groups with high RCA increase from 39 to 70 and the number of exported commodities from 112 to 251. The resulting ratio decreased from 0.35 in 1985 to 0.21 in 2005 and has increased to 0.28 in 2010. This result implies that the concentration of Vietnam's exports increased during 1995-2005, and reversed the direction in recent years. In addition, although the number of high RCA products increase more than twofold, their share in total exports remain rather unchanged.

Second, if the range of a country's export commodities becomes more diversified, the standard deviation of the measure of comparative advantage would decline over time. Table 9 shows a decreasing trend of the standard deviation of the RCA index from 11.24 to 3.38 (from 21.96 to 6.88 for products presented in Table 6). Therefore, it can be concluded that Vietnam's exports have diversified over the period under study. The two indicators suggest that over the last two decades export diversification occurs, but the trend is rather smooth. Vietnam's exports have diversified toward crude materials and manufactured goods, with the manufacturing industries dominating the country's export composition in terms of earnings.

V. Concluding Remarks

In view of evaluating the contribution of SMEs to Vietnam's export sectors, albeit in an indirect manner, the paper examines the export structure focusing on sectors with high SME participation for 1985-2010 using the RCA index, export share, and some other indicators. In terms of trade value and structure, Vietnam's exports have increased noticeably over the study period, yet largely concentrated in certain

agricultural and fishery products, crude materials, crude oil, and labor-intensive industrial products like garment and footwear items. Moreover, a shift in exports from crude materials (excluding crude oils) to light and labor-intensive industrial products in the mid-1990s has been observed, partly reflecting the country's endowments and economic transition and trade liberalization efforts of the government.

At the commodity-level, marine products, rice, and coffee have maintained competitiveness and an upward trend in export value over the study period, although their significance in exports has declined. Crude oils, on the other hand, have retained both competitiveness and export share over the last decade, and have become a leading export item in terms of value, second only to apparel and footwear. Similarly, garment and footwear products have steadily gained competitiveness and increasingly contributed to export earnings and employment.

With respect to diversification, Vietnam's exports have diversified toward manufactured products in the late 1990s. Together with crude oils, manufacturing industries have dominated the country's exports in terms of earnings. The results would imply that the Doi Moi policy and trade integration have brought about some positive development to the country's competitiveness and industrialization. In other words, apart from resource-based exports and somewhat simple manufactured commodities, a sign of intra-industry specialization in more sophisticated product ranges, such as 'non-textile clothing and headgear' (SITC848), travel goods and bags (SITC831), and some electric equipment (SITC773) and motor cycles (SITC785), has been observed.

Given her potential and labor endowment, Vietnam has been able to gain some benefits from the production shift in the global textile and garment industry to developing and least developed countries in Asia. Yet, much still remains to be done to sustain the development and move forward in the industrialization process.

Among these sectors, SMEs have played an important role in their participation and job creation. Yet, their technological capabilities and labor skills are all but sufficient to compete in the increasingly globalized markets. This would be an area for public-private partnership, because most of SMEs would find it hard to survive on their own capacity. Human resource development, skill development, entrepreneurship promotion, and institutional development are some of the areas the government

could help address the weaknesses and build capacity for SMEs. In the new SME development plan, the government aims to promote SME participation in such export sectors as agro-processing, seafood, and textile and garment industries in the next five years. Hence, sound development (education and health care) and trade policies are essential to promote sectors with CA, and thereby move to more capital-intensive industries and higher value added commodities in the longer term.

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Notes

- 1 For 1985-1990, data of Czechoslovakia are used for Czech Republic.
- 2 For 1985-1990, data of Former Federal Republic of Germany and former Democratic Republic of Germany are used.
- 3 Information and data for Section III.2 are mainly drawn from our field survey in August 2012. During this survey we interviewed several individuals and representatives from institutions and government agencies that deal with SMEs, including the Central Institute for Economic Management; the Vietnam Association of Small and Medium Enterprises; Agency for Enterprise Development of the Ministry of Planning and Investment; and the Vietnam Association of Small and Medium Industrial Enterprises.
- 4 If we confine ourselves to the definition using the number of workers it is different as follows: in Japan SME is defined as the one with 300 workers or less in manufacturing, 100 or less in wholesale and service, and 50 or less in retail sector. In manufacturing, SME is defined as the one with 300 workers or less in South Korea, 200 workers or less in Thailand, 150 workers or less in Malaysia, 99 workers or less in Laos, 2000 or less in China. Usually the amounts of sales and/or registered capital are added to define it.
- 5 An analysis using the net export index developed in UNIDO (1982) and the normalized RCA index proposed in Yu et al. (2009) yields very comparable results. However, due to space limitation, these alternative results are not presented in this paper. See vixathep (2008) for the results using the net export index for 1985-2005.
- 6 In the vast majority of trade literature, the RCA index is also interpreted as indicator of competitiveness. Hence, the terms CA and competitiveness are used interchangeably in this wider context.