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Does China's Economic Rise Help or Hinder the Development of its Neighbours?

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Introduction

There is growing interest in the effects of China's extraordinary industrial dynamism on its neighbours (Eichengreen 2006; Humphrey and Schmitz 2007). With its huge size, vast low-cost labour force, and deep industrial foundation, China has become a major producer of a wide range of manufactured goods (Yusuf, Nabeshima and Perkins 2007) that is now moving towards the acquisition of innovation capabilities (Altenburg, Schmitz and Stamm 2008; Dahlman 2009). The impact of China's rapid economic growth is felt globally via international trade (Dimaranan, Ianchovichina and Martin 2007). Particularly among China's less-developed neighbours trying to develop their own industries, one of the most pressing questions is: does China's economic rise help or hinder the industrial development of its neighbours?

The recent literature argues that the answer to the above question depends to a considerable extent on the status of the country (Eichengreen 2006; Humphrey and Schmitz 2007). According to these authors, Asia's more advanced nations benefit from the complementary effects of Chinese industrialisation. China's rise as a platform for labour-intensive international trade helps the industrial development of these countries because Chinese exports depend to a great extent on capital equipment and components sourced from such countries. China's less-developed neighbours however suffer from the competitive effects of its growth. China's rise often hinders the industrial development of these countries as they specialise in labour-intensive industries in which China has come to play a dominant global role. Their opportunities for exporting to China meanwhile are limited in the main to unprocessed products.

This study acknowledges the above distinction as an important starting point, but attempts to take the debate one step further. A critical element missing from the existing literature is the dynamics of change over time. To date, limited empirical research has shed light on how the impact of China's economic rise has shifted over time, and why it has done so. The present research paper seeks to fill these knowledge gaps, which it attempts by engaging in a longitudinal analysis of the Vietnamese motorcycle industry.

In the early 2000s, just a few years after domestic production of motorcycles started, Vietnam was hit by massive imports of low-priced Chinese motorcycle components that imitated Japanese products. This so-called 'China shock' (Fujita 2007) initially caused serious damage to the nascent local motorcycle production sector. However, in the longer term, the competitive effects of this incident completely transformed the industry. As early as 2005, a leading economist described the Vietnamese motorcycle sector as having 'already achieved high degrees of scale merit, product quality and competitiveness' (Ohno 2005: 47). Moreover, by 2013, Vietnam had emerged as the world's fourth largest producer of motorcycles, with major foreign manufacturers achieving local content ratios of 90 to 95 per cent and even exporting their products to Asian and European markets (Quoc 2013: 17). Clearly, this is a rare success for a country with less than 20 years' history in import-substituting production. The present paper examines the processes and mechanisms by which China's severe competitive effects were transmuted into positive results.

Although the effects of the rise of Chinese manufacturing industries have been observed globally, this paper focuses specifically on China's less-developed neighbours.¹ These countries depend heavily on imports from China owing to their geographical proximity –

¹ The literature analyses the impact of China's industrial development on Latin America (Moreira 2007; Alvarez and Claro 2009; Jenkins, Peters and Moreira 2009); Africa (Kaplinsky 2008; Kaplinsky and Morris 2009; Tegegne 2009); and South Asia (Sonobe and Otsuka 2010). Reference to this literature is made where relevant.

some of them even share common borders with China (Eichengreen, Rhee and Tong 2007).² This means that nowhere else is the impact of Chinese trade felt more strongly than in these countries.

The remainder of the paper is structured as follows. Section 1 reviews the existing literature and elaborates the research question. Section 2 discusses the research methodology. Section 3 analyses how the impact of China's rise on the Vietnamese motorcycle industry changed in the short and medium terms, and Section 4 discusses why the impact changed over time. Finally, the concluding section draws out the key insights derived from the study, and enumerates areas for future research.

² Whereas the average level of dependence on Chinese imports for emerging and developing countries globally in 2010 was 9 per cent, such a rate was 36 per cent, 16 per cent, 39 per cent and 27 per cent for Cambodia, Laos, Myanmar and Vietnam respectively (IMF 2011).

1 Literature Review

A growing literature has generated two contrasting views on how China's industrial dynamism affects the industrial development of its neighbours. One view is that China's rise helps the industrial development of neighbouring countries. The focus of this stream of the literature is on the growing integration of East Asian economies propagated by regional production networks of transnational corporations (TNCs) from developed countries (Ando and Kimura 2003; Ng and Yeats 2003; Ando 2006). China has emerged as a major assembly centre for these regional production networks, but has so far depended largely on imported capital equipment, components and technology (Gaulier, Lemoine and Ünal-Kescenci 2007). The proponents of this view contend that China's emergence as a major export platform benefits its neighbours as it has created opportunities for them to supply the necessary inputs for China's export production (Lall and Albaladejo 2004; Athukorala 2009).

The other view sees China's economic rise as a constraint on the industrial development of its neighbours because its impact is largely competitive. Proponents of this view argue that China's huge production capacity combined with remarkable levels of price competitiveness exert enormous economic pressure on firms in neighbouring countries in their home and/or third country export markets (Roland-Holst and Weiss 2004; Coxhead 2007).

Attempts to synthesise these opposing views by Eichengreen (2006),³ and Humphrey and Schmitz (2007) suggest a way of resolving the debate. By analysing trade data that differentiate between trade in final and intermediate products, these authors argue that the impact varies by country type.⁴ Complementary effects are limited to more advanced neighbours that form integral elements of regional production networks as these countries provide the capital equipment, core components and materials that China depends on. China's less-developed neighbours are not positioned to gain from complementary effects because they are largely excluded from regional production networks. On the contrary, they suffer from cut-throat competition both at home and in export markets, as they specialise in labour-intensive industries in which China has attained such remarkable levels of competitiveness.

Albeit helpful, the above synthesis still neglects a critical aspect of the impact of China's rise: the dynamics of change. Although to date, this element has not been a subject of empirical examination, the literature does suggest that China's impact may change over time. In terms of *complementary* effects, Lall and Albaladejo (2004: 1457) argue that China's impact may evolve as the country accumulates capabilities with regard to the production of the capital equipment, core components and/or materials that it currently imports from its economically advanced neighbours.⁵

There has been limited empirical research to date into *competitive* effects. Nevertheless, several previous studies that have examined in general terms how competition with China has affected developing country producers provide useful insights. While there have been cases in which imports from China indeed displaced developing country producers (Alvarez and Claro 2009; Kaplinsky and Morris 2009), there have been other cases in which competition induced innovation responses from incumbent producers (Sonobe and Otsuka

³ Eichengreen et al. (2007) provide the trade data analysis on which Eichengreen (2006) is based.

⁴ The classification adopted differs by author but the underlying concept is the same. Athukorala (2009) employs a similar approach.

⁵ Lall and Albaladejo (2004) do not offer a concrete answer as to whether this is a probable scenario. Athukorala (2009) also raises a related question concerning how long China's reliance on imported components can continue, concluding that such dependence will be sustained in the short to medium term, given the maintenance of China's comparative advantage in unskilled labour.

2010). Tegegne (2009) found different responses even among producers in a single industry: small and medium shoe manufacturers in Ethiopia responded to Chinese imports by improving design, quality and response time, although micro-enterprises reduced their production, labour force, and working hours. This means that the competitive effects of China may change depending on whether developing country producers strengthen their competitive edge vis-à-vis Chinese products.

In summary, we know from the existing literature that there are two contrasting views about the impact of China on its neighbours, one optimistic and the other pessimistic, and that the actual impact depends primarily on type of country and sector. The literature also indicates that such an impact may change but the process of change and the reasons for change remain under-explored. These are the knowledge gaps that this paper seeks to bridge.

As the existing literature suggests, the impact of China's economic rise varies considerably across sectors and countries. This paper focuses on the Vietnamese motorcycle industry as a sector that was affected heavily and early on by massive imports from China. The research questions to be addressed are as follows:

- **Question 1:** How has China's impact on the Vietnamese motorcycle industry changed since the early 2000s?
- **Question 2:** Why has China's impact changed in the ways it has?

2 Methodology

Analysing how China's impact has changed over time poses a major methodological challenge. It cannot rely merely on the analysis of trade flows, as much of the research reviewed in the previous section has done. Since the impact of China changes as firms respond to new opportunities and challenges, research needs to understand what goes on inside firms and between firms in the countries affected at different points in time. This section starts by introducing methodological approaches to meet these analytical challenges: tracing changes over different stages of industrial development and analysing changes within and interactions between key value chain actors. This will be followed by discussion of key variables and respective indicators and data sources.

2.1 Stages of industrial development

Since this research is concerned with understanding changes over time, it is helpful to distinguish different stages. The research traces changes over a period of a decade from the late 1990s, divided into four distinct stages (Table 2.1).⁶ In Stage I (mid-1990s to the end of the decade), one Taiwanese and three Japanese motorcycle manufacturers established local factories, following the Vietnamese government's decision to launch an import substitution policy to promote the domestic production of motorcycles. This stage aims to show the status of the industry before the China shock. Stage II(a) was the period of the China shock (2000 to 2001), when massive numbers of low-priced motorcycle component kits imported from China and assembled by local Vietnamese companies dominated the Vietnamese market. Stage II(b) was the aftermath of the China shock (2002 to 2004). This period will be analysed with the aim of demonstrating the short-term responses of lead firms and suppliers in the two sets of value chains under investigation (see Section 2.2). Stage III covers the period of 2005 to 2009, when the industry entered a fast-growth phase driven by foreign direct investment (FDI). The analysis of this period aims to show how the impact of the shock changed the industry in the medium term.

2.2 Value chains

This study analyses changes within and interactions between actors in two sets of value chains organised by lead firms competing for the Vietnamese market. One set of value chains – which this study refers to as Vietnamese–Chinese chains – was organised by local Vietnamese motorcycle assemblers that were the key actors perpetrating the China shock. As the Vietnamese government had prohibited the imports of assembled vehicles since 1998, more than 50 of these firms began assembling imported Chinese motorcycle components in the early 2000s and accounted for as much as 80 per cent of the Vietnamese market in these years (Figure 2.1). Although the China shock only lasted a few years, quite a few of these assemblers continued to operate and eventually began the import-substitution production of low-priced motorcycles in Vietnam.

This group of lead firms is analysed both collectively and individually via the in-depth examination of six strategically selected case assemblers, referred to as A1 to A6, which held relatively large market shares by adopting contrasting strategies (Fujita 2013b). Assemblers A1, A2 and A3 belonged to one category of assemblers concentrating on the production of low-priced imitations of Japanese-brand motorcycles. Assemblers A5 and A6 were typical examples of the other category of assemblers prioritising the development of own designs and brand names and quality improvement. Assembler A4 fell somewhere in

⁶ Whereas previous studies (Fujita 2012, 2013b, forthcoming) divided the historical development of the industry into three stages, this paper further partitions the second stage into the period of the China shock and that of its aftermath.

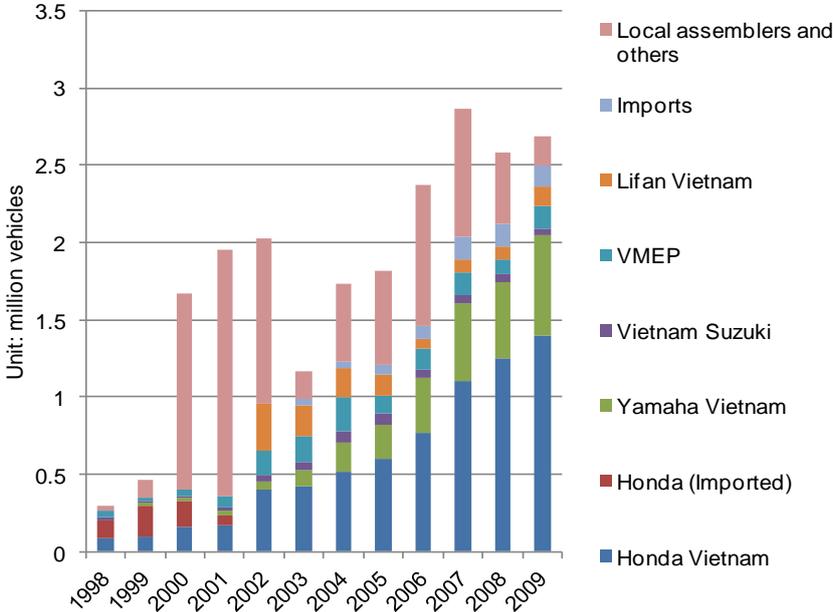
between the two categories. While local assemblers, including the six case assemblers, operated on relatively small scales upon emergence, the group A1, A2 and A3 rapidly expanded their market shares during a later stage of development.

Table 2.1 Stages of Vietnamese motorcycle industrial development

Stage	Market (units sold per year)	Policy	Foreign motorcycle manufacturers	Local assemblers
Stage I: Start-up phase (late 1990s)	Less than 500,000	Import substitution; encouraging FDI in domestic production.	Set up domestic production via FDI.	(Did not exist at this stage.)
Stage II(a): The China shock (2000–1)	More than 2 million	Import controls and local content rules circumvented by local assemblers.	Market shares fell substantially.	More than 50 assemblers entered.
Stage II(b): Aftermath of the China shock (2002–4)	Approx. 1.5 million	Strengthened enforcement of import controls and local content rules; restrictions on motorcycle registration and expansion of production capacity by foreign manufacturers.	Honda Vietnam launched a low-priced model in 2002 and recovered market share.	Many exited; surviving assemblers started local sourcing to meet policy requirements.
Stage III: FDI-led development (2005–9)	More than 2.5 million	Local content rules, restrictions on motorcycle registration and capacity expansion abolished.	Fully recovered market share; increased FDI in component manufacturing.	Consolidated into a small number of large assemblers.

Source: Author, based on Fujita (2012, 2013b).

Figure 2.1 Motorcycle sales in Vietnam by manufacturers



Note: VMEP (Vietnam Manufacturing and Export Processing Co. Ltd.) is a 100 per cent-invested subsidiary of Taiwan’s Sanyang Motors, and Lifan Vietnam is a joint venture between China’s Lifan Group and a Vietnamese state-owned enterprise. Data on ‘Honda (Imported)’ was available from the Motorbike Joint Working Group (2007) up to 2005 but the figures were zero from 2002 onwards. Data on ‘Imports’ was provided by General Statistics Office (various years). Source: Fujita (2013b), on the basis of the Motorbike Joint Working Group (2007), Industrial Research Institute (2011) and General Statistics Office (various years).

The other set of value chains was organised by the Japanese motorcycle manufacturers that had dominated the Vietnamese market before the China shock. The study focuses primarily

on Honda Vietnam (HVN) for two reasons. First, the company remained the single most dominant actor in the industry throughout the period of investigation (Figure 2.1), which means that it had a major influence on the development of the sector. Second, HVN was most severely affected by the China shock and reacted with the most fundamental adjustments to its business model (Fujita 2013b), which makes the company particularly relevant in terms of the impact of the rise of China.

2.3 Key variables, relationships between variables, and indicators

This study seeks to achieve two tasks: (1) to assess the consequences of competitive challenges posed by Chinese imports on industrial development performance at different points in time; and (2) to explain why the consequences changed over time.

The first task will be achieved by examining the performance of two groups of actors in this industry, namely, lead firms and suppliers in the two sets of value chains identified in Section 2.2. An industry's competitive performance depends, above all, on lead firms' capacity to turn out products that are valued by consumers. The following sets of indicators are used to assess the market performance of lead firms in the Vietnamese motorcycle industry, which cater primarily to the domestic market. Since data collected at different times were not always based on the same set of quantitative measurements, the focus of this study will be on the *direction* of change rather than the *degree* of change.

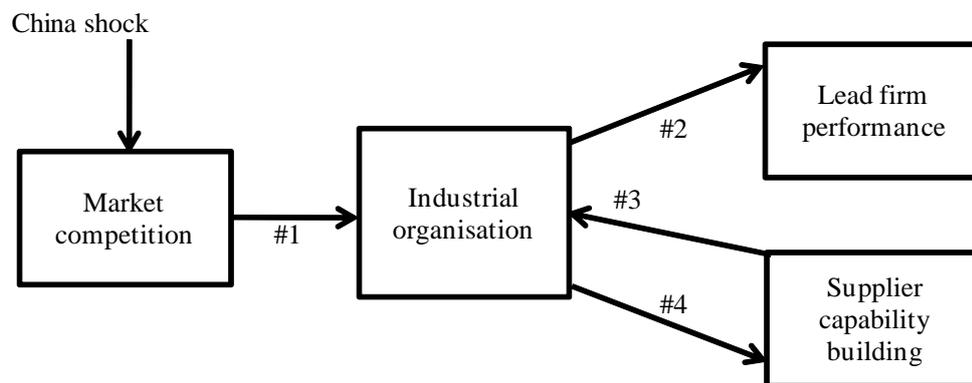
- Domestic market shares: This indicator shows the *relative* competitive performance of motorcycle manufacturers in the domestic market. However, its utilisation requires caution because, as we shall see, government regulations may occasionally distort market competition.
- Price level, product quality and variety: The analysis of market performance should also examine the sources of lead firm competitiveness; they include price level as well as non-price indicators such as product quality and variety. Wherever possible, the performance of lead firms in Vietnam is compared with that of their regional competitors.

While lead firms are important, suppliers are also critical because having a substantial domestic agglomeration of suppliers equipped with high levels of manufacturing and design competencies helps a developing country not only to increase the value added that accrues within the country but also to raise the competitive performance of industries. This study assesses the development of suppliers in terms of both quantity, i.e., the number of active suppliers participating in value chains under question, and quality, i.e., the types and levels of capability the suppliers possessed. The types of capabilities required of motorcycle component manufacturers are *new product introduction* (product development and design) and *production capabilities* (Fujita, forthcoming). In terms of level, the focus will be on whether suppliers starting at routine operation for the domestic market (*operational level*) can progress to the level at which they are able to maintain stable and continuous operations that fulfil the requirements of foreign customers (*assimilative level*); and further to the level at which suppliers are able to make minor yet original improvements to the existing products or production activities (*adaptive level*) (Sato and Fujita 2009; Fujita, forthcoming).

The nationality of suppliers is also a key consideration. The existing research has emphasised large international 'follow-source' suppliers – i.e. those that pursue their customers' investment destinations – as key actors in developing countries (Humphrey 2000; Belderbos, Capannelli and Fukao 2000). However, local suppliers also have important roles to play as the agents of the host country's long-term industrial development and accumulation of local technological capabilities. This study therefore distinguishes the nationality of suppliers and places an explicit focus on local suppliers.

The second task is to explain why the Chinese impact on industrial development performance changed in the way it did. This study traces the chains of causation linking the market competition triggered by the China shock and industrial development performance, which is assessed in terms of lead firm performance and the formation of a domestic component supply base. In doing so, it introduces a mediating variable: industrial organisation. While industrial organisation refers generally to forms of relationships between (groups of) firms undertaking various functions along the value chain (Sturgeon 2002), this study focuses specifically on the mechanisms by which relationships between lead firms and suppliers are coordinated (Gereffi, Humphrey and Sturgeon 2005). In effect, the analysis examines relations between four variables: market competition, industrial organisation, lead firm performance and supplier capability building. Figure 2.2 shows the relations between the variables.

Figure 2.2 Relations between variables



Source: Author.

Market competition affects industrial organisation (arrow #1). The nature of product and process specifications exchanged in lead firm-supplier transactions affects industrial organisation: goods that are subject to complex and non-standard specifications require high levels of explicit coordination, while arm's-length linkages suffice for products that are simple and standard (Gereffi *et al.* 2005). This means that market competition, by compelling lead firms to adjust the features of products and/or processes, may induce changes in industrial organisation.

Industrial organisation influences lead firm performance (arrow #2). The ways industries are organised influence the economic performance of firms, industries and countries (Sturgeon 2002). Empirical studies also show that certain forms of industrial organisation enabled lead firms to extract better performance from their suppliers than others.⁷

Industrial organisation affects supplier capability building (arrow #3). One of the distinguishing features of different forms of industrial organisation is the magnitude and nature of knowledge flows between lead firms and suppliers (Gereffi *et al.* 2005). Such flows of knowledge and technology embedded in transactions indeed have vital roles to play in the formation of supplier capabilities (Ernst and Kim 2002; Ivarsson and Alvstam 2004, 2005; Schmitz and Knorringa 2000; Schmitz 2006).

Supplier capabilities influence industrial organisation (arrow #4). The levels of capabilities possessed by suppliers affect industrial organisation because they determine the division of labour between the lead firms and suppliers that can be implemented, the degree

⁷ Typical examples include comparative studies of automobile and electronics industries in different countries (Clark and Fujimoto 1991; Cusumano and Takeishi 1991; Sako 1992; Sturgeon 2007).

of transactional coordination required, and the levels of supplier subordination to the lead firms (Gereffi *et al.* 2005).

A critical point to note is the cause and effect dynamic between industrial organisation and supplier capability building (arrows #3 and #4). That is, the building of supplier capabilities was not only an important development outcome in itself but also a key factor in influencing industrial organisation, or, more precisely, it was one of the prerequisites to the transformation of industrial organisation. As we shall see, the direction of causality between these two variables is central to explaining the changing impact of the rise of China on the Vietnamese motorcycle industry.

2.4 Data sources

The study integrates industry-level and firm-level data. Industry-level data include published and unpublished statistics obtained from various organs of the Vietnamese government and companies, and reports and research papers. Firm-level data comprise data on key actors in the two sets of value chains discussed in Section 2.2. These were obtained during repeated rounds of fieldwork conducted by the author in Vietnam and Thailand between 2001 and 2010.

Full details of analyses of the dynamics of industrial organisation and local suppliers' capability building using these data are compiled in Fujita (2013b) and Fujita (forthcoming) respectively. Fujita (2013b) provides findings on how industrial organisation was determined by market competition (arrow #1 in Figure 2.2) and supplier capabilities (arrow #3). Fujita (forthcoming) provides findings on how the building of supplier capabilities was influenced by the way in which lead firms coordinated relations with their suppliers (arrow #4). The present analysis of the relation between industrial organisation and lead firm performance (arrow #2) is based on additional data compiled for this paper using the aforementioned indicators (i.e. domestic market share, price level, and product quality and variety).

3 Transformation of the Vietnamese Motorcycle Industry

This section examines the transformation of the industry in response to China’s rise. It discusses the status of the industry before the China shock and then analyses what actually occurred during the shock and how its impact changed in the short and medium terms.

3.1 Stage I: Before the China shock

In the mid-1990s, the Vietnamese government launched an import substitution policy in respect of foreign-made motorcycles. Attracted by the growing market, the world’s four major motorcycle manufacturers (Honda, Yamaha and Suzuki from Japan, and Sanyang from Taiwan) invested in Vietnam in the mid- to late 1990s.

At this stage, HVN was far from regionally competitive. Although Honda-brand products dominated the market, they largely constituted imports (Figure 2.1), mainly from Thailand. Even though the Vietnamese government prohibited the importation of assembled vehicles in 1998, Honda-brand vehicles continued to come into the country as incomplete knockdown components. HVN’s products failed to compete against imported Honda-brand motorcycles because the company’s made-in-Vietnam models were priced approximately 45 per cent higher than equivalent products in Thailand and at similar levels to imported Thai-made models, inclusive of transport and distribution costs (Table 3.1). These Thai-made Honda-brand models had high prestige with Vietnamese consumers (Nguyen and Hoa 1998: 134).

Table 3.1 Regional price comparison of Honda motorcycles

	Stage I	Stage II(b)	Stage III
HVN models	US\$2,100 (official price of the Super Dream in 1998)	US\$719 (official price of the Wave Alpha in 2002)	US\$1,564 (official price of the Click in 2008)
Honda-brand models made in Thailand	US\$1,450 (Honda-brand model in 1998; price in Thailand) US\$2,300 (Dream II imported from Thailand; price in Vietnam)	US\$694 (official price of the Wave 100 in 2002)	US\$1,108 (official price of the Click in 2006)

Sources: *Nikkei Newspaper*, 6 January 1998; *Oto-xe may (Automobiles and Motorcycles)*, August 2002: 39, January 2007: 100; Nguyen (2004: 234); Mizuno and Kitano (2000: 137); Mishima (2010: 216).

Moreover, the Vietnamese motorcycle component supply base was seriously underdeveloped. Apart from a limited number of foreign-invested suppliers that had followed Japanese and Taiwanese manufacturers to Vietnam, there were virtually no local specialised component suppliers at this stage (Fujita 2013b).

HVN thus depended on a dozen Japanese and a handful of Vietnamese suppliers (Table 3.2). None of the latter had previous experience of manufacturing motorcycle components or serving global customers, but they gradually learned and acquired advanced production-related capabilities with generous technical assistance from HVN. Nevertheless, their production-related capabilities still largely remained at the operational level at this stage (Fujita, forthcoming).

In short, HVN was far from regionally competitive and the Vietnamese component supply base remained underdeveloped. However, none of the actors was compelled to adjust strategies at this stage. After all, there were only a few players, all of whom manufactured products with largely similar attributes, that is, high-quality and expensive models transferred from other higher-income markets.

Table 3.2 HVN's local sourcing

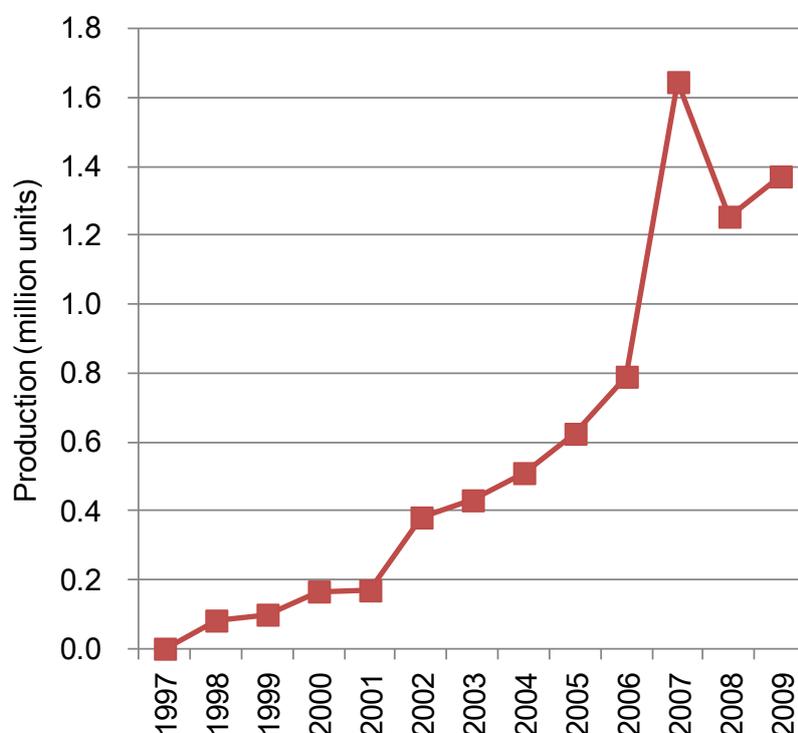
	1998	2001	2004	2007
Local content ratio	44%	52%	83%	90%
Total number of suppliers in Vietnam	16	20	43	58
Japanese suppliers	12	15	18	26
of which members of Honda Group	5	6	6	11
Taiwanese and Korean suppliers	0	0	12	14
Vietnamese suppliers	4	5	13	18

Source: Fujita (2013b), based on the author's interviews with HVN. Suppliers belonging to the Honda Group were enumerated by the author on the basis of Toyo Keizai Inc. (2009).

3.2 Stage II(a): The China shock and its immediate consequences

On the basis of the above account, one would expect massive imports of low-priced Chinese products to have had severe competitive effects on the Vietnamese motorcycle industry. Indeed, this is exactly what happened.

Figure 3.1 confirms the magnitude of the China shock. Chinese exports of motorcycles to Vietnam surged dramatically from 2000 to 2001. Similar to imported Honda-brand motorcycles in the late 1990s, these Chinese vehicles arrived in the form of knockdown component kits in order to circumvent the ban on the importation of assembled vehicles. More than 50 local Vietnamese firms were engaged in the assembly of the Chinese component kits that were, in essence, copies or slightly modified imitations of a few popular Japanese base models (Fujita 2013b).

Figure 3.1 China's exports of motorcycles to Vietnam

Source: Global Trade Information Services, Inc. (2012).

Unsurprisingly, the China shock had a strong negative impact on the nascent Vietnamese motorcycle industry. With prices as low as half to one-third of the domestically produced

foreign-brand models,⁸ Chinese motorcycles penetrated the medium- and low-income consumer markets that had been unexploited by foreign motorcycle manufacturers. These foreign manufacturers experienced a sharp drop in market share. Honda, in particular, saw its market share decline from 67 per cent in 1998 (including 27 per cent for HVN's domestically produced motorcycles and 40 per cent for imported Honda-brand motorcycles) to 12 per cent in 2001 (9 per cent for the former and 3 per cent for the latter) (Figure 2.1).

3.3 Stage II(b): The short-term impact of the China shock

The China shock caused severe damage to Vietnam's motorcycle production; however, this was not the end of the story. A number of important developments took place within a few years of the shock. The following sub-sections discuss how industrial development outcomes changed within a few years of the China shock.

3.3.1 Market performance of lead firms

Lead firms were compelled to adjust their product strategy by intense competition triggered by the China shock, together with the Vietnamese government's attempts to restore order in the industry by strengthening the enforcement of import controls and local content rules that had previously been circumvented. Japanese companies, perceiving Vietnam to be a symbol of an expanded Chinese threat that was already apparent in China, initiated company-wide efforts to regain market shares. This culminated in the launch of a new, low-priced model by HVN in 2002. The new model, named Wave Alpha, was priced at approximately one-third of its previous models.

The launch of the new Wave Alpha model helped Honda improve its market performance. The model quickly gained popularity as the low quality of Chinese motorcycles had by now become apparent to Vietnamese consumers (The Motorbike Joint Working Group 2007). HVN's market shares increased from 12 per cent in 2001 to 36 per cent by 2004 (Figure 2.1). Unlike in the 1990s, HVN's domestically produced motorcycles now accounted for the 36 per cent market share, while the market shares of imported Honda-brand motorcycles had gone down to 0 per cent (*ibid.*). This was achieved by a remarkable improvement in HVN's price-based competitiveness. The Wave Alpha was priced at a level broadly similar to an equivalent model launched in Thailand the same year (Table 3.1), while the vehicle's performance standards were only slightly modified – mostly downwards – to reflect the specific user conditions of Vietnam.⁹ However, further recovery was prevented by the Vietnamese government's policy that had prevented foreign motorcycle manufacturers from investing in additional production capacity.¹⁰ Consequently, HVN's production increased substantially in 2002 but only modestly in the following two years (Figure 2.1).

In the meantime, local assemblers struggled as the Vietnamese government stepped up the enforcement of the import controls and local content rules which they had circumvented during the years of the China shock. Their performance faltered, with their combined market shares declining from 80 per cent in 2001 to 30 per cent in 2004 (Figure 2.1), suggesting that local assemblers *collectively* had lost out to HVN and other foreign motorcycle manufacturers. It naturally follows that local assemblers' *individual* market shares were in an

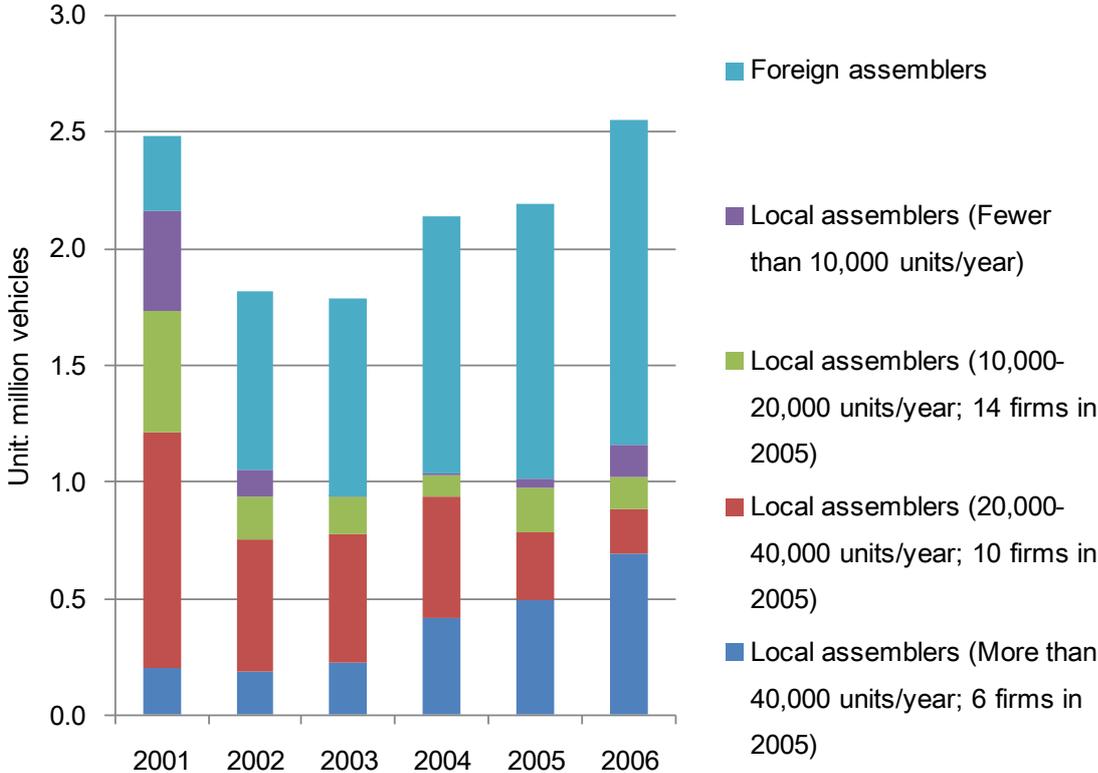
⁸ The average price of imported Chinese motorcycles was US\$1,000–US\$1,100 in 1999, but had fallen dramatically to US\$500–US\$600 by 2001 (Nguyen 2004: 236).

⁹ For example, the maximum driving speed applied in defining product and process parameters for the Wave Alpha was set at 80 kilometres per hour. Even though this was much lower than standard levels applied to Honda's other overseas markets, it was considered sufficient for use in the Vietnamese context where traffic congestion prevented motorcycle use at higher speeds (Amano and Shintaku 2010: 799).

¹⁰ The Vietnamese government required foreign motorcycle manufacturers to operate according to the feasibility studies they submitted to the authorities when they applied for investment licences. This prevented the foreign motorcycle manufacturers from investing in the rapid expansion of production capacity, which had not been envisaged in the late 1990s (Fujita 2011).

even more parlous condition, the 30 per cent combined share of 2004 being achieved by numerous firms operating on a very small scale. For example, local assemblers turning out 40,000 units or fewer per year accounted for 60 per cent of the motorcycles produced by local assemblers in 2004 (Figure 3.2).

Figure 3.2 Motorcycle production by local assemblers, by scale of production



Note: The number of assemblers producing fewer than 10,000 units per year in 2005 is not provided.
 Source: The Motorbike Joint Working Group (2007: 27).

Table 3.3 Average product prices and market shares of selected local assemblers (US\$)

	A1	A2	A3	A4	A5	A6	Wave Alpha (HVN's low-priced model)	Average unit price of motorcycles exported by China
2004	365 (8.5%)	451 (8.8%)	n/a (3.8%)	439 (1.9%)	622 (1.3%)	n/a (n.a)	819	374
2007	310 (23.1%)	n/a (1.8%)	279 (8.3%)	373 (1.6%)	745 (5.1%)	497 (2.8%)	801	398

Note: Market shares of respective assemblers among all registered Vietnamese motorcycle assemblers are shown in the lower columns in parentheses. The data on Chinese exports were calculated on the basis of data from Global Trade Information Services, Inc. (2012).
 Source: Questionnaire surveys and interviews conducted by the author in collaboration with the Vietnam Institute of Economics, Vietnam Academy of Social Science in 2004 and 2007.

However, such a decline in market share was not because local assemblers had lost their price-based competitiveness. On the contrary, the prices of their products were favourable even compared with those of Chinese imports. Table 3.3 shows the average prices of products for four of the six case assemblers for which data were available for the year 2004. Domestically, their vehicles were priced 25 per cent to 55 per cent lower than HVN's low-priced model and at levels similar to the average unit price of China's motorcycle exports.

Rather, local assemblers lost their market share due to the low quality of their products. Their models failed to appeal to Vietnamese consumers who, after experiencing serious quality issues with Chinese motorcycles, increasingly opted for better-quality Japanese models (The Motorbike Joint Working Group 2007: 11).

3.3.2 Development of component suppliers

The intense price-based competition triggered by the China shock, combined with the strengthened enforcement of the local content rules, compelled both HVN and local assemblers to explore low-cost component sources within Vietnam (Fujita 2013b). The result was a significant boost to the domestic component supply base as a whole.

An important transformation was underway in HVN’s value chains, as the launch of a low-priced model called for significant reduction in procurement costs. Since only limited numbers of Japanese suppliers had set up production in Vietnam, HVN inevitably found it necessary to mobilise non-Japanese suppliers (Fujita 2013b). As a result of an extensive search and provision of technical assistance, HVN’s portfolio of suppliers in Vietnam expanded from 16 in 1998 to 43 in 2004, with local firms increasing from five to 13 over the same period (Table 3.2).

Another important development that took place within HVN’s value chains was the emergence of second-tier suppliers. Faced by radical price reduction targets imposed by the lead firm as it launched the budget model, HVN’s first-tier suppliers sought to replace imported subcomponents and materials with locally sourced ones (Fujita 2007, 2011). Although the precise number of the resultant second-tier suppliers is unknown, Fujita (2007: 18) found that six of HVN’s first-tier suppliers (three Taiwanese, one Korean, and two Japanese) used an average of 27 second-tier suppliers in 2005, and that the single Korean firm traded with as many as 50 second-tier suppliers. Unlike first-tier suppliers, most of which were large state-owned enterprises, local second-tier suppliers included numerous private firms operating on a much smaller scale (Fujita 2011).

HVN’s first- and second-tier suppliers not only increased in number but also improved their production-related capabilities.¹¹ Progress was particularly remarkable among the first-tier suppliers. They started to progress from a rudimentary (*operational*) level of capability upon entry into an HVN chain, with some even reaching a more proficient (*assimilative*) level of capability in Stage II (Fujita, forthcoming). Second-tier suppliers made more modest yet steady progress in improving their production-related capabilities (*ibid.*).

In the meantime, local assemblers steadily increased local sourcing in response to government policy requirements. They were no longer assemblers of imported Chinese components. Indeed, 29 of 45 assemblers operational in 2002–3 reached local content ratios of more than 40 per cent.¹² Local assemblers’ dependence on imported components decreased significantly between 2000 and 2003 (Table 3.4).

Table 3.4 Value of imported components per vehicle sold (US\$)

	2000	2001	2002	2003	2004	2005
HVN	692	641	275	231	203	218
Local assemblers	506	338	181	179	420	396

Source: Fujita (2013b), based on data provided by the Institute for Industry Policy and Strategy (2007).

¹¹ HVN’s suppliers achieved limited acquisition of new product introduction capabilities. This was because primarily the lead firm conducted product development and design, including of components (Fujita, forthcoming).

¹² Based on a survey conducted by the National Economic University and Japan International Cooperation Agency (JICA) (Nguyen 2004: 259).

This happened as a large number of firms entered Vietnamese–Chinese chains in response to high demand for standardised components without stringent quality requirements. Although precise figures are not available, a conservative estimate – made on the basis of official statistics – of the number of suppliers operating in such chains is 50. This included: (1) limited numbers of Taiwanese and Korean firms, most of which were specialist component suppliers already incorporated into the value chains of Japanese and/or Taiwanese motorcycle manufacturers; and (2) numerous local firms that had previously operated in related fields, for example, the production of motorcycle or bicycle spare parts (Fujita 2007, 2013b).

After entering a Vietnamese–Chinese chain, a local supplier acquired basic capabilities in new product introduction and production. In-depth analyses of sampled suppliers in such chains found that capabilities acquired were largely rudimentary (*operational* level), although they extended over a wide range of functions covering both product introduction and production (Fujita, forthcoming).

In summary, the local motorcycle industry started to show positive signs of recovery within a few years of the China shock. Lead firm competitiveness improved albeit subject to limitations; and the local component supply base grew, allowing ample space for Vietnamese firms to enter value chains and accumulate new capabilities.

3.4 Stage III: Medium-term impact of the China shock

Several years after the China shock, a new stage of industrial development began. The dismantling of interventionist policies that had repressed overall market growth and distorted competition against foreign motorcycle manufacturers gave a major boost to the market as a whole; stimulated the rapid expansion of foreign motorcycle manufacturers, HVN in particular; and spurred the struggle of local assemblers to respond to the penetration of HVN into the middle-income market (Fujita 2013b). The following subsections discuss how industrial development outcomes changed as a result of such medium-term impact.

3.4.1 Market performance of major lead firms

In Stage III, HVN emerged as a dominant actor, accounting for roughly half of the Vietnamese motorcycle market in 2008 (Figure 2.1). This achievement was driven by the company's active attempts to seize the growing market by launching a variety of increasingly sophisticated models while achieving incremental quality improvement and cost reduction. From 2005 onwards, HVN launched an increasing number of new models (Table 3.5). The bulk of these were middle- to high-end vehicles: some of these featured sophisticated designs, product performance and quality, while others featured only one or two of these attributes. These vehicles combined to account for an ever more significant proportion of company sales (Fujita 2013b).

In terms of regional comparison, HVN's newly launched models were priced 40 per cent higher than similar models produced by Honda Thailand (Table 3.1). However, this anomaly was probably more due to the fact that the receding competitive threat of China in Vietnam meant that HVN was less compelled to implement an aggressive pricing strategy, rather than because HVN's price competitiveness relative to Honda Thailand had deteriorated. On the contrary, there is evidence to suggest substantial improvements to HVN's overall productive performance at this stage. First, the growing production was vital for productive efficiency of both lead firms and suppliers in this capital-intensive industry (Fujita 2013b). HVN's annual production increased rapidly after 2005 (Figure 3.3), even outpacing that of Honda Thailand in 2007 (Honda Motor Co., Ltd. 2010). It also exceeded 1 million units by 2007, the minimum efficient scale for components requiring capital-intensive production processes (Fujita 2013b: 48). Second, as will be discussed in detail in Section 3.4.2, the entry of numerous foreign-invested suppliers attracted by the growing market made competition between suppliers

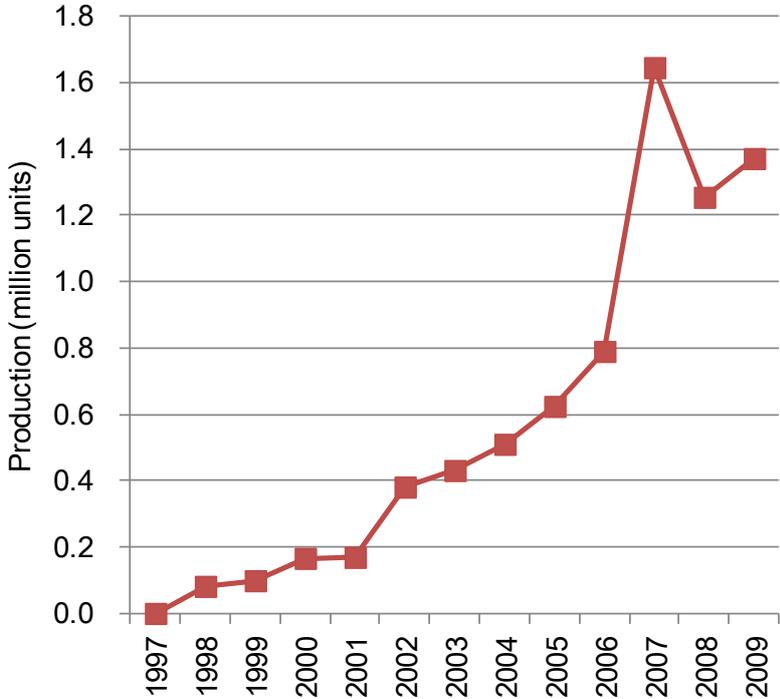
increasingly intense. This in turn enabled HVN to impose increasingly challenging performance targets on suppliers (Fujita 2013b, forthcoming).

Table 3.5 Number of new models registered by year

	2001	2002	2003	2004	2005	2006	2007	2008	Total
HVN	2	1	5	6	9	17	27	35	102
Local assembler A1	28	11	4	28	105	112	191	66	545
Local assembler A2	19	15	0	10	8	8	15	0	75
Local assembler A3	10	1	5	25	43	56	112	8	260
Local assembler A4	8	6	4	8	23	16	9	9	83
Local assembler A5	19	9	4	7	8	21	15	3	86
Local assembler A6	0	1	2	5	10	12	10	1	41

Source: Fujita (2013b), based on from data obtained from the Vietnam Register (<http://www.vr.org.vn>), accessed 6 January 2009.

Figure 3.3 HVN’s motorcycle production



Source: Fujita (2013b), based on Honda Motor Co., Ltd. (various years).

The mounting dominance of foreign motorcycle manufacturers notwithstanding, local assemblers survived in the market because they improved their price- and non-price-based competitiveness. Indeed, their collective market shares rose from 30 per cent in 2004 to 36 per cent in 2005–6 (Figure 2.1). More importantly, local assemblers consolidated themselves into a small number of firms operating on a larger scale (Figure 3.2). For example, among those selected for the in-depth case study, assemblers A1 and A3 sold a total of 300,000 and 95,000 units respectively in 2007, together accounting for approximately one-third of the total number of motorcycles sold by local assemblers that year (Fujita 2013b: 60).

In order to serve low-income consumers in rural areas where even HVN's low-priced model had failed to penetrate, these assemblers further boosted their price-based competitiveness. Domestically, the products of assemblers A1 and A3 were priced at 39 per cent and 35 per cent respectively of HVN's low-priced model; and regionally, the prices of their products in 2007 were even lower than the average unit price of Chinese exports (Table 3.3).

Moreover, A1 and A3 also increased the non-price dimensions of competitiveness. One of the striking features of these assemblers – as opposed to other local firms operating on a smaller scale – was the large variety of models they introduced (Table 3.5). Although their models carried imitated Japanese designs and/or brands, a wide range of minor cosmetic modifications proved effective in penetrating the low-end consumer market (Fujita 2013b). There is also evidence to suggest that the quality of motorcycles produced by local assemblers had improved in comparison to the previous stage.¹³

3.4.2 Development of component suppliers

Vietnam's component supply base experienced further development and consolidation in Stage III. HVN further expanded local sourcing. Its local content ratio continued to increase, reaching 90 per cent by 2007 (Table 3.2) despite the fact that local content rules were abolished in 2003, and import tariffs on motorcycle components from ASEAN countries – including Thailand and Indonesia – on which HVN had been heavily dependent for supplies were reduced to 5 per cent in 2006. The same table shows that, unlike during the previous stage, this change was achieved primarily by using foreign-invested suppliers, and Japanese firms in particular, while the number of local suppliers increased only modestly. Market growth combined with improvement in the overall investment environment¹⁴ triggered the entry of numerous foreign suppliers (Fujita 2013b: 48-9). In the meantime, local first-tier suppliers faced higher barriers to entry and intense competition in HVN chain. While the entry barriers were lower at the second tier, the entry of a large number of suppliers previously operating in Vietnamese–Chinese chains (see below) made competition increasingly intense at this level.

Local assemblers adopted a somewhat different strategy. As the local content rules were abolished, local assemblers as a whole increased their dependence on imported components, reversing their previous move towards domestic sourcing. Following a temporary decline from 2002 to 2003, their dependence on imported components increased after 2004 (Table 3.4). This suggests that local assemblers sought to exploit advanced component supply bases overseas.

However, within Vietnam, assemblers grew to depend on an emerging pool of highly competent suppliers equipped with the capability to reverse-engineer and implement

¹³ In 2007, the general director of a Japanese supplier pointed out that the performance tests of vehicles produced by local assemblers in Vietnam had found no substantial difference from genuine Honda-brand products when operated at normal speeds; although they were found to be much less reliable when operated at high speeds of 150km to 180km per hour (interview on 20 November 2007).

¹⁴ A series of policy reforms in 2005 implemented in preparation for World Trade Organization (WTO) accession significantly improved Vietnam's investment climate, resulting in a sudden surge of FDI from 2006 to 2008 (Tran Quang Tien 2009).

cosmetic and functional modifications to Japanese component designs and to manufacture them in large scale to reasonable quality levels. Of 24 Vietnamese, Taiwanese, Korean and Chinese suppliers in Vietnamese–Chinese chains interviewed by the author in Stage III, four Chinese and three Vietnamese suppliers expanded their production by serving a considerable number of local assemblers. Many of the remaining suppliers were faced with diminishing orders from local assemblers and transferred either to Japanese chains, where they operated mainly as second-tier suppliers, or to other industries (Fujita 2013b: 62-64). Surviving suppliers were notable for the extent to which they built new product introduction and production capabilities. The capabilities to reverse-engineer existing component designs, conduct minor cosmetic modification and conduct large-scale manufacturing to reasonable quality standards enabled these suppliers to expand sales to a large number of local assemblers.¹⁵

As local suppliers in both HVN and Vietnamese–Chinese chains faced intense competition, there was no longer a reserved space for them. Those in HVN chains had to compete with Japanese, Taiwanese and Korean suppliers; while those in Vietnamese–Chinese chains vied with Chinese suppliers. The result was a growing division between two groups of local suppliers: a handful of high performers that were rapidly accumulating capabilities and expanding orders, and the rest, which lagged behind.

The former group included most of HVN's first-tier suppliers and those firms that continued to receive large orders from local assemblers. By acquiring increasingly sophisticated capabilities, these suppliers won large proportions of the growing orders by HVN or local assemblers operating at large scales. The in-depth empirical analyses found that seven of HVN's local first-tier suppliers and one in a Vietnamese–Chinese chain had reached *assimilative* or *adaptive* levels in the key capabilities required for their operations (Fujita, forthcoming). While their numbers were limited, HVN's procurement manager remarked in 2009 that, with a number of exceptions, its local Vietnamese suppliers were generally able to meet its requirements without hands-on technical assistance (Fujita 2013b: 49) – which by definition means that they had reached the *assimilative* level of production capability. This suggests that the above findings can be generalised to most of HVN's local first-tier suppliers, which numbered 18 as of 2007 (Table 3.2).

The latter group included: (1) those that stayed on as first-tier suppliers in Japanese or Vietnamese–Chinese chains but experienced declining orders as they failed to meet lead firm requirements; and (2) second-tier suppliers in Japanese chains that struggled to address the ever-intensifying competition. These firms made relatively limited progress in improving their capability levels, with many failing to acquire the *assimilative* level of production capabilities (Fujita, forthcoming).

In summary, lead firm competitiveness was substantially boosted within several years of the China shock. In Stage III, HVN emerged as a dominant actor, but local assemblers continued to claim a market share by improving their price- and non-price-based competitiveness. The domestic component supply base continued to expand but, in a divergence from the previous stage, there emerged a growing rift between those suppliers that attained sophisticated capabilities and grew rapidly, and those that underperformed. Even though local suppliers were exposed to mounting competition, a few dozen of their number held on to positions in the former group by successfully acquiring advanced capabilities.

¹⁵ Typical examples are Chinese supplier C1 and Vietnamese supplier V16 analysed in depth in Fujita (2013b) and Fujita (forthcoming), which traded with 43 and 20 assemblers respectively in 2007–8.

4 Explaining the Transformation

The previous section demonstrated that the impact of the China shock on the Vietnamese motorcycle industry indeed changed substantially over time – but why did this change happen?

If we focus exclusively on the most immediate reaction to the shock, that is, HVN's launch of its low-priced model, the answer is fairly straightforward: it can be explained in terms of HVN's attempt to gain the competitive edge over Chinese imports – an argument corroborated by the existing literature on import competition reviewed in Section 1. However, the analyses in the previous section uncovered more extensive dynamics encompassing a wider range of actors, including local assemblers, suppliers of different nationalities, and the Vietnamese government. These dynamics cannot be reduced to the incumbent lead firm's response to the competitive effects of China. As set out in the conceptual framework of this study (Figure 2.2), explaining them requires another variable linking market competition with lead firm performance and the development of suppliers: industrial organisation.

Fujita (2013a) showed that the Chinese motorcycle industry rose to prominence in the 1990s due to its distinctive model of industrial organisation. Traditionally, the Japanese had employed a *captive* organisational model (Gereffi *et al.* 2005), characterised by a high degree of lead firm control and intervention over smaller and dependent suppliers with the aim of promoting the development of lead firm-specific competencies by the suppliers. This model served them well in developing lead firm proprietary models and manufacturing these to high quality standards for the sophisticated international market. By contrast, the Chinese harnessed *market-based* organisation, in which a large number of lead firms and suppliers engaging in arm's-length transactions intensely competed with each other. This was made possible by sharing a few dozen popular Japanese models as *de facto* standards within the industry. The market-based model enabled the Chinese motorcycle industry to achieve price-based competitiveness in producing copies or slightly modified imitations of Japanese motorcycles and to meet the large demand for low-priced products in developing countries. Vietnam was the first place outside China where the two models clashed and competed for supremacy. The transformation of the industry after the China shock can be explained in relation to the transformation of two organisational models.

In the immediate aftermath of the China shock, a combination of market competition and local content rules imposed by the Vietnamese government compelled both HVN and local assemblers to adjust industrial organisation so as to improve on their competitive performance. However, their attempts to adjust their respective organisational models only achieved partial progress at this stage because of the misalignment of relevant capabilities.

On the one hand, HVN sought to introduce market forces in governing its transactions with suppliers, with the aim of radically squeezing procurement costs. Since local content rules were in place, HVN achieved this by engaging in extensive searches for non-Japanese suppliers in Vietnam, abandoning the company's initial preference for Japanese and especially Honda Group suppliers (Fujita 2013b). Table 3.2 shows that much of the increase in HVN's suppliers in the early 2000s occurred among Taiwanese, Korean and local Vietnamese suppliers. However, at this stage, HVN failed to make sustained use of market forces for two reasons. First, the company's limited purchase volume meant switching suppliers was not feasible. Due to the Vietnamese government's policy prohibiting foreign motorcycle manufacturers from investing in additional production capacity, HVN's production volume remained around 400,000 to 500,000 units a year up to 2005 (Figure 3.3), far below the 1 million units that Honda regarded as a threshold required for dual sourcing (Fujita 2013b). As a consequence, the substantive level of competition faced by suppliers remained limited. Second, limited levels of capabilities possessed by suppliers newly admitted into the

HVN chain – with only some reaching the *assimilative* level (Section 3.3.2) – compelled the lead firm to intervene extensively in assisting the development of supplier capabilities (Fujita 2013b), a key feature of the conventional Japanese model of captive industrial organisation. As a result, while HVN succeeded in achieving a radical one-off reduction in procurement costs when launching its low-priced model, partial organisational transformation constrained sustainment of such a strategy.

On the other hand, local assemblers, equipped with limited knowledge about products or production processes, sought to exploit *de facto* standardisation of two popular Japanese models for duplicative imitation. This enabled local assemblers and suppliers to engage in arm's-length transactions for low-cost production of largely standardised models, but the limited supplier capabilities available in Vietnam – even in comparison with the low capability requirements that the Chinese organisational model calls for – meant that low product prices came at the expense of low quality (Fujita 2013b). Also, vehicles produced by local assemblers were largely copies of two popular Japanese models with limited design work to meet consumer needs.

Nevertheless, both HVN and local assemblers' endeavours to achieve the intended organisational transformation in the absence of foreign-invested suppliers created ample opportunities for local suppliers to enter value chains and acquire new capabilities – although the capability levels remained rudimentary. In HVN chains, after perceiving the lack of supplier capability as a constraint on the intended adjustment of its organisational model, the lead firm sought to nurture production capabilities by providing technical assistance (Fujita, forthcoming). Suppliers in Vietnamese–Chinese chains gained the chance to engage in new activities and attain new capabilities. However, unlike the HVN chain, this happened largely as a result of suppliers' own efforts to mobilise internal or external resources (*ibid.*).

In Stage III, further dynamics unfolded as reverse causality began to operate; that is, the emergence of new supplier capabilities now increasingly drove the transformation of industrial organisation.

In the HVN chain, new supplier capabilities emerged as a result of two developments: first, the entry of Japanese and Taiwanese suppliers – especially Honda Group suppliers – attracted by the growing market (Table 3.2); and second, the improved capability levels of local suppliers, with most first-tier suppliers reaching the *assimilative* level and some suppliers even attaining the *adaptive* level of production-related capabilities (Fujita, forthcoming). At the same time, with the dismantling of the government restrictions in 2005, HVN was finally able to invest in additional production capacity. This resulted in a sudden surge of the company's production volume, exceeding the 1 million-unit threshold required for dual sourcing in 2007 (Figure 3.3). These two factors together enabled HVN to take advantage of 'institutionalised competition' (Sako 1992) among a carefully selected pool of suppliers¹⁶ to enforce increasingly challenging quality and price requirements on its suppliers. In the meantime, HVN's efforts to search for new local suppliers and provision of technical assistance diminished considerably.

In the meantime, as discussed in Section 3.4.2, Vietnamese–Chinese chains witnessed the emergence of Chinese and Vietnamese suppliers equipped with complementary competencies to conduct minor design modifications to existing models and to manufacture these in large quantities to reasonable standards. The new capabilities enabled these suppliers to serve a large number of local assemblers, giving rise to a distinct form of

¹⁶ This form of competition is distinguished from market competition in arm's-length organisation in that (1) the scope of competition is limited to those suppliers that pass a careful selection process, the lead firm essentially maintaining long-term relations with each of them; and (2) selection of suppliers is not based principally on price but rather on comprehensive ratings of quality, cost reduction and delivery performance, the assessment of proposals submitted by suppliers for increasing the value of the components, and the lead firm's policy on the allocation of business shares (Fujita 2013b: 52).

industrial organisation in which suppliers – not the lead firms – played the key role in coordinating product and process parameters. Under this form of organisation, which Fujita (2013b) described as ‘coordination from below’, the above pool of competent suppliers conducting minor design modifications and large-scale manufacturing formed a ‘shared supply base’ (Sturgeon and Lee 2005) for local assemblers as a whole. This organisational form effectively addressed the coordination needs which had been unattended in the previous stage; that is, coordination required for achieving decent product quality and for making minor cosmetic and/or functional modifications to *de facto* component designs (Fujita 2013b).

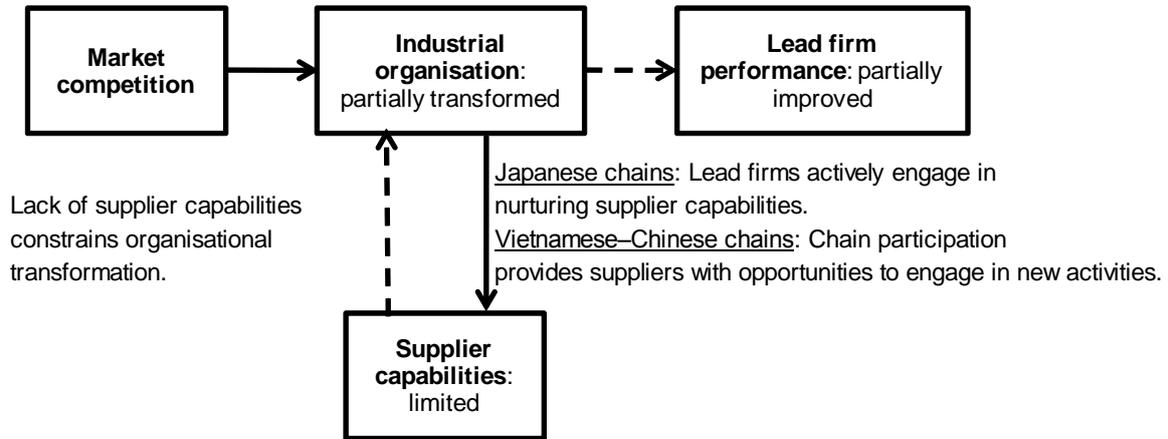
These organisational transformations are indeed vital to explain the industrial development outcomes in Stage III. As regards lead firm performance, HVN was now able to employ ‘institutionalised competition’ to impose challenging *quality and price* reduction targets on its suppliers, which enabled the company to meet the gradual sophistication of market demand and expand its market share. Nevertheless, several local assemblers managed to stay alongside the Japanese as organisational transformation enabled them to capitalise on the supplier-driven coordination to realise low prices, high product variety, and reasonable quality, and to thrive in the low-income segment of the Vietnamese motorcycle market that even HVN’s budget model had not penetrated.

The local component supply base continued to expand, but this time the expansion was driven primarily by the growth of foreign-invested suppliers while local suppliers were exposed to intense competition. Local firms that continued to grow and upgrade were limited to those that had entered Japanese or Vietnamese–Chinese chains at the right time (i.e. Stage II, when competition between suppliers was not overly intense), and which had maintained their competitive edge vis-à-vis other suppliers in their respective chains by steadily building the capabilities required by lead firms. Accordingly, the few dozen suppliers that had taken full advantage of their participation in Japanese or Vietnamese–Chinese chains to acquire advanced capabilities emerged as core companies in the industry’s component supply base.

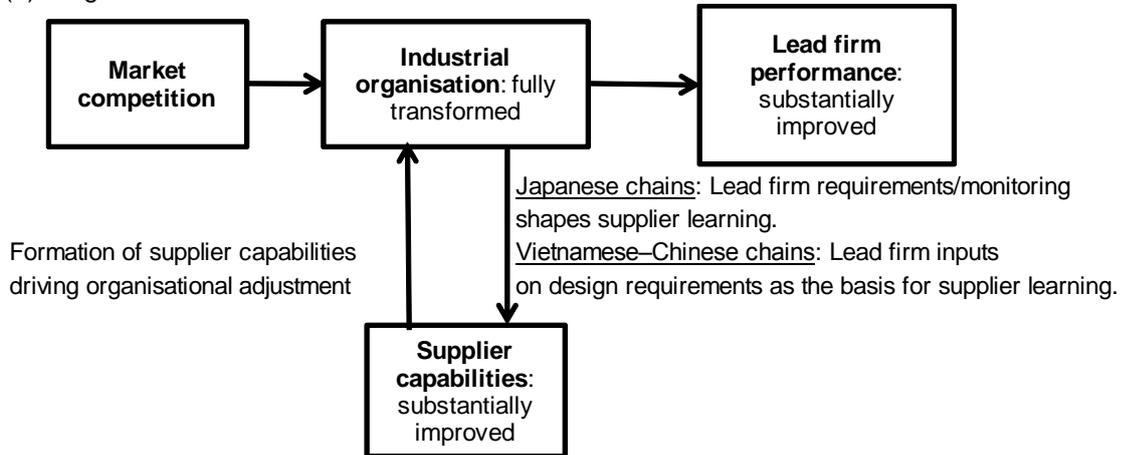
Figure 4.1 summarises the foregoing discussion on the changing chains of causation linking market competition, industrial organisation, lead firm performance and the formation of supplier capabilities. In Stage II, competition drove HVN and local assemblers to adjust their organisational models, but the shortage of supplier capabilities constrained the transformation of industrial organisation. On the other hand, by Stage III, the rise of new supplier capabilities drove full transformation of industrial organisation. It is this changing direction of causation between the variables that is vital to explaining the changing impact of China’s rise.

Figure 4.1 Changing chains of causation in the Vietnamese motorcycle industry

(a) Stage II(b)



(b) Stage III



Source: Author.

5 Conclusion

This paper began by asking the question, does China's economic rise help or hinder the industrial development of its neighbours? The existing literature was found to be largely pessimistic about China's less-developed neighbours that competed head-on with China in domestic and third-country markets. This paper has challenged such a view by engaging in an in-depth longitudinal analysis of the Vietnamese motorcycle industry, which suffered severe competitive effects of China's rise in the early 2000s. This concluding section summarises the contribution of the paper and suggests areas for future research.

The key contributions of the paper are twofold. First, it provides empirical evidence to show that the impact of China *did* change markedly over the decade. As expected, the China shock initially had a severe negative influence on the nascent domestic motorcycle industry. However, the detrimental effects were soon overcome and steadily turned into positive results. In the short term, domestic motorcycle production recovered as HVN significantly boosted its price-based competitiveness and as the import-substitution production of low-priced motorcycles started to take root in Vietnam. But a series of interventionist government policy decisions imposed constraints on overall industrial development at this stage. This was nevertheless a period when ample space opened up for local suppliers – including small-scale private firms – to enter motorcycle production value chains and acquire new capabilities.

As policy constraints were removed in the medium term, the industry entered a qualitatively new development phase, with HVN emerging as an ever-dominant actor. Yet, several very large local assemblers clung on to their market share by catering to the lowest end of the market. The component supply base also continued to develop but this time, there was no longer a reserved space for local suppliers. As those of different nationalities competed intensely for orders, foreign-invested suppliers came to take on a greater role in the country's component supply base. Nevertheless, a few dozen local suppliers continued to grow and upgrade by acquiring increasingly sophisticated capabilities, emerging as core companies in the component supply base.

The second contribution of this paper lies in its explanation of why the Chinese impact changed over time. The study reached beyond a narrow focus on the immediate response of incumbent firms to competitive effects – as seen in the existing literature – and sought instead to examine how the impact of China's rise created repercussions for a wider range of actors within the industry at different points in time. The key to understanding these dynamics was organisational transformation triggered by the competition between two contrasting models of industrial organisation, that is, the Japanese model that prioritised quality, and the Chinese model that concentrated on price. The transformation of these two models was critical in explaining relations between market competition arising from the China shock, supplier capability building, and lead firm performance.

Faced with market competition, HVN and local assemblers sought to adjust their respective models of industrial organisation. However, such modifications took time because intended changes could not be made due to initial inadequate supplier capability to support the sustained implementation of either organisational model. Nevertheless, in the medium term, a combination of policy change, attempts by lead firms to nurture supplier capabilities, and the supplier's own learning initiatives paved the way for the organisational adjustment that brought remarkable changes in industrial development outcomes.

The overall conclusion of this paper is that assessing China's impact requires the tracing of changes over an extended period of time. What initially seem like negative effects on incumbent producers might in the longer term be translated into a major boost to industrial development. However, such an outcome is clearly contingent on strong entrepreneurship and the seizure of business opportunities by new entrants; the capacity on the parts of both incumbent firms and new entrants to invest in and build capabilities; and an environment (both domestic and international) that is conducive to strategic responses from all stakeholders.

Indeed, caution is needed with regard to the applicability of the overall findings to other contexts. The industrial dynamics that unfolded in the Vietnamese motorcycle industry had much to do with a combination of specific conditions, that is, (1) the presence of powerful TNCs that were strongly committed to seizing the emerging market and had the capacity to respond strategically to the Chinese challenge; (2) active entrepreneurship on the part of Vietnamese assemblers, without which *repeated* rounds of competition would not have taken place; and (3) a large pool of local and foreign-invested suppliers who actively exploited new transaction opportunities.

These conditions may not be present in many other industries or countries. Indeed, the emerging body of research on Chinese investment in Africa suggests that the absence of such conditions in this context has resulted in a situation in which Chinese investors either depend on imported inputs or develop enclaves in the host economies, both of which create limited spill-over benefits for local firms (Broadman 2007; Gu 2009, 2011). However, there are cases in which Chinese imports have triggered innovative responses among local producers, for example, the electrical fittings industry in Pakistan (Sonobe and Otsuka 2010) and the Ethiopian footwear industry (Tegegne 2009; Sonobe and Otsuka 2010). Therefore, similar lines of research might be useful in these and other sectors in order to shed light on whether the impact of China's growth on the development of local firms and industries has changed in the short and medium term.

Lastly, while this paper focused on China's *competitive* impact, research is also needed into how and why China's *complementary* impact changes over time. To date, complementarity between China and its neighbours has grown as the former has needed inputs for export production. However, complementary effects could diminish over time as China acquires the requisite technological capacity to produce the parts and components it currently imports. Nevertheless, scope for exploiting complementarity may persist if the neighbours continue to improve on their technological edge.

Since complementary effects emerge from the regional production networks of TNCs extending to different countries in the region, research that examines changes in such impact is most likely to benefit from applying the methodological approaches employed in the present study. This implies tracing changes over different stages of industrial development; in-depth examination of key actors along the value chain; analysis of interaction between firms; and integration of firm-level and industry-level data. Although rarely adopted in research on China's impact on its neighbours, these are useful tools for analysing the complex interactive processes of market change, strategic response, capability building, and industrial development.

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