Working Papers in
Trade and Development

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Prema-chandra Athukorala

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November 2009
Working Paper No. 2009/20

The Arndt-Corden Division of Economics
ANU College of Asia and the Pacific

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Prema-chandra Athukorala
The Arndt-Corden Division of Economics
ANU College of Asia and the Pacific
The Australian National University

And

Tran Quang Tien
Central Women Training School of Vietnam
Hanoi
and
Visiting Fellow, The Arndt-Corden Division of Economics
ANU College of Asia and the Pacific
The Australian National University

Corresponding Address :
Prema-chandra Athukorala
The Arndt-Corden Division of Economics
The ANU College of Asia and the Pacific
Coombs Building 9
The Australian National University
Canberra ACT 0200

Email: Prema-chandra.Athukorala@anu.edu.au

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Prema-chandra Athukorala[*]

Australian National University
and

Tran Quang Tien
Central Women Training school of Vietnam, Hanoi

[*] Corresponding author

Abstract: This paper examines the role of foreign direct investment (FDI) in the process of industrial transition in Vietnam in the context of market-oriented reforms undertaken over the past two decades. The findings are consistent with the conventional wisdom that concomitant liberalization of trade and investment regimes, accompanied by creating a congenial environment for market-based decisions by the private agents, is vital for reaping developmental gains form FDI. During the 1990s growth of employment in foreign invested enterprises (FIEs) lagged behind output growth, reflecting the capital-intensity bias of production in a partially-liberalized economy. This pattern has changed notably in recent years as the reform process gained momentum. Of particular significance in this connection is the growing importance of assembly activities by FIEs in electronics and other high-tech industries.

JEL classification: F23, O53, P23
Key words: Vietnam, Asia, foreign direct investment, transitional economy, multinational enterprises

Mailing address

P. Athukorala
Arndt-Corden Division of Economics
Research School of Pacific and Asian Studies
Australian National University
Canberra
ACT 0200
AUSTRALIA

Tel 61 2 6125 8259
Fax 61 2 6125 3700
E-mail: prema-chandra.athukorala@anu.edu.au

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Abstract: This paper examines the role of foreign direct investment (FDI) in the process of industrial transition in Vietnam in the context of market-oriented reforms undertaken over the past two decades. The findings are consistent with the conventional wisdom that concomitant liberalization of trade and investment regimes, accompanied by creating a congenial environment for market-based decisions by the private agents, is vital for reaping developmental gains form FDI. During the 1990s growth of employment in foreign invested enterprises (FIEs) lagged behind output growth, reflecting the capital-intensity bias of production in a partially-liberalized economy. This pattern has changed notably in recent years as the reform process gained momentum. Of particular significance in this connection is the growing importance of assembly activities by FIEs in electronics and other high-tech industries.

1. INTRODUCTION

Opening of the economy to foreign direct investment has been an important element of Vietnam's 'renovation' (*doi moi*) reforms initiated in 1986. With a hesitant start in the late 1980s, foreign investment regime was considerably liberalized in the first half of the 1990s as part of a broader liberalization reform package designed to reshape the former closed command economy into a market-based economy. The reform process lost momentum during 1996-98 partly due to economic uncertainly created by the East Asian crisis, but partly (perhaps even more so) due to domestic policy ambivalence and complacency resulted from the success of the initial reforms. There has, however, been a renewed emphasis on completing the unfinished reform agenda since the late 1990s. Notable recent reforms include permitting previously-established foreign invested enterprises (FIEs) to reconstitute as fully-owned subsidiaries**,** streamlining/simplification of investment approval and monitoring processes under a unified investment law applicable to both foreign and local investors; removal of local-content and export-performance requirements and restrictions on technology transfer, and the announcement of an

action plan to reconstitute all SOEs as private limited liability companies or joint-stock companies with opportunities for FIEs to participate in the process.

The purpose of this paper is to survey the evolution of foreign investment regime in Vietnam in the border context of market-oriented reforms and examine the role of foreign direct investment (FDI) in the process of industrial transition. A key theme running through the analysis is that both the rate of FDI involvement in the economy and the national developmental gains from FDI depend crucially on the conduciveness of overall domestic economic policy environment for market-based decision making; liberalization of foreign investment regime *per se* is not sufficient to reap national gains form opening the door to foreign investors (Bhagwati 1996, 2006). Particular emphasis will be placed on the role of FDI in linking Vietnamese manufacturing to the rapidly evolving regional and global production networks. Based on the recent literature on the role of institutions in economic development, we also emphasis the importance of legal and institutional reforms as prerequisites for creating an enabling environment for harnessing foreign (and domestic) investment for national development in transitional economies (Lankes and Venables 1996, McMillan and Woodruff 2002).

In addition to informing the policy debate on liberalization reforms in Vietnam, this paper intends to contribute to the fledgling literature on the role of FDI in economic transition from 'the plan to market'. Attracting FDI has been a key focus of market-oriented policy forms in transitional economies, countries which have embarked on a process of systemic transformation from central planning to market orientation. It is generally believed that FDI can play a 'special' role in economic transition in these countries as a catalyst for revitalizing the private sector, which remained dormant under the command economy era. Yet there is a dearth of systematic comparative analysis of FDI flows to these countries and their developmental impact. The limited literature so far has predominantly focused on the experiences of China and a few major economies in Eastern Europe.[1]

The study is based on a data set pieced together from a number of sources. The investment monitoring organization in Vietnam, the Ministry of Planning and Investment does collect information

annually on the operation of approved project, but there is no system in place to systematically process and publish the data. The General Statistical Organization (GSO) of Vietnam has been conducting an annuals census of manufacturing based on a well-designed questionnaire since 2000. Some of the basis data tabulations from this survey are available from CSO publications, but the large bulk of the valuable information gather from Census still remain under utilized. This study brings together whatever relevant data available from MPI and GSO publications and some fresh data tabulations from unpublished data obtained from these two organizations.

The paper is organized as follows: Section 2 provides an overview of FDI policy and investment environment in Vietnam. Section 3 examines trends and patterns of FDI against the backdrop of domestic policy shifts, and regional and global trends. Section 4 probes developmental impact of FDI, with emphasis on the implications of the incomplete reform agenda and policy inconsistencies cropped up in the reform process in determining the actual outcome in contrast to initial expectations. The key findings and policy recommendations are presented in the concluding section.

2 INVESTMENT CLIMATE

The term 'investment climate' encompasses both the foreign investment regime (rules governing foreign investment and specific incentives for investors) and the general investment environment, which encompasses various factors influencing investment decisions such as political stability, macroeconomic environment and attitudes of host countries towards foreign enterprise participation. In this section we survey the evolution of FDI regimes under market-oriented reforms followed by an assessment of the current state of the overall investment climate.

FDI Policy

The first law on FDI was passed by the Vietnamese National Assembly on 29 December 1987. The law specified three modes of foreign investor participation, namely, (i) business cooperation contracts

(BCC), (ii) joint-venture; and (iii) fully foreign owned ventures. Foreign participation in the fields of oil exploration and communications was strictly limited to BCC. In some sectors such as transportation, port construction, airport terminals, forestry plantation, tourism, cultural activities, and production of explosives, joint-ventures with domestic state-owned enterprises (SOEs) was specified as the mode of foreign entry. Fully foreign-owned ventures were to be allowed only under especial considerations governing policy priorities of domestic industrial development. The duration of foreign ownership of approved projects was limited to a maximum of 20 years, unless under exceptional circumstances. The incentives offered to foreign investors included exemption from corporate tax for a period of two years, commencing from the first profit-making year, followed by a preferential corporate tax rate between 15% to 25% in priority sectors (as against the standard rate of 32%). Overseas remittance of payments for the provision of technology services, repayment of principal and interests on loans, and repatriation of after tax profit were freely allowed. The government provided constitutional guarantee against nationalization of foreign companies.

In 1991 legislation was passed to permit setting up export processing zones (EPZ) which offered especial incentives to firms involved in the production of goods for exports and the provision of services for the production of export goods. In 1992, the duration of foreign participation was extended from 20 years to 50 years, and 70 years in special cases. A new law enacted in 1996 permitted private enterprises to enter into joint ventures with foreign investors and procedures for the approval of investment projects were streamlined. The tax holiday for investment in priority sectors was extended up to 8 years, with a beyond-tax holiday tax of 10%. A three –tier withholding tax of 5%, 7% and 10%, based on the 'priority status' of investment, was introduced in place of the original flat rate of 10%.

These significant revisions to the foreign investment law were, however, coincided with a growing resentment against FDI within the Communist Party circles. This resentment, which was fuelled by the massive influx of FDI following the initial phase of reforms, resulted in a number of restrictive policy measures which raised serious concerns in the international investment community

about the Vietnam's attempts to project its image as a new investment centre. These included a proposal to establish liaison offices of the Communist Party in all foreign ventures, doubling of commercial and residential rents for foreign enterprises and expatriate staff, imposition of a maximum time limit of three years on work permits issued to foreigners employed in FDI projects, restrictions on foreign capital participation in labor-intensive industries, and imposition of domestic content requirements and export performance requirements on FIEs in a number of key industries. The foreign investment approval procedure also turned out to be more selective with greater emphasis placed on promoting investment in key high-tech industries such as metallurgy, basic chemicals, machinery, pharmaceuticals, fertilizer, electronics and motor vehicles. Notwithstanding the new (1996) legislation permitting domestic private enterprises to enter into joint ventures with foreign firms, joint ventures with SOEs continued to remain the prime mode of FDI entry in investment approval (Truong and Gates 1996).

Policy reforms following the economic downturn during 1997-99 placed renewed emphasis on FDI promotion. Under an amendment to the FDI law on 9 June 2000, foreign invested enterprises (FIEs) and parties to Business Corporation Contracts (BCC) were given freedom to convert joint-ventures into fully-owned subsidiaries of parent companies, and to merge and consolidate enterprises. The approval procedure of new investment proposals was streamlined, with automatic registration of export-oriented FIEs. FIEs were allowed to open account with overseas banks and to mortgage assets attached to land and land-use rights as security for borrowing from credit institutions permitted to operate in Vietnam. Local authorities, notably the Ho Chi Minh City council, were given greater autonomy to improve the investment climate and ease administrative hurdles faced by FIEs. In April 2003, 100% foreign owned companies were allowed to become shareholding companies (that is, they were permitted to establish joint ventures). The withholding tax on profit remittance was abolished with effect from April 2004.

A new unified *Investment law* was promulgated in December 2005 to replace the *Law on Foreign Investment* and the *Law on Domestic Investment Promotion* (Magennis 2006). Key features of

this land-mark legislation, which became operational in July 2006, included treating foreign and domestic investors equally with regard to investment approval and the incentives offered, providing investors with complete freedom in selecting between joint venture or full ownership, abolishing local context and export performance requirements, and introducing a decentralized, three-tier system of investment approval. Under the new investment approval procedures, projects under US$ one million requires only business registration (that is, no requirement for investment approval), projects between US$1 to 20 millions are approved at the provincial level, and only the project beyond this investment level requires the approval of the central government (MPI). As part of the new law steps have been taken to reduce the amount of paperwork involved in FDI approval/monitoring. The new law also contains a more flexible dispute resolution procedure under which foreign investors have freedom to choose between a domestic and an international arbitration body in the event of an investment dispute.

Accompanying Reforms

Liberalisation of the foreign trade regime has gone hand in hand with the investment regime reforms. The Law on Import and Export Duties introduced on 1 January 1988 marked the beginning of the present trade tax system. After one-and-a-half decades of reforms, tariffs are now the major instruments used in regulating import trade in Vietnam. The average (import-weighted) import duty rate declined from 22 percent in 1999 to 13.6 percent in 2005. The maximum tariff rate (at the six-digit level of the Harmonised System, HS) came down from 200 percent in 1997 to 120 percent in 2001 and then to 113 percent in 2005. By 2005 only less than one percent of total tariff lines (accounting for around 4 percent of import value) had tariff rates above 50 percent; about one-thirds of the tariff lines had zero tariffs (Athukorala 2006b).

Reforming the state-owned enterprises was a key element of the reform package, but the implementation has been slow. During the period 1992-2005, over 3000 SOEs were privatized. However, the government still owns at least 50% or higher of equity in a large number of these

enterprises. At the initial stage of reforms, foreign investors were not permitted to buy equity in privatized SOEs. A new law enacted in 2003 permitted FIEs already operating in the country to own only up to 30% of equity in Vietnamese enterprises, including privatized SOEs. Given these restrictions, until 2005 there were only 25 cases of foreign investors participating in privatized SOEs (Sojoholm 2006).

Under the WTO accession commitments, the Vietnamese government has agreed to privatize or equitize all SOEs, except for selected business groups and enterprises supplying public goods. The latter SOEs are to be reconstituted as limited liability companies or joint stock companies. All legal entities and individuals will be allowed to purchase shares of SOEs or to form joint stock companies with SOEs, with no restrictions on equity share. FIEs already operating in the country will be treated as domestic investors in participating in the privatization process.

The earlier reforms in Vietnam largely bypassed the domestic private sector. The process of establishing the institutions needed to support private sector activity outside agriculture did not begin in earnest until 1990. In that year, the Law on Private Enterprises and the Law on Companies was passed, establishing legalized ownership forms – proprietorship, limited liability companies and joint stock companies – necessary for the development of private sector enterprises. Due to various restrictions and biases in favour of SOEs, this system was not very effective in setting the stage for the development of the non-state sector. In particular, the procedure for obtaining business licenses and re-registration were complicated and opaque, giving ample room for bureaucratic red tape and corruption. Consequently, development of the domestic private sector over the period 1986-1999 was relatively weak compared with the other sectors of the economy, in particular domestic agriculture and the foreign invested sector (Mallon 2004).

The new *Enterprise Law* which came into force in 2000 was a major step towards resolving problems relating to business registration and redressing various forms of other administrative discrimination against non-state enterprises. It provides security for private enterprises and owners with

full government guarantee, equity among enterprises, rights of asset ownership, and commitment to not nationalize or expropriate assets, and was instrumental in greatly simplifying the procedure for setting up new enterprises. The impact of this law was swift and remarkable; there was a four fold increase in the number of private enterprises over the period 2000-06 compared to 1991-1999 (CEAM 2008).

Trade and investment policy reforms were accompanied by significant macroeconomic policy reforms (Riedel and Comer 2007, Dollar and Ljunggren 1997). As part of fighting inflation, interest rates were raised to very high levels. In conjunction with interest rate increases, the government also tried to curb deficit financing which required a large fiscal adjustment, including releasing 500,000 soldiers from the military and sharp cuts in subsidies to SOEs. These policy measures, combined with some revenue windfalls from petroleum operations coming on line, brought the budget deficit from 11.4 percent of GDP in 1989 to below 4 percent in 1992, a level which has not been surpassed ever since. Fiscal adjustment and monetary restraint were successful in bringing the inflation rate from over 160 percent per annum in 1988 to less than 10 percent by the mid-1990s.

Investor Perception

After a one-and-a-half decades of policy reforms, how do international investor rate Vietnam among other countries as an alternative host? Investment Climate Studies (ICSs) recently undertaken by the World Bank provide vital information needed for probing this and related issues. Based on systematic questionnaire-based surveys of representative samples of firms in individual countries, these studies provide a far superior information base compared to other widely-used comparative investment climate assessments (such as the World Competitiveness Report of the World Economic Forum, the Canadian Fraser Institute Index, the Economic Freedom Index of the heritage Foundation and World Bank *Doingbusness* database) which are predominately based on various secondary sources and anecdotal evidence gathered through short field visits.

Information from the ICS of Vietnam is summarized in Table 1, with regional and global comparison based on similar studies. Interestingly, the percentage of firms in Vietnam which rated legal system, corruption, bureaucratic procedures and corruption as a major constraint to business growth is significantly lower than in the rest of East Asia or the rest of the developing world. Perhaps the ability to conduct business-to-business transactions on a trust basis, or using rudimentary but reliable enforcement mechanisms, may explain the low importance attached to these institutional constraints (McMillan and Woodruff (1999 and 2002). The considerable simplification of administrative procedures under the Enterprise Law in 2000 could also have considerably reduced the constraining effects on private sector performance of bureaucratic red tape. Rather low emphasis paced on corruption runs counter to the popular perception, but is consistent with the findings of a number of recent firm level surveys conducted by the World Bank and various other organizations. They all yield a consistent picture: corruption directly affecting businesses is quite prevalent, but petty (small bribes), amounting to less than one percent of total sales (World Bank 2005, 45-46). The major constraints identified by the Vietnamese respondent firms, in descending order of significance, were difficulty of gaining access to finance and land, insufficient skills and education of the workforce, and poor transportation infrastructure

Table 1 about here

3 TRENDS AND PATTERNS OF FDI

Annual gross FDI inflows to Vietnam surged from almost zero in late 1980s to an annual average of 780 million in 1990-95 and to 2587 million in 1997. From 1997 there was a precipitous fall in investment inflows, bottoming at US$ 1200 in 2002. Since then, there has been a notable recovery, reaching US$ 6739 million in 2007.[2]

The surge of FDI in the aftermaths of the policy shift from 'plan to market' has been a common pattern observed across almost all other transition economies (Huang 2003, Lankes and Venables 1996,

Lankes and Stern 1997). Significant initial reforms and the general media-propelled euphoria about opening of a 'new investment frontier' naturally heightened investor interest in becoming the first in exploiting new investment opportunities. Moreover, in the immediate aftermath of economic opening, there were many quick-return as well as low-risk long-term investment opportunities in infrastructure development and provision of utilities (power, telecommunication etc) and resource extraction (oil exploration, for example). Massive injection of funds by international developmental agencies and donor nations into infrastructure and energy projects provided an added impetus for investment in related areas. Once these initial stimuli dissipated, the sustainability of investment surge depended very much on the ability of the governments to deliver the promised reforms and the 'natural' attractiveness of the country as an investment location.

The onset of the East Asian financial crisis in mid-1997 was an additional factor in the cessation of the early post-reform surge in FDI in Vietnam. Investors from East Asian countries – in particular Malaysia, South Korea, and Singapore – played a key role in the investment surge on the back of the economic boom in their economies in the lead-up to the crisis (see below). These substantial intra-Southeast Asian FDI flows were severely disrupted by the onset of the crisis.

However, one should not overstate the role of these two factors in the cessation of the post-reform FDI boom in Vietnam. A close look at investment approval data in Vietnam suggests that investor interest in that country began to decline from about mid-1996, following the failure of the sixth Communist Part Congress to deliver anticipated further reforms and the on-set of a political backlash against foreign firms on the basis of their perceived adverse socio-economic implications (Truong and Gates 1996, Schaumburg-Muller 2003). There was also a notable increase in the failure rate of licensed FDI projects (that is, the percentage of withdrawn projects out of total licenses projects) in the second half of 1990s compared with the early post reform years (Kokko *et al*. 2003).

Notwithstanding the recent surge, in an overall international comparison, Vietnam has continued to remain a small player in the global investment scene. During 2000-07 FDI flows to Vietnam

amounted to a mere 0.6 % of total FDI flows to developing countries and 3.8% of flows to China (Athukorala and Hill 2010).

Ownership Structure

A well-known feature of FDI in Vietnam highlighted in the early studies was the dominance of joint ventures with SOEs as the entry mode. During 1988-1994, Joint ventures accounted for over 70% of total approved projects and 75% of total registered capital. The bulk of these joint ventures (over 90%) had state-owned enterprises as the local partners (Kokko et al 2003). Since then, there has been a significant increase in the share of fully- foreign owned firms among total approved investment (both in terms of the number of projects and value of committed capital) at the expense of the relative position of joint ventures. By 2001 fully-foreign owned firms accounted for over 80% of total approved FIEs and 65% of total registered investment of these firms. The main underlying factor in this shift in the ownership structure appears to be the more flexible ownership criterion adopted by the Vietnamese authorities in approving export-oriented FDI. As we will see below, the relative importance of export-oriented firms and fully-foreign owned firms among total FIEs seem to have increased hand in hand.

Source Country Composition

The geographic origin of FDI in Vietnam is characterized by a clear East Asia regional bias. During 1998-2004, investors from ASEAN, Northeast Asia and China together accounted for over two thirds of approved FDI.[3] This is in sharp contrast to the other Southeast Asian countries (Indonesia, Malaysia, Philippines, Singapore and Thailand) where the bulk of FDI is originated in OECD countries. Over the years, the relative position of ASEAN countries has declined as a result of growing importance of investors from the other East Asian countries and OECD countries. At the individual country level, the relative position of Singapore, which was the largest host country until the late 1999, declined from 20% during 1988-1999 to 12.0% during 2000-07 and that of South Korea and Taiwan has increased

from 9% to 16%, and 12% to 24% respectively. Investment from China also has increased rapidly, but from a low base, reaching 6% of total investment during 2005.

During the early years of market-oriented reforms in Vietnam, analysts often referred to the US economic embargo as a major constraint on the country's ability to rely on FDI in the process of economic transition. However, interestingly the lifting of the embargo in 1994 and the signing of the Vietnam-USA Free Trade Agreement in 2001 did not immediately bring about a significant change in the source country composition of FDI in Vietnam. The share of US investors in total approved investment in realized project amounted to a mere 1.5% during 2000-05.

US FDI in countries in the Asian-Pacific region is heavily concentrated in assembly activities in vertically integrated high-tech industries, mostly in electronics (Lipsey 1998). Multinational enterprises (MNEs) involved in these product lines place a much greater weight on the stability and transparency of the domestic investment climate compared to their counterparts in the standard export-oriented labour intensive products (like clothing or footwear) or domestic-market oriented industries. Reflecting this cautious approach to site selection, the first investment project by US electronics MNE in Vietnam materialized only in 2006 by which time Vietnam's commitment to market-oriented reforms and promoting FDI had become firmly rooted.

On 28 February 2006, the US-based Intel Corporation, the world's largest semiconductor producer, announced that it will invest $300 million (subsequently revised to 1 billion) to build a semiconductor testing and assembly plant in Ho Chi Ming City as part of its worldwide expansion of production capacity (Altman 2007). This will be the seventh assembly site of Intel's global network and is projected to eventually employ over 3000 workers.

There is evidence from other countries in the region such as Singapore, Thailand and the Philippines that there is something of a herd mentality in the site selection process of electronic multinational firms, particularly if the first entrant is a major player in the industry. It seems that, following Intel's entry, this process has already begun to repay in Vietnam. For instance, the

Taiwanese-based Hon Hai Precision Industry Co., the world's biggest electronics contract manufacturer announced in August 2007 its plan to set up a $5 billion plant in Vietnam (*The Wall Street Journal*, 213 30 August 2007, p. 1). The other major players in electronics industry which have already appeared in investment approval records of the Ministry of Planning and Investment include Foxconn, Compal and Nidec. The Saigon Hi-Tech Park has begun to emerge as an investment hub bringing together foreign investors with domestic companies in setting up assembly and testing plants linked to regional production networks (*The Wall Street Journal*, 7 October 2007, p. 1). Until the entry of Intel, electronics industry in Vietnam was dominated by small- and medium-scale foreign investors from Taiwan and Korea, the only large global player being Hitachi from Japan.[4]

Industry Composition

In the immediate reform years, offshore petroleum and gas extraction, and construction and services sectors were the major areas of attraction to foreign investors, with the manufacturing sector accounting for less than a fifth of registered investment in total approved projects. The relative importance of manufacturing has however increased over the years. By 2007, manufacturing for 45% of cumulative approved investment in realized projects. During the early years, much of FDI investment in manufacturing was in production for the domestic market. During 1988-90, less than 20% of total approved projects had export-output ratios of over 50%. From the late 1990s there has been a notable compositional shift in manufacturing FDI from domestic-market oriented to export-oriented production. By 2000, over 70% of approved FIEs in manufacturing had export-output ratios of over 50%, with the majority clustering within 80-100% range. Until about the late 1990, most of the export-oriented FDI projects were in garment, footwear, and furniture and other wood product industries. Over the past five years foreign investors have begun to enter into assembly activities in electrical and electronics industries.

Table 2 about here

4. ECONOMIC IMPACT

Foreign invested enterprises (FIEs) have made a notable contribution to the process of economic transition in Vietnam. Their share in GDP increased consistently from 6.3% in 1995 (the earliest year for which this information is available) by 15.2 to 2005, accounting for over a quarter of the total increment in real GDP between these two years. The contribution of FIEs to the expansion of manufacturing has naturally been much greater compared to the rest of the economy; during 2000-05, they accounted for 35% of the increment in real capital stock, over 40% of output and nearly a third of employment in manufacturing (Table 3). In this section we examine the role of FIEs in the Vietnamese economy focusing on three important aspects of manufacturing performance: export performance, labour absorption and factor productivity growth.

Table 3 about here

Export performance

The most visible contribution of (FIEs) to the Vietnamese economy is in export expansion. During the reform era until the early 1990s crude petroleum and agricultural products dominated the export structure of Vietnam. Since then there has been a notable increase in the role of manufacturing in export expansion. The share of manufactured goods in total non-oil exports increased from about 20% in the early 1990s to over 80% in 2006. FIEs have played a pivotal role in this export transition. The share of FIEs in total manufacturing exports increased from about 20% to over 50% over this period (Figure 1). This has been accompanied by a rise in Vietnam's share in total world manufacturing exports, from 0.07% in the early 1990 to over 0.30% in 2006. These co-movements in FIE share in

exports and Vietnam's world market share suggest that FIE participation has unequivocally contributed to export expansion without crowding out export performance of local firms.

Figure 1 about here

There is evidence that FIEs, in addition to their direct contribution to export expansion, act as conduits for the expansion of exports by local firms (both SOEs and newly emerging private firms) by opening up marketing channels (Kokko and Sjoholm 2006). For instance, following the entry of foreign firms into garments and other light consumer goods industries, many *international buying groups*[5], which had long-established market links with these firms, expanded their global procurement networks to cover Vietnam. These buying groups have subsequently begun to procure supplies directly from local firms. Moreover, in some export-oriented industries MNEs carry out production in Vietnam entirely through sub-contracting arrangements with pure local firms (eg. Nike in footwear and Ikea in furniture), while directly engaging only in procurement and marketing tasks through liaison offices. Naturally these export activities are not captured in FIE export data depicted in Figure 1.

During the early years of the reform the standard labour intensive goods (in particular, textile and garments, footwear and miscellaneous manufactures) dominated the export composition of FIEs. Over the past decade or so, electrical machinery and apparatus have emerged as the single most important export line of FIEs operating in Vietnam (Table 4). This product category predominantly comprises parts and components of information technology products (office, accounting and computing machinery, and electrical machinery and apparatus which fall under Sections 75, 76 and 77 of the Standard International Trade Classification, SITC). Over 90% of these exports are to countries in ASEAN, Taiwan, Korea and China. Interestingly, the geographic profile of Vietnam's of exports and imports of parts and component belonging to these product categories is very similar to that of imports. These patterns are clearly indicative of the role of foreign firms in linking Vietnam to rapidly evolving

regional production networks based on its comparative advantage in component assembly (Athukorala and Hill 2010). Given the recent entry of Intel Corporation and the subsequent arrival of a number of major global players in electronics and electrical machinery industry, network trade based on international production fragmentation is likely to be the prime mover of export-led industrialization in Vietnam in years to come.

Table 4 about here

In sum, export patterns of FIEs in Vietnam are basically consistent with the country's comparative advantage in international production. Contrary to the policy makers' expectations, FIEs in so-called heavy industries such as chemical and chemical products, basic metal products, fabricated metal products and motor vehicles have not contributed to export expansion. There is no evidence to suggest that export performance requirements and the related tax and import duty concessions, which were in force until recently, have had a noticeable impact on the performance of FIEs in these industries.

Employment

In the 1990s, while employment in manufacturing FIEs increased notably, the share of FIEs in total manufacturing employment consistently lagged behind their rate of output expansion (Jenkins 2003). For instance, in that decade, total manufacturing output of FIEs grew by an impressive 9.5%, but employment grew only by a mere 1.8%. This reflected the capital intensity bias infused into FIE production by the heavy-industry emphasis of the investment approval policy and the structure of protection molded by this policy.

There are clear signs that the employment record of FIEs has begun to improve from about the late 1990s in an environment that has become more conducive for export-oriented production (Figure 2). Between 1999 and 2005 total employment in manufacturing FIEs recoded a five-fold increase (from

217 thousand to 1.1 million), and their share in total manufacturing employment increased from 20% to 38% (Table 5). FIEs contributed over a half of total manufacturing employment increment between these two years came from FIEs.

Figure 2 about here

Table 5 about here

This notable contribution of FIEs to expansion in manufacturing employment has been underpinned by a persistent decline in the share of FIEs in fixed investment in manufacturing (Table 3, Item 3). The share of FIEs in the total manufacturing capital stock was 46.7% in 2005, down from 51.4% five years ago as against a persistent increase in this figure for both SOEs and domestic private firms. The decline in capital intensity (improvement in employment intensity) of FDI has in turn been underpinned by a notable shift in their output composition away from domestic-market oriented production and towards export-oriented production. During 2005-05 over 70% of total manufacturing employment was accounted for by industries which exported more than 50% of their output (columns 1 and 4 in Table 5). The data points to a close relationship between the degree of export orientation of FIE firms and their employment growth across industries listed in the Table (compare Columns 1 and 6; the rank correlation coefficient between the two variable is 0.64). The data on employment and capital per worker disaggregated by ownership type show that employment intensity of output expansion in fully-owned FIEs has been much greater compared to all other four ownership categories (domestic private firms, SOEs, FIE joint ventures with domestic private firms, FIE joint ventures with SOEs). These patterns reflect the fact that full ownership is generally the preferred mode of entry of most (if not all) export-oriented foreign firms.

The results of an econometric exercise undertaken to examine the determinants of capital intensity of production (measured by real capital stock per worker) in Vietnamese manufacturing, while taking into account firm ownership and controlling for export orientation and other determinants, are

reported in Table 6. Equation 1 compares capital intensity differential between all FIEs as a group and all domestic firms. In Equation 2, three ownership categories – FIE joint ventures (with both SOEs and local private firms)[6], fully owned FIEs and SOEs, using domestic firms as the base dummy. The coefficient of *EX* in both equations is consistent with the hypothesis that production process of exporting firms (both local and foreign) are generally more labour intensive (or less capital intensive) compared to purely domestic-market oriented firms. On average, the degree of capital intensity of exporting firms seems to be 28% lower compared to non-exporting firms. The results for the disaggregated ownership dummies in Equation 2 are consistent with our previous inference based on simple inspection of data that production process of fully-foreign owned firms are more labour intensive compared to joint-venture FIEs. These is also weak statistical support for the hypothesis that exporting foreign firms are about 6% more labour intensive compared to their non-exporting counterpart (Equation 1). By contrast, the interaction term with export performance (*EX*) is not significant for any of the three ownership dummies. In sum, the results suggest that greater employment intensity of FIEs that we have noted earlier has been the outcome of greater concentration of FIEs in industries with greater export potential (as determined by Vietnam's comparative advantage in international production) compared to their local counterpart.

Table 6 about here

Finally, the average wage of manufacturing FIEs has been consistently higher than that of non-FIEs across all industries (Table 5, columns 8 and 9). This pattern is consistent with the findings of a large literature on the wage behavior of foreign affiliates of MNEs in various countries (Lipsey 2004). However, data disaggregated by entry mode (Table 3, item 5) suggest that the average wage per worker in fully-owned FIEs is somewhat lower compared to that of both joint ventures with domestic private firms and joint ventures with SOEs. These differences seem to reflect the greater concentration of fully-owned FIEs in export-oriented production.

Productivity growth

A consideration central to any assessment of national gains to host countries from FDI is the contribution of FIEs to productivity growth in the national economy. FIEs are expected to contribute to productivity growth both directly (through their role as part of the domestic economy) and though spillover effect on the performance of domestic firms.

To examine the relative contribution of FIEs we estimated a production function for Vietnamese manufacturing using pooled firm-level data, with ownership dummies included as additional explanatory variables. The two standard input variables are capita measured by the capital stock at the beginning of the year (*K*) and labour (*L*) measured by the number of workers. Industry concentration (*CON*), skill composition of employment (*SKILL*), and export ordination (EX) and the operation age of the firm (*AGE*) are used as control variables. As in the case of factor intensive analysis, three ownership dummies—foreign joint ventures (*JVFIE*), fully-owned foreign firms (*FOFIE*) and state-owned enterprises (*SOE*s) — are used, with domestic firms as the base dummy. Under the assumption that the standard input variables and other control variables are capable of explaining differences in output growth among firms during the period under study, the estimates coefficient of the ownership dummy provides for an appropriate test as to whether ownership makes a special contribution to inter-firm differences in productivity growth.

Table 7 about here

The standard OLS estimates are reported as Equations 1 and 2. Foreign owned firms are represented in terms of a composite dummy variable (*FIE*) in Equations 1 and 3. Equations 2 and 4 distinguished among foreign-invested joint venture firms (*JVFIE*s) and fully foreign owned firms

(*FOFIE*s). As a robustness check, the same equations estimated using the Hausman-Taylor random effect estimator is reported as Equations 2 and 4. The alternative estimates are strikingly similar. The following discussion focuses on methodologically superiors Hausman-Taylor estimates.

The coefficient of the overall general foreign ownership dummy (*FIE*) is statistically significant with the perverse (negative) sign, suggesting that the presence of FIEs retards, rather than promotes, productivity of domestic manufacturing. However, the coefficient of the slope interaction dummy (*EX*FIE*) is positive and statistically significant; the results suggests that the rate of total factor productivity growth of export-oriented FIEs is about 60% higher than that of local firms (used as the base dummy). When the two foreign-ownership categories are treated separately, export-orientation is found to be more important in explaining productivity performance of fully-owned foreign firms compared to joint-venture foreign firms; on average the rate of productivity growth of export-rented fully-owned foreign firms is 0.30 percentage points higher than that of their joint-venture counterparts.

5. CONCLUDING REMARKS

Over the past decade there has been a significant improvement in Vietnam's legal and institutional framework and the overall investment climate for FDI. In particular, reforms over the past six years have served to set the stage for FDI participation in the economy in line with its comparative advantage in international production.

The trends in FDI flows to Vietnam over the past one-and-a-half decades largely mirror changes/shifts in the domestic investment climate rather than global trends. The FDI boom in the first half of the 1990s came to an end by 1996,well before the onset of the East Asian crisis reflecting the impact of policy backsliding. Reform implemented in response to this decline and reconfirmation of government commitment to promote FDI seems to have contributed to reversing the downturn from about the early 2000.

A comparison of the economic impact of FDI on the Vietnamese economy during the first half of this decade with that in the 1990s provides strong support for the conventional wisdom that concomitant liberalization of trade *and* investment regimes, accompanied by creating a congenial environment for market-based decisions by the private agents, is vital for reaping developmental gains form FDI. During the 1990s employment expansion in FIEs lagged behind their rapid output growth reflecting the capital-intensity bias in production in a protectionist trade and investment regimes. However, there are clear signs that with the continuing increase in the relative importance of export-oriented ventures among FIEs, the employment potential of FIEs has begun to improve form the late 1990s. Of particular significance in this connection is the growing importance of assembly activities in the global electronics industry and other high-tech industries as an area of involvement for foreign investors in Vietnam.

NOTES

[1] Key references, which also provide useful listing of related works, include Huang 2003, Naughton 2007, Lankes and Stern 1997 and MacBean (ed.) 2000.

[2] Investment figures in this paragraph are from UNCTAD, World Investment Report database (www.UNCTAD.org).

[3] Unless otherwise stated, the data used in this paper are from: General Statistical Organization, *Statistical Yearbook,* Hanoi (www.gso.gov.vn).

[4] Hitachi plant in Ho Chi Ming City commenced operation in 2000. It currently employs about 4000 workers.

[5] International buying groups are world-wide purchasing organisations of large retail chains in developed countries, which specialise in world-wide purchase of consumer goods such as apparel, toys and footwear.

[6] There was no sufficient number of observations in the data set to make a distinction between these two ownership types.

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Table 1: Constraints on Growth of Business:
Vietnam in a Regional and Global Context[1]

Constraint[2]	Vietnam	East Asia[3]	Developing world[4]
Corruption	12.8	27.9	36.8
Crime and theft	4.0	20.0	25.7
Regulatory and policy uncertainty	14.7	31.5	40.2
Legal system/regulatory uncertainty	5.5	26.2	21.6
Anti-competitive behaviour	12.3	23.7	29.7
Customs and trade regulation	12.5	20.2	21.6
Tax administration	8.7	23.9	32.4
Macroeconomic instability	16.8	35.7	40.2
Tax rate	13.8	30.6	40.5
Business licensing and permits	1.4	14.6	15.9
Access to/cost of finance	29.4	23.5	33.1
Infrastructure	14.6	24.7	15.7
Electricity	15.7	27.0	24.4
Transportation	21.6	19.3	12.4
Telecommunication	6.5	13.2	10.3
Labour skills and education	22.3	26.2	20.4
Labour relations	10.9	19.2	17.3
Access to land	26.4	15.0	14.5

Note:

1. Data generated by the World Bank *Investment Climate Survey* conducted in each country. Figures indicate the percentage of firms which consider that the constraint is either major or severe.
2. Constraints are ranked by the descending order of the figures for Cambodia.
3. Based on data for Cambodia, Lao PDR, Vietnam, China, Indonesia, Malaysia, the Philippines and Thailand.

5 Covers 57 developing countries and transition economies.

Source: World Bank 2005, Table 4.

Table 2: Vietnam: Sectotal Distribution of Cumulative Approved Investment[1], 1991-2007 (%)

	1991	1995	2000	2005	Sep-07
Primary production	50.64	27.93	16.36	25.74	24.95
Crude oil	45.21	24.10	10.51	19.80	18.83
Agriculture and forestry	5.43	3.82	5.85	5.93	6.12
Manufacturing Industry	15.66	33.66	49.01	41.93	43.18
Food stuff	3.41	18.17	23.85	6.77	7.12
Sea food	1.77	10.21	14.90	0.56	0.54
Textile, clothing and footwear	2.18	0.52	0.74	11.23	11.84
Other	8.30	4.77	9.53	23.38	23.68
Construction	---	3.26	4.69	16.74	16.11
Service	20.99	26.44	18.86	15.59	15.68
Transportation & Tele	10.12	7.10	4.67	2.65	2.38
Hotel-tourism	7.60	12.18	9.69	8.37	8.10
Finance-Banking	2.77	4.93	2.48	2.30	2.46
Total	100	100	100	100	100
US$ million	361	6,269	14,954	27,986	30,960

Notes:
1. Figures for a given year show the cumulative approved investment since 1988. The data cover realized projects only. --- Data not available
Source: Compiled from data provided by the Ministry of Planning and Investment, Hanoi.

Table 3: Ownership Structure of Vietnamese Manufacturing by Key Performance Indicators, 2000-05

Indicator/ownership category	2000	2001	2002	2003	2004	2005	2000-05
(1) *Gross output* (%)							
Domestic Private firms	23.8	27.6	25.9	27.1	29.3	27.3	26.6
SOEs	51.7	35.8	35.8	33.3	29.6	32.0	33.6
FIEs	26.5	36.5	38.3	39.6	41.2	40.7	39.8
JV – with domestic private	14.1	15.3	15.6	15.3	14.3	13.0	14.6
JV – with SOEs	1.6	1.1	1.3	1.5	1.7	1.8	1.5
Fully-owned	10.6	20.1	21.4	22.8	25.2	25.9	23.7
(2) *Employment* (%)							
Domestic Private firms	33.4	36.1	38.0	38.9	36.3	33.5	36.1
SOEs	44.4	36.0	33.8	30.1	30.3	29.0	32.9
FIEs	22.3	27.9	28.2	31.0	33.4	37.5	31.0
JV – with domestic private	3.9	3.8	3.6	3.4	3.3	3.2	3.5
JV – with SOEs	0.8	1.1	1.3	1.6	1.6	1.8	1.4
Fully-owned	17.6	22.9	23.3	26.0	28.5	32.5	26.1
(3) *Capital stock* (%)							
Domestic Private firms	13.6	17.5	20.5	22.5	23.5	22.5	20.8
SOEs	35.0	34.0	31.9	30.5	31.4	33.4	32.5
FIEs	51.4	48.4	47.6	46.9	45.1	44.1	46.7
JV – with domestic private	23.0	19.5	17.0	16.4	13.8	12.3	16.2
JV – with SOEs	1.4	1.2	1.5	1.6	1.6	1.5	1.5
Fully-owned	27.1	27.6	29.1	28.9	29.7	30.4	29.1
(4) Capital per worker (US$) (%)							
All firms	6714	5725	6094	5691	6022	6444	6115
Domestic Private firms	2735	2781	3292	3301	3898	4335	3390
SOEs	5284	5411	5764	5768	6229	7402	5976
FIEs	15508	9946	10265	8619	8141	7585	10011
JV – with domestic private	9390	9167	8633	7476	5435	4832	29156
JV – with SOEs	12699	6606	6931	5630	5946	5281	7182
Fully-owned	10322	6893	7599	6332	6274	6025	7241
(5) Wage per worker, US$[1]							
All firms	675	591	648	678	672	678	801
Domestic Private firms	465	438	481	509	548	571	621
SOEs	703	678	719	781	725	747	879
FIEs	934	678	790	791	757	719	929
JV – with domestic private	1441	1155	1377	1425	1302	1337	1619
JV – with SOEs	947	583	898	626	664	653	848
Fully-owned	821	603	692	718	700	662	841

Note:
1 At current At constant (2000) prices.
SOE State Owned enterprise; FIE foreign invested enterprise; JV joint venture
Source: Compiled from unpublished returns to the Annual Manufacturing Census provided by the General Statistical Office, Hanoi.

Table 4 Commodity Composition of Exports by Foreign Invested Enterprises, 1996-2005

VSIC		1996-98	2002-05
15	Food product and beverages	5.9	6.5
16	Manufacture and tobacco products	0.0	0.0
17	Manufacture of textiles	10.7	4.0
18	Manufacture of wearing apparel	9.5	11.8
19	Manufacture of leather products	30.9	21.3
20	Manufacture of wood and wood products	0.0	0.4
21	Paper and paper products	0.3	0.6
22	Publishing and printing	0.0	0.1
23	Coke and refined petroleum products	0.0	0.0
24	Chemicals and chemical products	2.1	2.9
25	Rubber and plastic product	1.2	2.1
26	Manufacture of other non-metallic mineral products	1.2	0.9
27	Manufacture of basic metals	0.2	0.9
28	Fabricated metal products	1.3	2.2
29	Machinery and equipment n.e.c	1.0	2.6
30	Office, accounting and computing machineries	0.0	0.2
31	Electrical machinery and apparatus n.e.c	29.2	32.8
32	Radio, television and communication equipment	2.2	1.4
33	Medical and optical instruments, watches and clocks	0.5	0.6
34	Motor vehicles, trailers and semi-trailers	0.2	1.9
35	Manufacture of other transport equipment	0.4	2.1
36	Manufacture of furniture, manufacturing n.e.c	3.2	4.7
	Total	100	100
	US$ million	1109	3114

VSIC Vietnam Standard Industry Classification (based on the International Standard Industry Classification, ISIC)

Source: Compiled from data provided by the Ministry of Planning and Investment, Hanoi

Table 5 Vietnam: Contribution of Foreign Invested Enterprises to Manufacturing Employment and Related Data, 2000-05

VSIC Code	Industry	Export orientation of FIEs (%)	Capital per worker in FIEs 1000 US$	FIE share in employment[1] (%)	Industry Composition of FIE employment[1] (%)	Growth of employment[1]		FIE share in employment increment during 2000 - 2005 (%)	Average wage (US$)[1,2]	
						FIEs	Local firms		FIEs	Local firms
15	Food product and beverages	18.5	122	14.3	5.2	14.3	8.3	22.3	1426	674
16	Manufacture and tobacco products	---	298	2.4	0.0	4.5	3.8	3.3	1767	1973
17	Manufacture of textiles	49.2	114	22.8	4.8	13.4	3.8	51.3	888	626
18	Manufacture of wearing apparel	85.7	17.0	35.8	19.8	39.2	9.6	63.4	705	666
19	Manufacture of leather products	99.1	10	52.1	33.0	24.7	2.8	89.6	721	555
20	Manufacture of wood and wood products	87.0	147	13.9	1.5	18.2	15.3	18.0	808	491
21	Paper and paper products	29.3	127	14.3	1.1	21.0	11.2	21.3	1117	769
22	Publishing and printing	21.8	51	3.9	0.1	45.7	10.9	11.7	1212	1252
24	Chemicals and chemical products	12.2	98	19.1	1.5	15.4	4.4	42.2	2314	1141
25	Rubber and plastic product	35.5	78	32.1	3.6	26.5	14.6	46.0	975	872
26	Other non-metallic mineral products	6.1	251	9.5	1.4	17.2	10.5	13.7	1640	816
27	Manufacture of basic metals	5.5	235	12.2	0.4	19.4	6.2	28.0	2116	1149
28	Fabricated metal products	28.4	94	25.1	2.6	26.5	17.6	32.1	1157	729
29	Machinery and equipment n.e.c	67.5	58	11.8	0.7	21.4	8.5	26.6	1347	816
30	Office, accounting and computing machineries	25.3	226	94.8	0.8	28.4	57.2	94.4	1094	808
31	Electrical machinery and apparatus n.e.c	81.7	61	63.5	5.5	20.2	6.9	83.4	1054	1331
32	Radio, television and communication equipment	30	91	62.1	1.9	24.8	2.9	92.7	1371	1094
33	Medical/ optical instruments, watches and clocks	49.7	79	52.5	0.8	19.0	7.7	72.2	1252	816
34	Motor vehicles, trailers and semi-trailers	4.4	107	40.0	1.2	26.9	13.3	56.1	1371	895
35	Manufacture of other transport	20.2	59	33.8	1.8	31.2	12.0	51.0	1220	895
36	Miscellaneous	97.0	25	48.5	12.2	36.8	20.9	55.9	666	666
	Total	42.0	72	31.0	100.0	26.0	9.1	53.3	927	745

Notes: 1 Period average. 2. At constant (2000) price. VSIC : Vietnam Standard Industry Classification

Source: Compiled from unpublished returns to the *Annual Manufacturing Census* provided by the Central Statistical Office, Hanoi

Table 6: Regression Results of determinants of capital Intensity in Vietnamese manufacturing (Dependent variable: log of real capital stock per worker)[1]

Explanatory variables	(1)	(2)
Log real output (Y)	0.161 (49.00*	0.151 (42.69)*
Log wage (W)	0.428 (39.91)*	0.419 (39.16)*
Dummy for exporting firms (EX)	-0.273 (15.87)*	-0.283 (13.66)*
Log age of firm (AGE)	-0.009 (15.66)*	-0.011 (18.02)*
Foreign ownership dummy (*FIE*)	0.756 (28.69)*	
*FIE**EX	-0.061* (15.66)	
Joint Ventures (*JVFIE*)		1.038 (28.83)*
*JVFIE*EX*		-0.014 (0.26)
Fully-foreign owned (*FOFIE*)		0.663 (21.02)*
*FOFIE**EX		-0.016 (0.004)*
SOE		0.182 (9.49)*
SOE*EX		-0.010 (0.33)
Regional dummies	Yes	Yes
Industry dummies	Yes	Yes
Time dummies	Yes	Yes
F	775	718
R^2	0.42	0.42
N	39169	39169

Notes: 1 Estimated by pooled OLS with control for heteroskedasticity. Robust t-ratios are reported in parentheses

* Significant at 1% level.

Source: Estimated using firm level data from the Annual Manufacturing Census conducted by the General Statistical Office, Hano (2000-05)

Table 7: Contribution of Foreign Invested Enterprises to Productivity of Vietnamese manufacturing[1] (Dependent variable: real value added (Y))

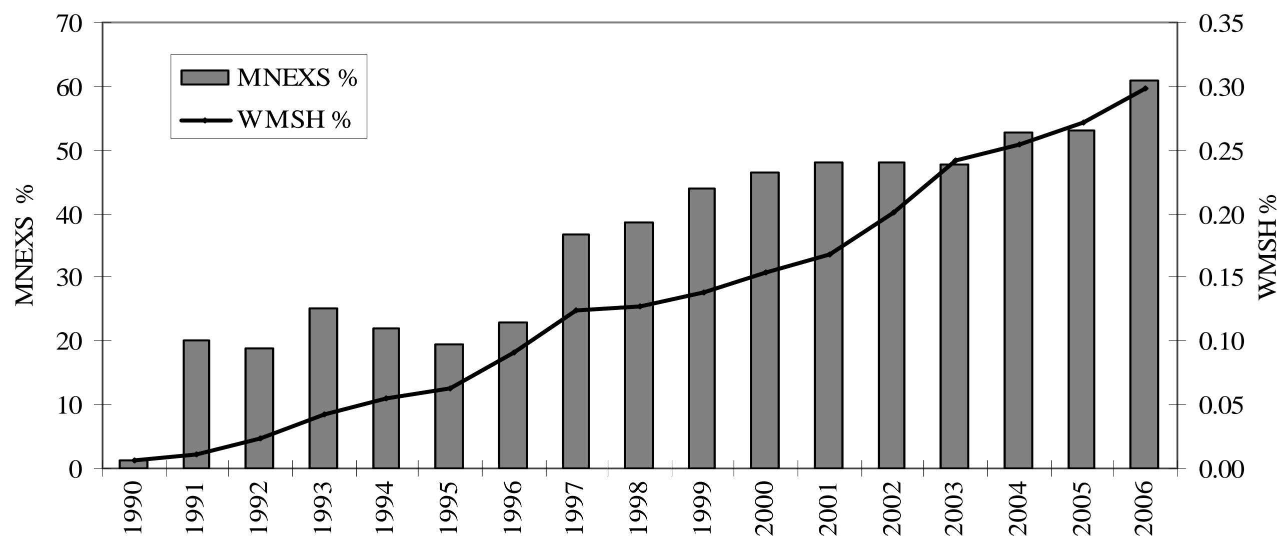
Explanatory variables[2]	OLS estimates		Hausman-Tayler estimates	
	(1)	(2)	(3)	(4)
K	0.579	0.576	0.501	0.648
	(105.48)**	(106.92)**	(71.93)**	(107.23)**
L	0.123	0.132	0.142	0.040
	(1.35)	(0.92)	(1.34)	(1.01)
CON	-0.037	-0.043	0.006	0.008
	(0.58)	(0.67)	(0.76)	(0.86)
SCALE	0.028	0.028	0.023	0.031
	(10.48)**	(10.43)**	(31.39)**	(28.24)**
SKILL	0.001	0.001	0.003	0.003
	(4.65)**	(4.57)**	(10.84)**	(9.3124)**
AGE	0.002	0.002	0.001	0.002
	(2.86)**	(2.87)**	(1.96)*	(2.034)*
EX	0.353	0.236	0.414	0.472
	(4.23)**	(3.68)**	(7.03)**	(4.25)**
SOE	-0.124	+0.467	-0.169	-0.056
	(0.657)	(1.459)	(1.007)	(1.120)
FIE	-0.204		-1.1	
	(10.34)**		(6.26)**	
*EX*FIE*	0.466		6.29	
	(16.50)**		(18.09)**	
FOFIE		-0.106		-0.156
		(13.66)**		(11.83)**
JVFIE		0.183		0.167
		(4.89)**		(3.675)**
*EX*FOFIE*		0.521		0.602
		(15.98)**		(16.21)**
*EX*JVFIE*		0.161		0.187
		(5.34)**		(6.78)**
Observations	85669	85669	85669	85669
Time dummies	Yes	Yes	Yes	Yes
R-squared	0.41	0.42	0.42	0.43

Notes:

1. Figures in the parentheses are standard errors corrected for arbitrary heteroskedasticity and intra-group correlation. Statistical significance (one-tail test) is denoted as ** 1% and *5%.
2. Variable definitions: K : beginning of the year capital stock; L: Labour (number of workers); CON: industry concentration (measured using the Herfindahl index at the four-digit level of the Vietnamese Standard Industry Classification, VSIC)); SCALE: scale of operation (measured as the ratio of firms output and the average output at the related four-digit VSIC industry), SKILL: ratio of skill workers to total number of workers; AGE: operation age of firm; EX: export orientation; *FIE*: a binary dummy variable which take value 1 for all foreign invested enterprises and zero for other firms; FOFIE: a binary dummy variable which take value 1 for all fully-foreign owned enterprises and zero for other firms ; JVFIE: a binary dummy variable which take value 1 for all fully-foreign owned enterprises and zero for other firms.

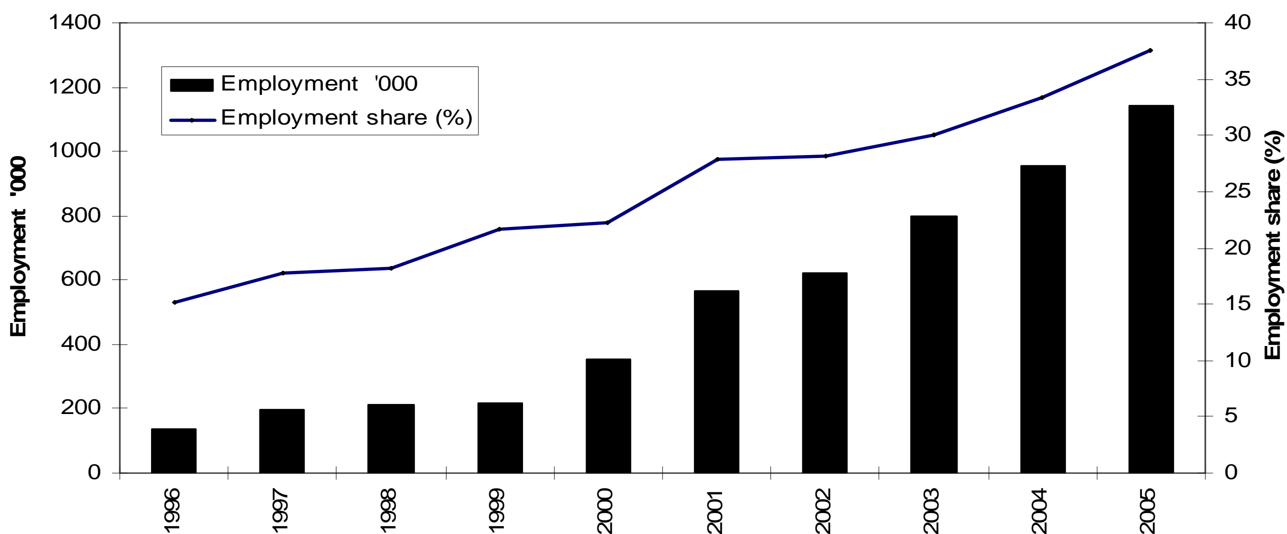
Data Source and method of data compilation: As for Table 6.

Figure 1: The role of foreign invested enterprises in manufacturing export expansion from Vietnam: FIEs' share in exports (FIEXS) (left scale) and Vietnam's Share in World Exports (WMSH) (right scale)



Source: Based on data compiled from Vietnam General Statistical Office, *Statistical Yearbook* (various issues) and UN *Comtrade* database.

Figure 2: Employment in Foreign Invested Enterprises in Vietnamese Manufacturing: Number of workers (left scale) and the share in Total Employment (right scale)



Source: Based on data compiled from, General Statistical Office, *Statistical Yearbook* (various issues) and www.gso.gov.vn.

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