

VIETNAM'S EXPORT-LED GROWTH MODEL AND COMPETITION WITH CHINA

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ABSTRACT. The emergence of China has raised some doubts concerning the possibility for new Asian countries to take off and join the group of emerging countries. This paper addresses this question in the case of Vietnam, which has been following China's path closely and very successfully during the last two decades. We first describe Vietnam's export-led growth strategy, and its results in terms of economic growth and world integration. Then we analyze Vietnam trade specialization compared to China's and other Asian emerging countries'. Finally, we show that Vietnam's and China's export structures are very different and that China is not "crowding out" Vietnam for textile & clothing products on the US market. In the long term, a major challenge for Vietnam is to diversify exports and take part in the regional production network.

JEL Classification: F13; F15.

Keywords: Vietnam; China; Export-Led Growth; Textile & Clothing; Trade Specialization.

RÉSUMÉ. L'émergence de la Chine a suscité des interrogations quant à la possibilité pour de nouveaux pays asiatiques de décoller et de rejoindre le groupe des économies émergentes. Cet article s'intéresse à cette question dans le cas du Vietnam qui, au cours de ces vingt dernières années, a suivi de près le chemin emprunté par la Chine, avec beaucoup de succès. Il décrit d'abord la stratégie vietnamienne de croissance tirée par l'exportation, et ses résultats en termes de PIB et d'intégration à l'économie mondiale. Puis l'article analyse la spécialisation commerciale du Vietnam, comparée à celle de la Chine et des autres pays asiatiques émergents. En définitive, les structures d'exportation du Vietnam et de la Chine sont très différentes, et la Chine ne produit pas une éviction du Vietnam hors du marché américain pour les produits "textile & habillement". À long terme, le défi qui attend le Vietnam est de diversifier ses exportations et de s'intégrer au réseau de production régional.

Classification *JEL* : F13; F15.

Mots-clefs : Vietnam ; Chine ; croissance tirée par l'exportation ; textile et habillement ; spécialisation commerciale.

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1. INTRODUCTION

Export-led growth strategies (ELG) have originally been defined as a policy encouraging and supporting the production for exports (Balassa, 1971). ELG strategies followed by Asian countries have contributed to strong economic growth and fast international integration. They are considered as an essential part of the policy set behind the emergence of these countries during the last decades, the so-called "East Asian Miracle" (World Bank, 1993). Since the 1980s, all developing countries have progressively converted to ELG strategies.

One of the main critiques towards ELG strategies concerns the fact that they make developing countries compete between themselves (Mayer, 1996). Indeed, ELG strategies are based on the hypothesis that all countries can develop their economy through export growth, whereas demand addressed to them actually depends on global demand of other countries. But the growing exports of new competitors can "crowd out" other exporters, leading to oversupply and price decrease.

The possibility of such a "crowding out effect" has traditionally been evoked concerning China, which is considered both as one of the most successful ELG models and the main threat on other developing countries following similar strategies. Numerous studies have tried to assess the overall impact of China's emergence on Asian middle income emerging countries economic and export growth (Lall and Albaladejo, 2004; Eichengreen, 2004; Humphrey and Schmitz, 2006; Ravenhill, 2006; Hanson and Robertson, 2007). They mostly concluded that it was either positive, as most of these countries were able to adjust to the Chinese threat, although some of them estimated that the effect on exports could be slightly negative. A few studies have assessed this impact by taking into account the detailed structure of trade by products (Athukorala, 2006a; Athukorala and Yamashita, 2006; Kaplinsky and Messner, 2008). They show that, because an increasing proportion of China's trade involves the processing of imported raw materials and intermediate goods ("vertical trade"), new complementarities arise between Asian countries which tend to reduce direct competition linked with exports of finished goods ("horizontal trade").

But, to our knowledge, the impact of China's economic emergence on its low income neighbours has not been assessed yet, although it is most probably of a different nature. Indeed, because of their lower development level, one would expect the trade specialization of these countries to be different from China's, which should both reduce competition but also increase complementarities with the latter. Studying the impact of China on Asian low income countries such as Vietnam is all the more important as it can bring some answers concerning the possibility of new Asian countries to emerge in the current international economic context and participating with China to a "third wave" of emerging countries. In this paper, we analyze the case of Vietnam, which has been following China's path closely and very successfully since the adoption of Doi Moi in 1986. The study of this country is all the more relevant as Vietnam's growth model shares many similarities with China, and as these two countries are also the only ones worldwide combining a monopoly of power held by the Communist Party with a market economy.

As it has been the case for other emerging Asian countries, Vietnam has been following an export-led growth model, combining trade liberalization with export and Foreign Direct Investment (FDI) promotion. During the last decade, Vietnam has registered very high economic growth and the highest export growth rate in Asia. The success of this strategy is widely recognized internationally, to the point that *The Economist* dubbed Vietnam "Asia's other miracle" (the other one being China).² In order to analyze the sources of trade growth for Vietnam and competition effects between China and Vietnam, we proceed in this paper with a comparative study at a very detailed level of Vietnam's trade specialization and market shares compared with China's and other major Asian countries, with a focus on textile-clothing.

This paper is organized as follows. The Section 2 presents some main characteristics of export-led growth models in relation with Asian experience. The Section 3 describes Vietnamese economic and trade reform, and assesses its results in terms of economic growth and world integration. The Section 4 studies Vietnam's trade specialization and its evolution compared to other Asian emerging countries, by calculating Balassa-type indicators of revealed comparative advantage. The Section 5 evaluates the similarity of exports between Vietnam and China on the US market and then focuses on textile-clothing products, in order to evaluate competition and potential "crowding out" effects. Our paper draws on international foreign trade databases and uses traditional indicators of trade specialization and competition.

2. EXPORT-LED GROWTH MODELS AND THE ASIAN EXPERIENCE

The relationship between trade and growth has been analyzed by many empirical studies. Although the direction of causality is widely debated (does trade cause growth or is it on the reverse?), most of these studies conclude that countries performing the best in terms of economic growth are those that integrate most rapidly in the world economy and trade, Asia being considered the best example of such integration (Dollar and Kraay, 2004; Edwards, 1993). According to these studies, export growth is a source of increased efficiency and productivity gains through various channels: spillover effects, externalities through international competition and diffusion of modern technologies across different sectors, reduction of import constraints, etc. Export-led growth (ELG) strategies have been therefore adopted by most developing countries as a superior development strategy.

2.1. ELG strategies, trade and growth theories

ELG strategies encourage and support the production for exports. Trade is seen as an essential engine of growth as it promotes a more efficient allocation of resources and can bring some dynamic gains (Felipe, 2003). Models of ELG emphasize the possibility that export growth may set up a virtuous circle of growth. They have traditionally been opposed to import

2. *The Economist*, special issue on Vietnam, 24th April 2008.

substitution (IS) policies, aiming at minimizing imports and encouraging production for the domestic market. This is that, once a country is launched on the path, it is able to maintain its competitive position in world trade and perform continually better relative to other countries.

From a macro-economic perspective, ELG can bring several kinds of benefits: "the growth of exports plays a major part in the growth process by stimulating demand and encouraging savings and capital accumulation, and because exports increase the supply potential of the economy, by raising the capacity to import" (Thirlwall, 1994). By supplementing domestic investment for developing an exporting base, Foreign direct investment (FDI) inflows are a key element of ELG strategies: in developing countries, ELG is often led by FDI, which contributed significantly to Asian economic success on the whole (World Bank, 1993).

Although the ELG concept is much older than endogenous growth theories, it is possible to consider the former as an application of the latter. Endogenous growth theories (Romer, 1986; Grossman and Helpman, 1991) consider that technological progress is endogenous (in this they differ from the standard Solow growth model); they emphasize the contribution to growth of learning-by-doing, provided by investment in human capital and in new technologies. If we adopt an international economics's approach, these effects can come through two main channels, that is international trade and investment. On the one hand, exporting is a channel for learning and technological progress (especially through competition), while importing high technology intermediate goods increases productivity (Grossman and Helpman, 1991). On the other hand, FDI complements these positive impacts of trade: subsidiaries of multinational companies are more productive; FDI can bring productivity spillovers; etc. (Cuadros, Orts and Alguacil, 2001).

In this paper, we refer to a standard Heckscher-Ohlin model of international trade with perfect competition and constant returns to scale. We enrich this model, by making the hypothesis that products can be replaced by varieties, which authorizes the possibility of intra-products specialization. As underlined by Schott (2004), this model is consistent with the quality ladder model of Grossman and Helpman (1991) which has high-wage leader countries with an endowment driven comparative advantage in innovation continually developing improved varieties to replace those copied by low-wage followers.

Combining the findings of trade and endogenous growth theory suggests that the interplay of externalities and national or international spillovers of knowledge and technology can be crucial for the diversification experience of "late-comers". The process of structural diversification is characterized by adopting the production of technologically more sophisticated goods and abandoning that of less sophisticated ones. This means that the space vacated by developed countries will be taken by countries which are relatively well advanced in the process of diversification, thereby themselves vacating space for the even less advanced ones (Mayer, 1996). This phenomenon has been widely observed in electronics and textile & clothing.

2.2. Textile & clothing, the initial engine of export growth

The textile & clothing industry offers an example of the shift of industries in Asia from one emerging country to another, as they progressively develop and thus lose their comparative cost advantage: from Japan to lower developed countries (Hong Kong, Korea, etc.) then to other Asian countries (Philippines, Thailand, Indonesia, etc.) and now to China, Vietnam, etc. This process has been called “flight of wild geese” by Akamatsu (1962) and Okita (1985).

Indeed, as happened with Japan a few decades earlier (and with European countries and the US during the XIXth century industrial revolution), textile & clothing has been historically the core industrial sector for all countries starting a take-off process. Many reasons explain why this key role is still valid at the beginning of the twenty-first century: clothing is the first industrial product consumed, it is a sector with requires light investment; the technology is simple; it mostly uses unskilled labour, etc.

This leaves open the question of what specialization can be aimed at, once the development level of a country increases and it has to replace its specialization in textile & clothing by a specialization in other products. Korea is emblematic of a country which passed through the different stages of development and constantly upgraded its trade specialization in hardly more than half a century (Amsden, 1992). Whereas it used to specialize in basic textile-clothing products at the beginning of the 1950's, it progressively diversified to heavy industries (shipbuilding, iron, etc.), to transport equipment and then to high technology (electronics, etc.). As we show below, all Asian emerging countries have followed this path to some extent.

At the same time, recent work has shed a more nuanced light on the relationship between trade specialization and growth. Acemoglu and Ventura (2002) have put in evidence the potential negative impact of trade specialization on long term growth. Whereas in the Solow growth model, all countries are supposed to converge in the long term, this is not the case in endogenous growth models and countries might diverge. Also, Hausmann and Klinger (2007) show that in a factor-specific model the initial pattern of specialization can have an impact on the evolution of a country's specialization.

We try to evaluate in the remainder of this paper whether Vietnam's trade specialization can bring sustainable growth in the medium term, and especially whether competition with China might “crowd out” Vietnam's export growth and block its trade diversification. Following Mayer (1996), we do not define here diversification as the sheer expansion of the number of goods produced and exported but as quality upgrading, which implies efficient use of more advanced technologies and human capital.

3. VIETNAM'S EXPORT-LED GROWTH

Vietnam is a late comer among Asian emerging countries, as its economic take off is very recent. Since the reforms implemented in the mid-1980s followed by the end of the US embargo, Vietnam's growth rate has been among the highest worldwide: GDP has grown at the rate of around 7.5 percent *per year* and foreign trade has expanded at the rate of nearly 20 percent *per year*. At the national level, the proportion of the population living in poverty has been considerably reduced from 54 percent to 16 percent between 1993 and 2006. Before the international economic crisis which started in 2008, Vietnam was expected to become a middle-income country by 2010 (Ministry of Planning and Investment, 2006).³

3.1. Vietnam, the latest Asian emerging economy

At the beginning of the 1980s, Vietnam faced alarming economic difficulties: acute shortage of basic consumer goods (even for staple food products), growing external debt, increasing macro-economic unbalances (inflation, public sector and trade deficits) and economic growth slowdown. Whereas its GDP *per capita* was equivalent to that of China and Thailand at the beginning of the 1950s, Vietnam had completely diverged from these two countries following several decades of war and post-war economic woes (Chaponnière, Cling and Zhou, 2008). In December 1986, eight years after China (December 1978), Vietnam reacted by embarking on a radical reform programme called *Doi Moi* ("Renovation") that marked the adoption of "market socialism". Facing economic difficulties, both countries had to adopt some principles of market economy. Although reform in Vietnam was gradual, as in the case of China, results came quickly in terms of economic growth and integration in the world economy.

As in China, the reforms started in the rural areas where agriculture was virtually decollectivized, farmers were given more autonomy and prices were liberalized. A private sector was authorized, consisting mainly of small and medium enterprises. Major elements of central planning were dismantled. However, Vietnam (as China) has combined a system of market economy with strong state owned enterprises (SOEs) and active economic policies. The Vietnamese model has been qualified as "alliance capitalism" by Beresford (2008), according to the concept defined by Wade (1998) and applied to other Asian emerging countries (China, Korea, Taiwan). As it has been the case in other Asian countries, this model has consisted in promoting big state owned enterprises while following a "heterodox" process of international integration.⁴

Following the East Asian "Dragons" model (World Bank, 1993), Vietnamese trade policy has mixed import substitution measures and export subsidies to promote an export-led

3. The threshold for middle income countries has been fixed by the World Bank at a Gross National Income (GNI) *per capita* of 935 current dollars in 2007. Vietnam's GNI *per capita* was 770 dollars in 2007.

4. The trade liberalization model described here is qualified as "heterodox" by contrast to the "orthodox" trade liberalization model as defined by Williamson (1990). The latter implies rapid "over the board" trade liberalization, with a low effective rate of protection and without trade subsidies or restrictions on FDI.

growth strategy supported by strong FDI inflows. Three characteristics of this strategy should especially be underlined.

First of all, although the external liberalization process was rapid, it was very selective and the effective rate of protection remained high.⁵ The state monopoly of foreign trade was abandoned. The non tariff barriers were reduced. Progress was achieved in a number of areas, including reduction in maximum import tariff rates, the implementation of tariff reductions, etc. However, according to Athukorala (2006b), the effective rate of protection at the eve of joining WTO was still high and higher than in other Asian countries.

Secondly, as it had been the case before in East Asian emerging countries (Amsden, 2001) support policies have played a key role in the export surge, especially for textile & clothing products. These measures have helped to reduce the anti-export bias resulting from the structure of trade protection, which tended to reduce the profitability of exporting compared to producing for the domestic market (Athukorala, 2006b). Tariff exemptions were also introduced for imported inputs used in the production of export goods as well as tax incentives and Export processing zones have multiplied.

Last of all, FDI has been actively promoted but subject to many restrictions (local content, limits on the share of capital detained by foreign investors, etc.). SOEs have been involved in many joint-ventures with foreign investors, with clauses of technology transfers and staff training, in order to increase the local content of the production process (Cao and Tran, 2005).

After the end of the US embargo in 1994, Vietnam sped up its process of international integration. Three trade agreements coming into force into a 10 year-period have had a major impact on trade liberalization and increased market access.

After joining ASEAN (1997), tariffs on imports from ASEAN countries were reduced to below 5 percent in 2006 under the Asian Free Trade Area (AFTA); this tariff reduction was also applied by other ASEAN countries to Vietnamese exports, which benefited from improved market access in the area; an ASEAN-China free trade area is now being implemented.

In 2000, Vietnam signed a bilateral trade agreement (USBTA) with the United States, opening the doors of the American market to Vietnamese products where they were constrained by quotas. As Vietnam's exports to the US have been granted MFN (Most Favoured Nation) status from 2002, the average tariff on American imports from Vietnam dropped from some 40 percent to 3-4 percent.

Vietnam eventually joined the WTO at the beginning of 2007 (5 years after China), almost exactly 20 years after the adoption of Doi Moi. Since joining the WTO, Vietnam benefits from the MFN status in all member countries (which also means that quotas are no longer applied on Vietnamese exports) and has to apply WTO rules; consequently, MFN tariff will

5. The effective rate of protection measures the proportionate increase in protection to value added of a sector due to the complete system of tariffs. It takes into account the protection on output and the cost-raising effects of protection on inputs (Athukorala, 2006b).

be reduced from 17.4 percent to 13.4 percent on average by 2019 and the maximum tariff applied will decrease from 150 percent to 85 percent (World Bank, 2008).

Although it brings various economic gains and especially increased market access, joining WTO puts in question Vietnam's development model as it tends to reduce the intervention of the State in the economy, the capacity to conduct trade and industrial policies, and the importance of SOEs. Vietnam has for example committed to stop subsidizing industrial and agricultural exports which especially means removing tax incentives for export. Restrictions on local content must also be abandoned, and the obligation for foreign investors to form a joint venture with local partners to be removed. Moreover, the SOEs have to follow the "national treatment" principle (no more privileges) and to register on the stock market, which will lead to partial privatization.

The growth of the Vietnamese share of the world market for goods has been remarkable over the last two decades, even compared to China. Export growth is by far the most dynamic among Asian exporters, although the world market share reached in 2006 (0.3 percent) is still far behind Thailand (1 percent) and other major Asian exporters (8 percent for China)⁶. The market share of Vietnam on the world and EU markets has been multiplied by almost 3 from 1995 to 2006. It increased 18 fold on the US market, where Vietnamese exports were totally insignificant in 1995 (as the US embargo ended in 1994 only). The gain on the Japanese market is important but much lower than on the European market. As the dollar has been depreciating since 2003, Vietnam competitiveness has been helped by an exchange rate policy that follows a crawling peg to the dollar. Contrarily to what happened to Vietnam and China, the world market shares of major Asian exporters (Korea, Malaysia, Thailand, etc.) have globally stagnated since the 1997 crisis.

3.2. The contribution of FDI

Although financial liberalization has been slow and modest, Vietnam has received important foreign funding: according to the balance of payment figures, Foreign Direct Investment (FDI) amounted to 6.6 billion dollars (that is 9 percent of GDP) in 2007 (compared to 2 billion dollars in 2006). FDI originate mostly from Asian countries (TABLE 1): the first five foreign investors (Japan, Singapore, Taiwan, Korea and Hong Kong) contributed to 60 percent of total disbursed investment up to 2007.

6. Source: CEPII, CHELEM data bank.

Table 1 - Cumulative amount of foreign investment projects in Vietnam (1988-2007)

Rank		Number (commit.)	Investment (disbursed)		Investment (committed)	
			Amount (billion US\$)	Share of total (percent)	Amount (billion US\$)	Share of total (percent)
	Total	8,684	29.2	100.0	85.1	100.0
1	Japan	934	4.9	16.7	9.2	10.8
2	Singapore	549	3.9	13.4	11.1	13.0
3	Taiwan	1,801	3.1	10.6	10.7	12.5
4	Korea	1,857	2.7	9.2	14.4	16.9
5	Hong Kong	457	2.2	7.5	5.9	6.9
	Total Top 5	5,598	16.8	57.5	51.3	60.3

Source: Ministry of Planning and Investment.

FDI has become a significant contributor to domestic investment (more than 10 percent of gross investment) and exports. FDI picked up with the completion of the WTO negotiation. Up to 2000, the oil and gas sectors were the principal recipients of FDI but from then on, light and heavy industries have received the lion's share. Most of FDI has been conducted under the form of joint ventures with SOEs. This helped the State to orientate international integration as in China, and as it has been done before by other Asian countries, including Thailand (Amsden, 2001).

According to the UNCTAD World Investment Prospects Survey (UNCTAD, 2007), Vietnam ranks now fourth among the most attractive developing countries for FDI, after China, India and Brazil. For Asian firms, Vietnam is increasingly perceived as an alternative to China in labour intensive industries. It is notably the case for Japanese multinationals, as well as for Taiwanese firms. Labour costs in Vietnam are now much lower than in China. In China, labour costs have increased strongly as labour laws are applied more stringently and the new tax system is considered as a deterrent for foreign investors (JETRO, 2008a). For Japanese companies investing in Asia, Vietnam is seen as the optimal base for business deployment and production in the medium and long term (next five to ten years), especially for the production of electric machinery and electronic equipment (JETRO, 2008b).

Since reliable wage data are not available, minimum wages provide an indication of the wage differences and they provide a relevant indicator of wages for unskilled workers in exporting industries. At the beginning of 2009, the monthly minimum wage was established at a maximum of 72 dollars in Vietnam (it varies according to the region) and to more than 100 dollars in China's main industrial centres. In 10 years (1999-2009), the minimum wage in Vietnam has increased by 80 percent (in dollars). Compared to low income countries, Vietnam has also an excellent education record: the primary completion rate is close to

100 percent and the gross enrolment ratio for secondary school is as high as 76 percent, which is superior to China's and Thailand's (73 percent in both cases).⁷

The contribution of FDI to Vietnamese exports amounts to 56 percent, a percentage similar to China's (52 percent)⁸ but lower than Thailand's (63 percent) (Athukorala, 2006c). The share of FDI in manufacturing exports is over 70 percent. In some industries (cars and motorbikes, electronics), the percentage is even higher. According to Athukorala (2006b), this characteristic is partly due to the anti-export bias in trade protection, which has probably hindered the emergence of pure private sector firms as an engine for export growth. The diagnosis of an anti-export bias might seem in contradiction with the strong export performance underlined here above. As a matter of fact, it is mostly relevant for domestic companies. What is important for foreign firms investing in Vietnam is the relative profitability of producing in Vietnam compared to producing in other countries. However, the application of WTO commitments is reducing the anti-export bias: the tariffs for intermediate goods have been increased (steel) and the ones for consumer goods (especially textile-clothing) have been strongly reduced. The low degree of local integration of foreign enterprises, combined with the weakness of the sector of intermediate goods (no oil refinery, most entrants for the clothing industry are imported, etc.) explain that the trade openness ratio – measured as the ratio of merchandise exports+imports to GDP – is very high (140 percent) and increasing.

FDI has therefore had a key contribution to the success of Vietnam's ELG strategy. FDI contributed to strong trade and economic growth by being at the core of the export base, by bringing capital, skills and training, by creating employment (over one million employees work in FDI companies) raising incomes (the minimum wage in FDI companies is double the one in domestic companies), etc. Moreover, Nguyen *et al.* (2008) find evidence of the positive backward technological spillovers of FDI for the manufacturing sector.

4. VIETNAM'S TRADE SPECIALISATION, STILL CHARACTERISTIC OF A LOW-INCOME COUNTRY

In this section, we analyse Vietnam's trade specialization using indicators of revealed comparative advantage. This specialization is consistent with a Heckscher-Ohlin model of trade, as Vietnam exports mainly labour-intensive goods and raw materials and imports intermediate and equipment goods. In spite of its rapid progress, Vietnam is still at the early stages of industrialization and international integration. We also compare Vietnam's specialization with other Asian emerging countries' in order to characterize Asian trade patterns and evaluate Vietnam's participation to the Asian production network. We comment the evolution of these specializations over the 1996-2006 period.

7. Source: World Bank, World Development Indicators 2007.

8. Source: Chinese Customs Statistics.

4.1. The Balassa index of revealed comparative advantage (RCA)

The specialization of Vietnamese foreign trade is analyzed here using the indicators of revealed comparative advantage (RCA), drawn from Balassa (1965). This indicator considers that comparative advantage may be “revealed” by observed trade patterns supposed to reflect both relative costs and differences in non-price factors (Havrila and Gunawardana, 2003). It is difficult to establish a link with theory as RCA supposes that the actual trade specialization corresponds exactly to the structure of comparative advantages, but does not indicate the source of these advantages. The benefit of using these indicators is that we do not restrict ourselves to analysing the breakdown of Vietnamese trade independently from the rest of the world, but we analyse Vietnam’s specialization relatively to the structure of world trade.

Instead of relative export structures, as in the classic Balassa (1965) method, the analytical indicator used here is based on the share of the total trade balance and takes into account the size of each country’s market as well as the share of the product in world trade. This indicator built by the CEPII⁹ has been used by a large number of studies on international trade over several decades. If the value of the index is positive the country has a revealed comparative advantage (if negative a comparative disadvantage).¹⁰

Compared to the classic Balassa indicator, the CEPII indicator has two main advantages: it is additive (the RCA for a particular branch of activity is equal to the sum of the RCAs for all the sub-branches), which allows us aggregating RCAs to provide a more complex analysis of specialization; it also allows time comparisons, which is not possible in the traditional indicator where the RCA for a product can grow between two particular years only because the share of this product in world trade has increased.¹¹

We use the CHELEM database of the CEPII (de Saint Vaulry, 2008). CHELEM brings together trade flows (goods), which are broken-down into 71 product categories. These trade figures are given in current US dollars (millions) and available from 1967. Trade statistics for flows between geographic zones (countries and country groups) are provided for each year, and for each product category, in a single, “harmonised” matrix. We calculate the comparative advantages at the most detailed level of the CHELEM sectoral classification. The advantage by branch (energy, food & agriculture, etc.) is then calculated by summing.

9. Centre d’Études Prospectives et d’Informations Internationales.

10. For the presentation of the methodology, see de Saint Vaulry (2008).

11. A modified Balassa indicator correcting for the share of a product in world trade has been proposed by Cai and Leung (2008). Although this indicator allows time comparisons it is not additive, unlike the CEPII indicator which is therefore better adapted to our analysis.

Thus, we compute first the trade balance for country i and product k in relation to gross domestic product at current exchange rate, giving (in thousandths):

$$y_{ik} = 1000 \times \frac{X_{ik} - M_{ik}}{Y_i}$$

X_{ik} stand for exports from country i of product k , M_{ik} for imports by country i of product k , Y_i for GDP of country i . X_i and M_i stand for total exports (respectively imports) of country i . Then, the contribution of product k to the trade balance relative to total trade flows is defined as:

$$f_{ik} = y_{ik} - g_{ik} \times y_i \quad (1)$$

where g_{ik} is the share of product k in country i 's trade, and y_i is the overall trade balance of country i in relation to GDP:

$$g_{ik} = \frac{X_{ik} + M_{ik}}{X_i + M_i}$$

$$y_i = 1000 \times \frac{X_i - M_i}{Y_i}$$

Finally, we need to eliminate the impact of changes that are not specific to the country in question, but result from the evolution of the share of the product in world trade. To adjust trade flows with respect to a base year T , we multiply both exports X_i and imports M_i in each year $t \neq T$ by relative world weights:

$$e_k^t = \frac{(X_k^T + M_k^T) / (X^T + M^T)}{(X_k^t + M_k^t) / (X^t + M^t)}$$

That is:

$$RCA_{ik}^t = (y_{ik}^t \times g_{ik}^t \times y_i^t) \times e_k^t \quad (2)$$

The revealed comparative advantage indicator RCA_{ik} for year T is identical to the one given by equation (1). For all the other years $t \neq T$, the difference increases as world trade in product k diverges from the average trend for all commodities.

Vietnam's revealed comparative advantages rely on natural resources and labour-intensive goods.

Vietnam's specialization is very specific among Asian emerging countries, as it still mainly focuses on "horizontal" trade in which traded goods are produced from start to finish in one country. Its exports are based on its natural and labour resources while imports mostly consist of equipment and intermediate goods. The structure of revealed comparative advantages/disadvantages reflects this specialization pattern (TABLE 2).

Crude oil is both Vietnam's first export product and revealed comparative advantage. Vietnam also exports many agricultural products: it ranks first in the world for pepper and cashew nuts, and second for rice (from the fertile Red River and Mekong deltas) and coffee exports, while exports of aquatic products are growing fast. Accordingly, several agricultural products are among its main revealed comparative advantages. Public policies have contributed to this specialization, by promoting new cash crops, granting land for these crops, etc. (Nguyen and Grote, 2004). As it is the case for other low-income countries, refined oil is the first comparative disadvantage (12 percent of imports)¹², followed by yarn & fabric used by the textile & clothing industry, and by other intermediate products (iron & steel, plastic products) and specialized machinery.

However, manufactured products represent the bulk of exports since the beginning of the 2000s (FIGURE 1). Textile & clothing and leather (shoes) products are the first Vietnamese exports and among the main revealed comparative advantages. This predominance is characteristic of a developing country at the early stages of its industrialization process. Poor countries such as Vietnam have a huge supply of cheap labour and therefore are the most competitive in this labour intensive sector, which corresponds to the Heckscher-Ohlin international trade framework where each country takes advantage of its relative factor endowments. As shown by Athukorala (2006a), the capital per worker is the lowest for these products.

12. At present, there are no oil refineries in Vietnam. A first refinery will start operating in 2009 in Dung Quat. Some other refinery projects are under construction.

Table 2 - Revealed comparative advantages for Vietnam and major Asian exporters (2006)

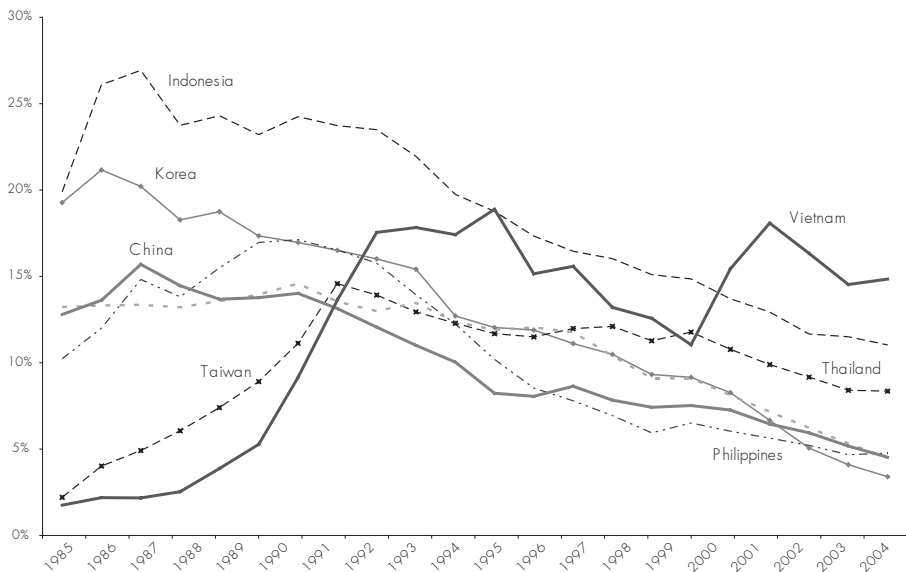
Unit: 1/1000 of GDP

	China	Indonesia	Korea	Malaysia	Philippin.	Taiwan	Thailand	Vietnam
Energy	-23.5	3.8	-59.6	27.8	-40.5	-59.6	-67.2	18.1
Food agric.	-11.3	12.8	-16.6	12.4	-9.4	-19.9	57.7	58.1
Textile-cloth.	50.6	18.2	4.0	10.1	10.9	29.4	28.9	122.7
Yarns-Fabrics	1.8	-0.7	7.3	-1.6	-12.3	26.5	-0.7	-63.8
Clothing	15.3	7.7	-2.6	0.2	10.3	-0.8	6.3	62.4
Knitwear	12.3	6.9	0.0	4.3	12.5	1.0	12.2	37.1
Carpets	4.8	-0.1	0.7	-0.8	0.2	2.2	1.8	2.7
Leather	16.4	4.4	-1.4	8.0	0.2	0.5	9.3	84.2
Wood paper	20.8	11.4	-4.9	11.4	-4.9	10.9	-0.2	23.5
Furniture	7.8	3.8	2.6	-0.9	9.8	2.5	4.5	31.3
Chemicals	-19.0	-19.7	0.7	-18.9	-37.6	-15.8	-6.3	-82.1
Iron steel	-6.0	-7.2	-3.4	-15.7	-6.2	-1.1	-20.1	-32.4
Non ferrous	-9.8	8.2	-8.9	-14.8	2.5	-16.4	-16.4	-12.0
Machinery	-17.9	-27.3	7.5	-69.1	-37.7	-11.2	-45.7	-61.5
Engines	-3.1	-7.2	-2.1	-9.0	-4.6	-10.5	0.1	-11.9
Agric. equip.	0.1	-0.3	-0.1	-0.5	-0.3	0.1	-1.3	-0.7
Machine tools	-4.3	-1.9	-2.7	-7.1	-3.0	0.0	-7.5	-8.2
Constr. equip	-0.5	-2.1	2.6	-3.6	-1.5	-1.4	-2.0	-6.3
Spec. mach.	-7.6	-6.4	-3.3	-14.5	-9.0	-10.8	-14.5	-23.8
Precis. instr.	-3.1	-7.2	-2.1	-9.0	-4.6	-10.5	0.1	-11.9
Vehicules	-3.8	-5.4	42.8	-24.6	-10.7	3.1	21.6	-13.4
Vehic.compon	-3.5	-1.3	6.5	-11.5	0.3	2.4	-5.2	-3.7
Cars/ cycles	-0.7	-2.6	34.4	-10.2	-7.6	2.7	12.6	-4.3
Comm. vehic.	0.3	-1.5	1.9	-3.0	-3.3	-2.0	14.2	-5.4
Ships	0.9	-2.9	18.0	-3.3	-0.7	1.0	0.2	-2.1
Aeronautics	-9.3	-1.8	-5.7	-21.4	-11.3	-6.7	-13.3	-1.0
Electrical	8.9	1.4	-0.9	-38.8	9.9	19.1	1.5	-2.1
Domesticel.ap.	5.2	-0.3	2.8	1.9	-0.5	-0.2	6.6	-0.9
Elect. equip	1.8	0.6	-1.8	-8.2	7.5	0.3	1.1	-0.6
Electr. appar.	1.9	1.1	-1.9	-32.5	2.9	19.0	-6.2	-0.6
Electronics	11.0	3.8	39.3	120.2	123.6	61.4	46.2	-18.8
Optics	-6.2	0.1	7.5	-5.8	-0.7	16.1	1.1	-0.3
Elec. compon.	-34.0	-0.7	2.3	-63.8	61.1	16.6	-13.3	-6.3
Consum.electr	10.2	3.9	2.2	24.9	1.8	3.7	13.1	1.3
Telecom.equip	12.3	-3.1	24.3	52.8	3.6	8.0	6.0	-10.4
Comput.equip.	30.9	5.0	8.9	114.7	61.5	26.6	44.9	3.6

Source: CEPII, CHELEM data bank.

As shown on FIGURE 1, the share of textile & clothing in total exports of goods is much higher than in the case of major Asian exporters, where this share has peaked in the 1980s and has been progressively declining since then. Apart from Vietnam, only China, Indonesia, the Philippines and Thailand are still specialized in clothing products, whereas the more advanced countries (Korea, Malaysia and Taiwan) have moved up the ladder. Although the share of these products in Vietnamese exports has temporarily stopped growing at the beginning of the 2000s, it resumed its surge from 2007, following WTO accession.¹³

Figure 1 – Share of textile & clothing in total exports



Source: CEPIL, CHELEM data bank.

On the whole, Vietnam's trade specialization appears relatively stable over the 1996-2006 period (with the exception of furniture and to a lower degree of computer equipment), contrarily to China's and other Asian major exporters' specialization (TABLE 3). The revealed comparative advantage of Vietnam for textile & clothing (aggregating clothing and knitwear) has been relatively stable whereas the RCA for the latter countries has strongly declined over the same period (TABLE 3). China and the other Asian countries have strongly increased their specialization in computer equipment and electronic products but this is not so much the case for Vietnam.

13. The data are available only for Vietnam and not for other Asian countries. This is why FIGURE 1 ends in 2006.

Table 3 - Revealed comparative advantages for Vietnam & major Asian exporters (1996)

Unit: 1/1000 of GDP

	China	Indonesia	Korea	Malaysia	Philippin.	Taiwan	Thailand	Vietnam
Energy	-2.9	46.4	-39.3	43.7	-22.6	-31.3	-28.8	48.5
Food agric.	-0.3	6.9	-9.8	26.3	3.0	-12.3	43.8	52.8
Textile-cloth.	34.4	22.6	23.2	19.7	28.5	36.0	32.8	72.3
Yarns-Fabrics	-3.6	-1.5	13.2	-1.6	-11.8	22.9	0.1	-31.4
Clothing	10.1	11.2	1.4	4.0	16.1	1.3	10.3	30.6
Knitwear	8.4	7.7	2.8	7.2	11.7	3.4	14.6	10.3
Carpets	2.8	0.1	2.1	-0.5	0.4	3.0	2.2	2.4
Leather	14.4	7.5	2.1	7.7	4.3	2.3	14.6	60.6
Wood paper	11.0	17.5	0.5	15.9	3.3	10.9	4.1	6.1
Furniture	4.5	5.9	3.8	-0.1	10.5	3.8	6.6	11.3
Chemicals	-11.3	-21.2	-1.5	-26.9	-26.9	-16.4	-13.0	-45.1
Iron steel	-6.2	-7.9	-2.3	-22.2	-7.8	-8.6	-12.9	-9.5
Non ferrous	-3.2	4.6	-6.3	-7.9	1.7	-10.7	-6.0	-1.7
Machinery	-23.9	-45.4	-14.2	-75.8	-39.1	-4.4	-40.5	-70.7
Engines	-3.3	-10.2	0.1	-15.1	-6.8	-7.2	-0.9	-10.2
Agric. equip.	-0.1	-0.3	-0.1	-0.6	-0.4	0.0	-0.6	-0.8
Machine tools	-2.0	-3.1	-1.6	-8.3	-3.0	1.4	-5.4	-4.8
Constr. equip	-0.9	-4.4	1.6	-4.1	-1.9	-1.1	-2.1	-6.2
Spec. mach.	-6.8	-10.3	-3.5	-17.7	-8.7	-7.0	-15.0	-18.5
Precis. instr.	-2.1	-2.2	-5.0	-7.2	-3.7	-8.0	-4.1	-3.9
Vehicules	-2.3	-10.1	21.6	-29.8	-16.8	0.6	-20.2	-21.5
Vehic.compon	-1.3	-4.7	0.3	-7.7	-0.9	1.7	-7.6	-2.7
Cars/ cycles	0.2	-4.4	25.3	-8.3	-5.2	2.3	3.1	-10.9
Comm. vehic.	-0.1	-1.9	1.9	-3.8	-2.9	-0.5	6.9	-8.4
Ships	0.1	-5.7	15.5	-1.5	-1.8	0.5	-1.1	-0.2
Aeronautics	-4.3	-1.6	-3.7	-10.4	-2.6	-7.1	-10.6	-2.4
Electrical	5.0	-7.8	5.3	-29	-5.3	9.3	-0.4	-10.6
Domesticel.ap.	3.6	-0.5	3.2	0.0	-0.6	1.0	5.5	-0.4
Elect. equip	0.7	0.5	-1.1	-5.0	2.4	1.1	4.4	-0.9
Electr. appar.	2.4	-0.8	-3.2	-31.6	-5.0	6.7	-7.6	1.4
Electronics	-0.4	-5.6	22.9	85.9	82.0	26.9	41.1	-20.6
Optics	-0.7	0.5	-2.7	-4.2	-0.1	-3.4	2.8	-0.2
Elec. compon.	-11.6	-3.3	-4.4	-57.0	46.4	-19.7	-19.3	-7.0
Consum.electr	6.3	9.6	4.8	58.7	3.2	1.6	11.2	-0.4
Telecom.equip	-0.5	-3.0	16.0	13.5	-2.0	2.6	-3.0	-5.6
Comput.equip.	5.1	7.9	12.9	110.7	81.0	46.7	32.9	-2.2

Source: CEPIL, CHELEM data bank.

Thanks to FDI in the electronic and telecommunication equipment (mobile phones), the share of these products in Vietnamese exports is progressively increasing and computer equipment products have become a new revealed comparative advantage. This advantage will increase once the recent large projects in the electronics sector will come on stream.

This evolution generates so-called “vertical” specialization (also called “trade fragmentation”) in which each stage of production is located in a different country in order to minimize the cost of production for this particular stage. Explaining the determining factors of the development of the electronics and computer equipment is more complex than for labour intensive goods such as textile-clothing. Although labour costs play an important role (Vietnam specializing in the bottom end of the production chain), other factors come into play such as the proximity to China and the education level of labour force (Vietnam is well placed in this respect).

All the other countries participate actively to the Asian electronic regional network in which China plays a central role. As a consequence, their first revealed comparative advantage is in computer products (other electronic products also rank high),¹⁴ except for Indonesia whose main RCA is still found in textile & clothing. Other manufactured products and textile & clothing (shoes, clothing and knitwear) come only second in the case of China.

This Asian electronic network characterizes by two main elements: on the one hand, an increasing “vertical” specialization, corresponding to the splitting up of the value added chain; on the other hand, a growing importance in intra-Asian flows of trade of intermediate goods (mostly parts and components), especially for electronic products (Gaulier, Lemoine and Ünal-Kesenci, 2005). Contrarily to textile-clothing, these products are more capital intensive, although not all the production segments are so.

As underlined here above, this new kind of trade specialization is based on the same kind of comparative advantages as the traditional one (Athukorala, 2006a). But it also brings some new benefits: first of all, on the long term, electronic products are the most dynamic in world trade and the potential for export and production growth is therefore very high; secondly, the regional production networks generate more complementarities than competition between countries in the region, so this reduces the threat related with competition with China; last of all, one might consider that the learning effects might be more important in high technology products such as electronics than in textile & clothing.

5. VIETNAM, NOT BEING “CROWDED OUT” BY CHINA ON THE US MARKET FOR CLOTHING

In the Section 4, we showed that Vietnam’s trade combines two types of international specialization, both based on the valorization of its comparative advantages. An “horizontal” specialization, which is still dominant, is based on exports of labour-intensive goods to

14. The Asian production network does not concern only electronics but also other products: Thailand has become one of the manufacturing hub of Japanese carmakers in South East Asia.

developed countries' markets, especially textile & clothing products. An emerging "vertical" specialization corresponds to integration in regional production networks. While labour costs are also important in this second type of specialization, complementarities with China and other emerging Asian countries play an important role.

In this section, we compare the structure of Vietnamese exports to the US markets with the one of China and other major Asian exporters, by using two different indicators of export similarity. We then focus on the exports of textile & clothing to the United States, which is the main market for Vietnamese products, in order to evaluate the competition with China on this market. We use the United States Customs' detailed data at different levels of disaggregation. Imports by the United States include tariffs, and costs of insurance and freight (CIF).

5.1. Vietnam's and China's exports to the United States

As Vietnamese exports diversify rapidly, their structure may be similar to the Chinese one, threatening thus the future of Vietnamese exports. In order to appreciate this evolution, we measured, for the US market, the proximity of the export structure of Vietnam with the export structures of China, Thailand and Indonesia from 2001 to 2007. We used SITC 3 digit level data, which corresponds to 263 products.¹⁵

We calculated two indicators:

- one is the usual export similarity index proposed by Finger and Kreinin (1979), which is the most commonly used for this kind of comparisons;
- the second one is an indicator proposed by Linnemann (1966), which is also used quite often (Van Beers and Biessen, 1996).

It has to be underlined that none of these indicators reflect the degree of competition for exports of the two countries on the third market. Both of them focus on export structure rather than the absolute volume of exports.

The Finger Kreinin export similarity index for two countries i and j is defined as:

$$FK_{ij} = \sum_k \min(S_{ik}, S_{jk}) \times 100 \quad (3)$$

where S_{ik} represents country i 's share of export of product k to the third market in its total exports toward the third market and S_{jk} country j 's share of export of product k to the third market in its total exports toward the third market. The indicator varies between 0 (total dissimilarity) to 100 (similarity).

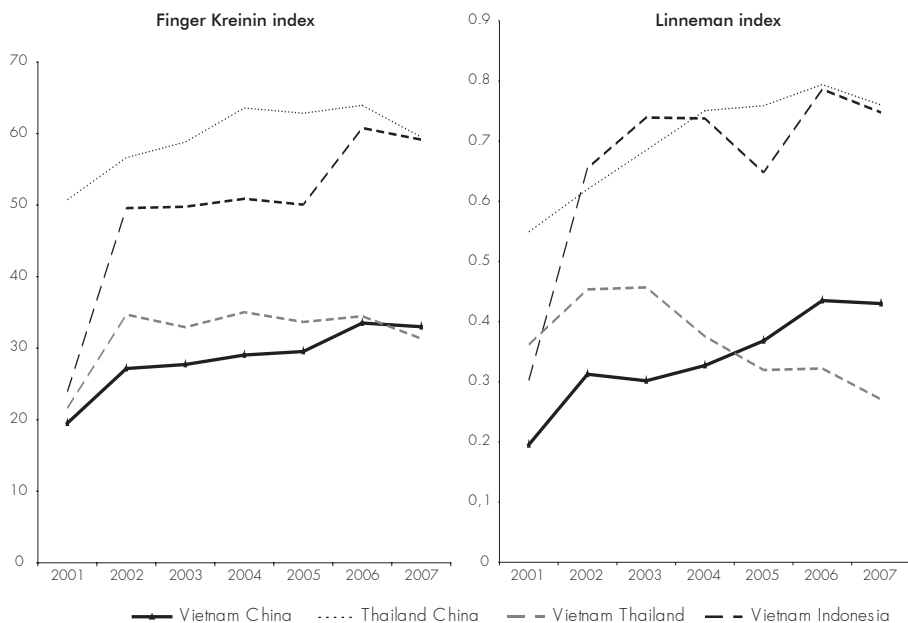
15. Source: United States International Trade Commission (USITC).
http://dataweb.usitc.gov/scripts/user_set.asp.

The Linneman indicator is used for measuring parallelism between export structures. We consider vectors E_{ik} and E_{jk} for $k=1, \dots, n$ ($n=263$ items) that represent the exports of countries i and j . The value of this indicator corresponds to the cosine of the angle between these two vectors, which evolves between 0 (total dissimilarity) to 1 (similarity). The indicator is defined as follows (Linnemann, 1966):

$$\text{Cos}_{ij} = \frac{\sum_k E_{ik} \times E_{jk}}{\sqrt{\sum_k E_{ik}^2 \times \sum_k E_{jk}^2}} \quad (4)$$

Even if the year to year variations of the indicators are different (their levels are not comparable), their trends are similar as well as their rankings (FIGURE 2). According to both indicators, the structures of Vietnamese and Chinese exports used to be pretty dissimilar in 2001 but appear to be a little closer in 2007; this increased proximity is due to the export boom of Vietnamese exports of textile & clothing (which were previously insignificant) since the opening of the US market (USBTA); On the whole, the Chinese specialization remains however very different from the Vietnamese one. Thailand's export structure is very near to China's and very dissimilar to Vietnam's. Among major Asian exporters, Vietnam's structure only appears close to Indonesia's, with a growing similarity over 2001-2007.

Figure 2 - Proximity of Vietnam's export structure on the US market with China, Indonesia and Thailand (2001-2007)



Source: Computed by the authors, from USITC (SITC 3 digits).

According to Rodrik (2006), China is an outlier in terms of the overall sophistication of its exports, as its export structure is that of a country with an income-per-capita level much higher than China's. According to him, China's specialization is therefore not consistent with its comparative advantage. This characteristic could stimulate economic growth (through technological progress) in the long run.¹⁶ In spite of their different development level (their GDP *per capita* in purchasing power parity is respectively 5,300 and 8,100 dollars in 2007, the value for Vietnam being 2,600 dollars only), the specialization of China and Thailand appear for example relatively close.

As it is well known, the value of these indicators of export similarity is highly dependent of the choice of indicators and of the level of disaggregation (the value tends to decrease with increased disaggregation). Furthermore, as stated by Lall and Albaladejo (2004), these similarities or absence of similarities reveal either an absence of competition or a potential for competition. They do not demonstrate that competition actually exists as product categories are still broad (for example, in our classification in 263 products, all shoes exports are grouped in one category only) and may include products that do not compete with each other. Even if the products were comparable, it would be possible that countries specialize in differentiated versions (= varieties). Even in the same product, countries may complement each other by performing different functions within an integrated production system.

Because of these different elements, it is therefore necessary to proceed with a more detailed comparison of Vietnam's and China's specialisation. This is what we do in the next part, focusing on the case of textile & clothing exports to the American market which are Vietnam's main export products to this market.

5.2. Vietnamese and Chinese clothing exports, both benefiting from WTO

Because of the predominant weight of textile-clothing in Vietnam's manufactured exports, it is especially important to assess recent Vietnamese performance in this sector and future potential. This is all the more so as the international competition has increased in this sector since the beginning of 2005, following the final dismantling of quotas imposed to Asian countries.¹⁷ Several empirical studies anticipated that this would benefit China which would dramatically increase its market share, but that all other countries (with the possible exception of India) including Vietnam would lose out (Athukorala, 2007; Nordas, 2003). In this Section we analyse the evolution of major suppliers' exports on the American market including Vietnam, in order to check whether these anticipations were correct. Our analysis draws on US Custom data drawn from the Office of Textile and Apparel's (Otexa) website.

16. Rodrik's conclusions are not shared by Branstetter and Lardy (2006). The latter argue that foreign firms in the electronics and information technology in China are almost entirely wholly foreign-owned and therefore tend to protect their technology, which limits the diffusion of technology to domestic firms.

17. The Multi-Fibre Arrangements (MFAs) were established in 1974. These agreements imposed quotas on Asian exports of textile & clothing to industrialized countries. The Agreement on Textile & Clothing (ATC) signed in 1994 organized the progressive dismantling of these quotas during a 10-year period which ended at the beginning of 2005.

Being a member of the WTO since the end of 2001, China appears indeed as the main beneficiary from the end of quotas (TABLE 4): its exports to the US have more than doubled between 2004 and 2007 (in spite of new restrictions quickly re-imposed on Chinese exports until the end of 2008). Thanks to a similar growth on the European Union market, China is now by far the first exporter of textile & clothing on all major industrialized markets.

Vietnam also benefited from the new international context for these products (although the US have imposed quotas within the USBTA until the end of 2006): it now ranks fourth among exporters to the industrialized countries' markets (EU, USA and Japan); its exports to major markets have grown at a strong pace over recent years (so has its market share), except in Japan where China's market share is around 80 percent.

Table 4 - The US clothing imports from ten major suppliers

	2001	2002	2003	2004	2005	2006	2007	2008	million \$ Market share (2008, percent)
Total	58,472	58,627	62,828	66,757	70,718	73,313	75,487	73,010	100.0
1. China	4,540	5,213	6,377	8,182	13,089	16,027	23,955	23,983	32.8
2. Vietnam	47	481	2,337	2,502	2,663	3,153	4,333	5,220	7.1
3. Mexico	8,027	7,638	7,098	6,843	6,230	5,448	4,630	4,128	5.7
4. Indonesia	2,203	2,049	2,153	2,390	2,868	3,666	3,983	4,028	5.5
5. Bangladesh	1,928	1,757	1,758	1,871	2,268	2,808	3,631	3,474	4.8
6. India	1,775	1,940	2,059	2,256	3,064	3,235	3,217	3,110	4.3
7. Honduras	2,437	2,502	2,568	2,086	2,685	2,517	2,587	2,668	3.7
8. Cambodia	558	1,026	1,229	1,417	1,703	2,131	2,421	2,369	3.2
9. Hong Kong	4,176	3,873	3,707	3,863	3,508	2,799	2,028	1,554	2.1
10. Thailand	1,839	1,747	1,741	1,821	1,831	1,857	1,790	1,691	2.3

Source: USITC.

As Vietnam joined the WTO in 2007, its exports growth rate increased, as they were not be subjected to quotas anymore. Indeed, overtaking Mexico (after overtaking India in 2007), Vietnam has become the second exporter of textile & clothing on the American market in 2008 behind China. In spite of the American economic recession in 2008, Vietnam is even the only one among the ten major exporters to the United States whose exports have kept growing rapidly. On the contrary, China's exports have stagnated in 2008 and all the other major exporters' sales have either done so or even declined. The United States are by far the main market for Vietnam as they absorb more than half of its textile & clothing exports (a slowly declining share due to the increasing geographic diversification of exports). For Vietnam, the United States dwarf all the other markets. This is not the case for China, for which the United States and Japan each represent less than 20 percent of exports only, compared to 32 percent for the European Union which is China's main market.

Other Asian low-income countries (Bangladesh, Cambodia, India, etc.) have also benefitted from a strong export growth on the US market for these products since the end of quotas. These countries have a relatively similar low labour cost and high overall competitiveness for these products. Inversely, middle-income Asian (such as Thailand,) and Latin American (Mexico) countries have lost considerable ground in recent years. African countries are also among the main losers after the end of quotas. To sum it up, there has been indeed some "crowding out" for these products, due to the emergence of China. But Vietnam has not been a victim of this "crowding out" effect thanks to its competitiveness.

In order to go further in competition analysis based on prices comparisons, we also analyse detailed Harmonized Tariff Schedule data.¹⁸ We limit our comparison to two products, which are Vietnam's main clothing exports: women's cotton shirts and trousers.¹⁹

For these products, we compute unit values for exports, using the following formula:

$$UV_i = V_i / Q_i \quad (5)$$

where UV_i is the unit value, V_i the value of the product exports and Q_i the quantity (expressed in dozens).

One has to take into account that measurement errors are very important for price/quantity trade data, which suggests that a 10 percent price difference is not significant. But even at this very detailed level, the ratio between the most expensive and the cheapest unit values for men's and women's cotton shirts and trousers exported by major exporters to the US market is more than 5 to 1 (TABLE 5), which is far superior to measurement errors. In order to analyze the source of these price differences, we need to consider price determinants for clothing products.

As emphasized by Schott (2004), clothing products are a good example of products for which there exists perfect competition but with a differentiation by quality (variety). Competition between Asian countries is very acute for basic products (ie standard cotton shirts) for which prices are relatively homogeneous. Middle income countries whose production costs become too high (such as currently Thailand) progressively disengage from these productions which become non-profitable. These countries, as well as developed countries, then specialize in "niches" of higher quality products for which the market is much smaller, and where other elements than price competitiveness can play (image, human capital needed to increase quality, etc.). For example, according to the same data, the price of an Italian woman's cotton shirt imported on the US market is over ten times as high as the price of a Vietnamese shirt on average.

Following Schott and applying his analysis to the main exporters to the American market, we distinguish three categories of producers for women's shirts and trousers, knowing that these

18. Source: <http://otexa.ita.doc.gov/scripts/tqads1.exe/catpage>. The data is drawn from US custom data. The 3-digit level classification which is used by the Office of Textiles and Apparel (Otexa) is derived from HTS and specific to textile & clothing.

19. Shirts and trousers represent around half of Vietnam's clothing exports but only one quarter of China's. Chinese exports are much more diversified (baby garments, wool sweaters, etc.).

categories depend on the product considered (one country can be part of one category for one product and of another for a second product).

First of all, some countries produce and export the lowest quality goods which are also the cheapest. This is the case of Bangladesh which is a low income country, among the poorest in the world; it is also the case of Honduras (which has systematically the lowest prices for these two products), and of Mexico (for shirts only) which are both middle income countries; Honduras and Mexico benefit from duty free access to the US market and from low transport costs due to their proximity to the United States, which partly compensates for higher labour costs than in Bangladesh. However, Mexico progressively disengages from exporting shirts, due to its much higher labour costs than in the two other countries in this group, without being able to move up the ladder for these products.

Some other countries export the most expensive goods (among the major exporters). This is the case for China for both products considered, as well as (for trousers only) for Mexico and Thailand. The two latter countries get crowded out by China for these products and get progressively driven out of the market.²⁰

Although it is still a low-income country, Vietnam appears to be in an intermediate position as far as prices (unit values) are concerned. Export prices are very close (more or less ten percent than the average) for Vietnam, Cambodia, India and Indonesia, who produce the same cheap product category.

Fontagné, Gaulier and Zignago (2008) underline that only the joint evolution of prices and market shares allows inference on competition on market segments. Analysing these joint evolutions suggests that Vietnam and China do not seem to produce and export the same variety of products and therefore to compete on the same market segments. First, their average unit prices are significantly different, with relative prices remaining stable over the last few years: in 2008, Chinese unit price was superior to Vietnamese unit price by 63 percent for women's cotton blouses & shirts, and by 38 percent for women's cotton trousers. Secondly, both countries' exports are increasing regularly and registering an equivalent growth rate for these two products, as it is the case on the whole for textile & clothing. Between 2005 and 2008, the market shares of China and Vietnam increased from 5.9 percent (for both countries) to respectively 16.5 percent and 13.4 percent for women's cotton blouses & shirts. For women's cotton trousers, market shares increased from 10 percent to 19.9 percent in the case of China and from 4.9 percent to 9.2 percent for Vietnam.

In the next few years, as it has been the case for other Asian emerging countries (and already now for China), Vietnam, if becoming a middle income country, will raise the question of quality upgrading.

This upgrading could first of all take place within the clothing sector, as Vietnamese companies progressively gain experience. Rather than being almost exclusively sub-contracted to produce

20. We do not analyse here the specific case of Hong Kong. Although it still has its own trade statistics, Hong Kong mostly re-exports clothing products coming from the rest of China (Guangdong). Therefore, the decrease in its exports could only be the consequence of Chinese exporters deciding to export from other Chinese harbours.

cheap standard products (mostly shirts and trousers), Vietnamese companies could start designing, producing and exporting more sophisticated shirts sold under their own brand and through their own distribution networks. China and other Asian countries have followed this strategy and North African countries are now trying to do the same (Chaponnière, Cling and Marouani, 2005). Following China's path would also imply acquiring new skills in order not to rely on a limited number of products subject to severe international competition and to increase the number of products.

Table 5 - Unit prices for major exporters (2008)

	Women's knit blouses & shirts of cotton (339)			Women's trousers of cotton (348)		
	Value (million)	Number (thousand dozens)	Unit price (dollars/ unit)	Value (million)	Number (thousand dozens)	Unit price (dollars/ unit)
1. China	1,368	23,403	4.9	1,346	17,361	6.5
2. Vietnam	1,112	30,613	3.0	621	11,083	4.7
3. Mexico	370	17,910	1.7	478	5,748	6.9
4. Indonesia	681	19,256	2.9	439	8,096	4.5
5. Bangladesh	157	7,016	1.9	471	9,549	4.1
6. India	341	9,125	3.1	283	4,483	5.3
7. Honduras	351	17,272	1.7	64	2,664	2.0
8. Cambodia	532	16,149	2.7	465	8,265	4.7
9. Hong Kong	364	4,637	6.5	370	3,896	7.9
10. Thailand	97	3,165	2.6	95	1,260	6.3
US Imports	8,302	233,340	3.0	6,775	107,096	5.3

Note: In order to make comparisons easier, the list of countries in this table is the same as in TABLE 4 as well as their ranking. But this ranking does not correspond to the ranking of major exporters of shirts or trousers. Also, some of the major exporters of shirts and trousers to the United States are not in this list.

Sources: Otexa and USITC.

One could also expect a progressive replacement of clothing as growth engine for exports. As other Asian countries have done before, one of the priorities followed by the Vietnamese government is to reinforce the State owned sector in order to stimulate in partnership with FDI the production of upstream industries (steel, petrochemicals, refining and fertilizers) (Cao and Tran, 2005). Making inroads in high technologies, and especially integrating the Asian production network for electronics, is also another priority which is currently being implemented (see recent FDI in electronics and the appearance of outsourcing activities).

6. CONCLUSION

At the beginning of the 1980s, Vietnam was still recovering from a three-decade long devastating war first with France then with the US, followed by a rising tension with China which culminated in a war at its border in 1979. It was also suffering from an embargo imposed by the United States until 1994, which also prevented the World Bank (as well as other donors) from bringing aid to the country. The "boat people" leaving Vietnam at the turn of the 1970s because of political pressure and of the disastrous economic situation contributed to reinforce the country's isolation.

A quarter of a century later, the economic improvement is remarkable as well as the integration into the world economy. Vietnam has been able to make inroads on world markets and cannot be considered anymore as a "sitting duck" waiting to be picked off by China, armed with a huge pool of cheap labour (Bhalla, 1998 quoted by Ahearne *et al.*, 2006). China is undoubtedly both a potential serious competitor and a very important economic partner.

As it has always been the case, the sustainability of Vietnam's growth path and of its ELG model is intimately linked to the economic situation in China, and to the evolution of China's economic specialization. The analysis of Vietnam's trade specialization conducted in this paper shows that Vietnam and China mostly specialize on different products. Textile & clothing is an exception, but for these products we observed that each country specializes on different varieties. For textile & clothing, Vietnam has therefore not been "crowded out" until now by China on its main market, which is the United States. Nevertheless some "crowding out" effects could happen on other markets such as Japan where China enjoys a nearly monopolistic situation.

But as ELG is about "upgrading" (otherwise Vietnam will compete with less developed countries and its development will slow down), it is also important to investigate whether this upgrading process has started for Vietnam or not. According to our analysis, the answer is yes, although the evolution of trade specialization has been relatively slow over the last decade.

We underlined in this paper that Vietnam's WTO commitments can play an important role in this regard. Their direct impact is two-fold: on the one hand the reduction of custom duties tends to reduce the effective rate of protection and therefore the anti-export bias; on the other hand, Vietnam has to remove export subsidies and implementing effective industrial and trade policies becomes more difficult.

Added to WTO regulations, the competition from China might make it more difficult for Vietnam to follow the East Asian diversification path in the long term. It has sometimes even been considered that one would have to wait for a few decades before new emerging countries appear, as by that time China will have developed and will not be their direct competitor. Clearly, the difficulties met by Asian emerging countries whose world market share has stagnated over the last decade tend to confirm this thesis. The challenge for

Vietnam is therefore to improve gradually its specialization in order to increase its growth and development potential in the long run.

Being a late starter could also prove to be an advantage, as stated by Gerschenkron (1966). Vietnam could thus try to draw the lessons from the other Asian emerging countries' experiences, especially concerning the necessity to diversify its export structure, to increase the local content of industrial production, and ultimately upgrade its exports. When conducting such a strategy, it may benefit from its proximity to China and other Asian emerging countries, as well as from a relatively well educated labour force.

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