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Vietnam: on the road to labor-intensive growth ?

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Summary Findings

Since the adoption of the *doi moi* or renovation policy in 1986, Vietnam has been undergoing a transition from central planning to a socialist market oriented economy. This has translated into strong economic growth, led by the industrial sector which has expanded at more than 13% per annum over the period 1993-97. There is a concern, however, among policymakers in Vietnam that employment growth has lagged behind.

This paper examines this concern using new employment data from the *Vietnam Living Standard Survey* (VLSS 2) which was completed in 1997-98. Data from this survey can be compared with information from the first household survey undertaken in Vietnam in 1992-93.

Part I of the paper shows that over the period 1993-97 industrial employment has grown at an average of about 4% per year, which is low compared to industrial GDP growth. This is mainly due to the capital-intensive and import-substituting nature of the State sector and of foreign investment, which dominate industry. The labor-intensive and export-oriented domestic private sector, although growing quickly, is still small.

In the future, however, growth promises to be more labor-intensive than in the past. Prior to the Asian crisis there were signs of an emerging export-oriented sector. Using previous statistical analysis by Wood and Mayer (1998) as well as factor content calculations, part II of the paper estimates that given Vietnam's endowment of natural and human resources there is scope for Vietnam to triple its manufacturing exports and create around 1.6 million manufacturing jobs in export sectors in the near future.

Part III of the paper looks at Vietnam's labor regulations. It concludes that there is no need for fundamental labor market reforms. At current levels, minimum wages and non-wage regulations (even if better enforced) are unlikely to inhibit the development of the private sector or hurt export competitiveness. A restrictive interpretation of the Labor Code's provisions on employment termination may nonetheless hurt foreign investment, reduce the speed of reforms in the State sector, and slow the reallocation of resources to the private sector.

INTRODUCTION

Since the adoption of the *doi moi* or renovation policy in 1986, Vietnam has been undergoing a transition from central planning to a socialist market oriented economy. Among other reforms, this has involved an expansion of the private sector and the gradual opening up of Vietnam's economy to international trade and foreign investment. These changes have made a significant contribution to economic growth. Over the period 1993-97, Vietnam has been one of the fastest growing economy on the planet, with GDP increasing at a rate of almost 9% per year. This growth was led by the industrial sector which expanded at 13% per annum. However, despite such impressive achievements, there is a concern among policymakers in Vietnam that growth has been "unbalanced" and that it has only had a modest impact on employment.

The first part of this paper examines this concern using new employment data from the second *Vietnam Living Standard Survey* (VLSS 2) which was completed in 1997-98. Information from this survey can be compared to the data from the first *Vietnam Living Standard Survey* (VLSS 1) conducted in 1992-93. The paper shows that industrial employment growth has indeed been low compared to industrial GDP growth. Section I also documents Vietnam's export growth in recent years. It indicates that, prior to the Asian crisis, trade reforms had put the country on the road to export-led growth. Section II uses previous statistical evidence from Wood and Mayer (1998) to estimate the extent of Vietnam's untapped comparative advantage in manufacturing exports. It finds that there is scope for Vietnam to significantly increase such exports in the near future through a better allocation of its resources. Estimates based on factor content calculations show how labor would benefit from such export-led growth. Section III of the paper looks at whether Vietnam's labor regulations present any major constraint for the development of an export-oriented private sector.

I. The pattern of growth

a) Growth and Employment

Vietnam is a poor country. In 1997, its GDP per capita was only \$313. However, in the years before the Asian crisis, Vietnam was one of the 10 fastest growing economies on the planet (Economist, 1998). Table 1 shows that the average annual growth rate over the 5 years period 1993-1997 was a spectacular 8.9%, led by the industrial sector where value-added increased at an average rate of 13.4% per year. In the same time, services have grown at 9.4% a year, while agriculture has lagged somewhat behind with an annual expansion of 4.3%. This pattern of growth has led to a quick increase in the share of industry in GDP, from an estimated 27.3% in 1992 to 33.1% in 1997. This is a typical and nearly universal characteristic of the structural transformation that accompanies economic development (see, for example, Chenery and Syrquin, 1975).

Table 1: The industrialization of Vietnam

	Average annual real GDP growth over 1993-97 (%)	Estimated share in total output in 1992 (%)	Share in total output in 1997 (%)
TOTAL	8.9	100	100
Agriculture	4.3	31.6	25.2
Industry	13.4	27.3	33.1
Industry less construction	13.1	20.7	24.7
Services	9.4	41.1	41.7

Source: Calculations based on GSO, 1997 Yearbook (1998)

Notes: Agriculture includes Agriculture, Forestry and Fishery; Industry includes Mining and Quarrying, Manufacturing, Utilities and Construction; Shares in 1992 GDP are estimated backwards using the GSO new 1994 prices series and real growth rates for 1993 and 1994.

In general, such a transformation is accompanied by a corresponding increase in industrial employment. Cross-country evidence indicates that between 1965 and 1983 developing countries experienced on average a growth elasticity of employment in industry of about 0.6. That is, industrial employment expanded at around 60% of the rate of industrial growth (see Gillis et al., 1990). More recently, during the late 1980s and early 1990s, individual countries such as Indonesia were able to raise industrial employment at annual rates above 80% of their industrial growth (see Agrawal, 1996). In Vietnam, however, industrial growth has only had a moderate impact on employment. As can be seen in table 2, the growth rate of industrial employment between 1992/93 and 1997/98 was 4% per year. Although respectable, this represents less than 30% of the rate of industrial output growth. Thus, as table 3 shows, the share of industrial employment in total employment has increased only little, from 11.8% to 13.1%.

Strikingly, when construction is excluded from the Industry sector, the record is worse. Although non-construction output growth was more than 13% a year, annual employment growth was as low as 2.6%. Thus, given a growth elasticity of employment below 0.2, the share of this segment of the industrial sector in total employment has remained virtually unchanged¹.

Table 2: Industrial employment growth has been moderate

	1992/93	1997/98	Absolute increase 92/93 97/98	% increase per year - 92/93 – 97/98	Incremental Employment Distribution 92/93-97/98
Total employment	36,792,448	40,313,856	3,521,408	1.8	100
Agriculture	26,182,850	26,770,068	587,218	0.4	16.7
Industry	4,343,946	5,296,240	952,294	4.0	27.0
Industry less construction	3,804,677	4,325,204	520,527	2.6	14.8
Services	6,265,650	8,247,549	1,891,899	5.6	56.3

Source: VLSS 1 and 2. Employment data is for people between 15 and 65.

Table 3: The share of industry in total employment is increasing slowly

	Share in total labor force in 92/93 (%)	Share in total labor force in 97/98 (%)	Change 92/93- 97/98
Agriculture	71.2	66.4	-4.7
Industry	11.8	13.1	+1.3
Industry less construction	10.3	10.7	+0.4
Services	17.0	20.5	+3.4

Source: VLSS 1 and 2

Table 4 shows that over the period 1993-97 economic growth has raised the country's real value-added per worker by 39.8%. In Industry, strong growth coupled with weak employment growth has been accompanied by a large 54% increase in average labor productivity. In agriculture and services, value-added per worker has increased by respectively 20.8% and 19.2%. Thus, the productivity gap between industry and other sectors has sharply widened. In only five years, agricultural labor productivity has declined from about 27% of industrial levels to less than 21%.

¹ Note however that the VLSS employment data used in this section provides a less somber picture than employment data from Vietnam's General Statistical Office (GSO, Statistical Yearbooks). According to GSO data, the average annual growth of industrial employment was 3.1% instead of 4.0% as indicated by VLSS data. This would represent only 23% of the rate of industrial growth. In addition, when construction is omitted GSO indicates employment growth of only 1.7% or 13% of this sector's GDP growth. Official data from GSO thus paints an excessively negative picture.

Table 4: The strong industrial productivity growth

	Value-added/worker growth 1993-97 (%)
Total	39.8
Agriculture	20.8
Industry	54.0
Industry less construction	63.0
Services	19.2

Source: Calculations based on GSO (1998) for output in current prices and on VLSS 1 and 2 for employment data

b) The Industrial Sector

Table 5 shows that in industry both the State and the domestic non-state sectors have grown rapidly (by 10.2% and 9.2% per annum respectively) over the period 1995-98. In terms of size, however, the State sector still dwarfs the private sector. In 1998, its contribution to industrial value-added was more than twice as large as that of the domestic private sector. Accordingly, a large share of the recent industrial expansion is due to State enterprises. Indeed, table 5 shows that between 1995 and 1998 State companies have accounted for 37.2% of Vietnam's total industrial growth, compared to 16.2% for domestic private companies (foreign investment is discussed in the next section).

The State sector's contribution to employment, however, is much smaller. In 1997/98, it provided jobs for less than 25% of industrial workers. This contrasts with the domestic non-state sector which, despite its smaller size, employed more than 64% of industrial workers. As can be seen in Table 5, a large proportion of these workers are in household enterprises. But registered "private and mixed companies" are also much more labor-intensive than the State sector. Although accounting only for 7.9% of industrial GDP in 1998, these companies employed more workers than State-owned enterprises.

This picture shows that Vietnam's slow employment growth reflects the large State sector's strong growth but low labor intensity, and the private sector's small size (but not slow growth). One may thus look at Vietnam's poor employment performance as being the by-product of a transition period in which both the State sector and private enterprises grow, albeit from a different base. On the other hand, State enterprises, which are still concentrated in import-substituting activities and sheltered from both foreign and domestic competition, typically draw capital and other resources away from the private sector. This may have prevented higher rates of private sector growth (and thus employment growth), and/or may do so more substantially in the future.

Table 5: The State sector is big in production, but small in employment

	Industrial growth (%) 1995-98	Share in Industrial growth (%) 1995-98	Share in industrial GDP (%) 1998	Share in industrial employment 1997/98 (%)
State sector	10.2	37.2	46.2	24.2
Foreign investment	22.7	46.5	31.8	11.5
Domestic non State sector	9.2	16.2	22.0	64.3
Of which				
-Private and mixed	21.6	11.1	7.9	25.2
-Collective	8.7	0.3	0.6	1.3
-Households	4.0	4.7	13.5	37.8

Source: column 1 and 2 are from GSO (1999); column 3 is from VLSS 2

c) The domestic private manufacturing sector

So far in Vietnam there are only 457 private domestic manufacturers with more than 100 full-time workers (MPDF, 1999). As can be seen in table 6, most of these companies operate in labor-intensive sectors (mainly in textiles and garments or in primary processing), specializing along the lines of the country's comparative advantage. They export on average around three quarters of their production. This contrasts sharply with State enterprises, where only about 12% of production is exported (according to information from the Ministry Of Finance). Thus, while the capital-intensive State sector is mainly inward-looking, export markets are clearly the main engine of private sector growth.

Table 6: Private manufacturers are labor-intensive and export-oriented

	Number of firms	Share of total firms (%)	Exports/output (%) (unweighted average)
Garments and Textiles	159	34.8	80.5
Food and Beverages	71	15.5	63.2
Wood Products	65	14.2	75.1
Other Non-metallic Products	39	8.5	73.2
Leather Products	34	7.4	85.0
Rubber and Plastic Products	22	4.8	75.0
Basic Metals	9	1.9	n.a.
Chemical Products	9	1.9	20.0
Others	49	10.7	74.4
TOTAL	457	100	75.3

Source: Data from MPDF (1999)

Under what conditions do domestic private companies compete in international markets and whom do they employ? A visit to factories in Haiphong shows that many Vietnamese private companies producing garments or footwear for export operate as subcontractors for foreign companies located abroad, which later re-export their products to Europe and to the U.S. This means that many foreign investors associate themselves with domestic firms without formally registering as joint-ventures. Given the present dual pricing system in Vietnam -which requires foreign investors to pay higher prices for land, utilities, labor, and transportation- this substantially reduces production costs. In addition, it avoids

lengthy, cumbersome and costly bureaucratic procedures. How does the association work? The foreign partners provide the technology (sewing machines and know how), the material inputs (imported duty free from abroad), and the markets. Vietnamese companies, on their side, do the labor-intensive part of the job: workers cut the inputs and sew them together. On average, they get paid around \$1 per pair of shoes or cloth worth sometimes up to \$70 on OECD markets. This covers costs but leaves little opportunity for profits and investment.

Managers of Vietnamese companies contend that such a situation will endure until they can break free from Asian partners and export directly to the EU or the U.S. This will require both information about foreign markets and –especially- access to credit in order to afford technology, buy inputs, and set up a budget for design and marketing. Almost all managers point towards the need for Vietnam's Government to establish a fair access to credit for the private sector and abolish the lending bias in favor of SOEs. Current land policies also contribute to starve the private sector of resources. Land cannot be bought and land-use rights are expensive and cannot be presented as collateral in the banking system. Thus, so far, Vietnam's private exporting companies –whether joint ventures or domestic limited liability companies- heavily depend upon their foreign partners.

Whom do private manufacturers employ? In rapidly developing Asian countries, jobs in footwear or clothing often go to young women with primary education only –thus offering employment opportunity for the poor or near-poor. In Haiphong, most jobs also go to young women. Typically, between 80% and 90% of workers are women aged between 18 and 25 years. But, most of these workers have completed secondary education (grade 12), meaning that they are overqualified even if lacking any vocational training. According to managers, such high education levels are not required and primary education would in principle be enough. All that is required in the footwear or garment sector is generally some basic sewing skills. However, since both educated and uneducated workers apply for the jobs, the more educated are chosen. This situation is unfortunate both for educated women who should be in more productive jobs and for workers with little education whose job opportunities are reduced. It is but one effect of an undersized private sector which results in weak labor demand.

c) Foreign Investment

The adoption of the 1987 Law on Foreign Investment and subsequent amendments have established an "open-door" policy for foreign investors and have increasingly simplified investment procedures. This gradual improvement in the investment climate has led to a large increase in foreign capital inflows, mainly from Asian countries. Table 7 shows that over the period 1993-97, the inflow of disbursed foreign investment has increased by almost 46% per annum (in terms of current dollars), reaching roughly \$2.1 billion during 1997.

Table 7: The sharp increase in foreign investment

	FDI Inflows 1992	FDI Inflows 1997	Annual growth of FDI inflows 1993-97 (%)
Total disbursed FDI (\$ million)	316	2,074	45.7
-Agriculture, forestry and fishery	3.9%	13.7%	87.3
-Heavy industry, construction, oil & gas	31.4%	27.7%	42.1
-Light and food industry	7.9%	22.8%	80.0
-Services, real estate, transport & communication	56.8%	35.8%	32.8

Source: IMF (1999); annual growth of foreign investment (FDI) inflows is in current dollars

Most of this foreign investment is capital-intensive. Although table 7 above indicates that the share of FDI flowing into light industry has increased in recent years, most investment entered oil-related production, heavy industry or real estate. Table 8 shows that by the end of 1998, less than 13% of the total *stock* of FDI was in the labor-intensive light industrial sector, where about 80% of production is exported (according to information from the Ministry of Planning and Investment). Strikingly, even within the non-oil industrial sector, more than half of the investments are in heavy industry. This shows that the amount of export-oriented and labor-intensive foreign investment attracted by Vietnam's high human capital and low labor costs is still modest. It is thus unsurprising that foreign investment, although accounting for 31.8% of industrial production in 1998 and accounting for almost half of industrial growth over the period 1995-98, still employs only 11.5% of all industry workers (see table 5).

Table 8: The small share of investment in light industry

	FDI stock by 08.1998
Total disbursed capital (million \$)	10,139
Shares in total disbursed capital (%)	
Heavy Industry	24.1
Oil & Gas	22.2
Light Industry	12.4
Services, Transport & Communication	10.3
Real Estate	17.8
Others	13.1

Source: IMF, 1999

This structure of foreign investment at least partly reflects Vietnam's high barriers to heavy industrial imports, which not only protect State enterprises but also attracts foreign investors into import-substituting and capital-intensive activities, often in joint ventures with State companies. It has been estimated that more than 70% of foreign investment occurs in sectors with effective rates of protection above 50% (CIE, 1998). In particular, Vietnam's tight quotas on steel and cement-related imports provide an incentive for multinational companies to establish their production in local plants. Such form of foreign investment is generally inefficient. It creates local monopolies and raises the price of products relative to those that would have prevailed under free imports. Thus, although foreign investment has boosted local production it has done little to create employment. Improving the climate for

export-oriented foreign investors would certainly help propel Vietnam towards more labor-intensive growth.

Of course, foreign investment also creates indirect jobs through forward and backward linkages –in particular through construction, services, and subcontracting relationships. The number of jobs created in such way is impossible to assess accurately but is usually estimated at around 1.5 times the number of employees directly hired by foreign enterprises (see Aaron and Andeya, 1998). Even so, the labor market impact of foreign investment would remain low. The capital intensive nature of foreign investment tends to minimize both employment creation and spillovers into the rest of the economy.

d) Manufacturing exports and the Asian crisis

Despite the capital-intensive nature of much of Vietnam's growth, there have been encouraging signs in the last few years of the emergence of a labor-intensive export sector. Changes in trade policies have been an essential component of the *doi moi* policy adopted by the Government of Vietnam in 1986. Such changes have been implemented on several fronts. Most importantly, licensed private companies have been allowed to engage directly in international trade, breaking the trade monopoly of a small number of State-owned enterprises operating under central or provincial authorities. However, until very recently, private enterprises had to satisfy a number of fairly restrictive conditions to obtain the necessary licenses. The recent removal of trade licensing, allowing companies to freely engage in trade within the registered scope of their business activities, should further improve the environment for export-oriented industries. In addition, over the years, most export quotas have been lifted and export taxes have been reduced to generally very low levels (CIE, 1998 and UNDP, 1999b).

These reforms –together with sound macroeconomic management- have allowed Vietnam to start exploiting its comparative advantage in labor-intensive manufactures, putting the country *on track* for export-led growth. As can be seen in table 9, between 1992 and 1997 the dollar value of imports and exports has roughly quadrupled, increasing the share of trade in GDP from about 52% to 86%. This is a high level by international standards. Table 10 shows that Vietnam's export growth was led by an impressive surge in light manufacturing exports, which in real terms grew by no less than 45% a year and whose share in total exports rose from 13.5% in 1992 to 36.7% in 1997. Also remarkable is the strong rise in the value of agricultural exports, which mainly reflects the spectacular take off in rice and coffee production. In only few years Vietnam turned from being a net rice importer into the world's second largest exporter with over 3.5 million tons in 1998.

Table 9: The high share of trade in GDP

	1992	1997
Value of exports (million \$)	2,581	9,185
Value of imports (million \$)	2,540	11,592
(Exports + Imports)/ GDP	51.6%	85.7%

Source: GSO (1998)

Table 10: Export growth has been led by light manufactures

	Estimated average annual real growth 1992-97 (%)	Share in total Exports in 1992 (%)	Share in total Exports in 1997 (%)
Total exports	18.8	100	100
Agriculture	11.1	49.5	35.3
Heavy industry and minerals	12.3	37	28
Light Industry	45.1	13.5	36.7
<i>Of which:</i>			
-textiles and garments			16.4
-footwear			10.6

Source: World Bank (1998), GSO (various) and General Department of Customs

Note: Row 1 is estimated by converting exports in current US\$ from GSO (1998) to constant Dong by using exchange rates from World Bank (1998) and the GDP deflator from GSO (1998).

This performance in manufacturing exports was supported by foreign investment. Vietnam's trade and taxation regimes now contain special provisions that allow export-oriented foreign enterprises to import duty free intermediate goods from abroad and to enjoy preferential tax rates. In addition, many joint ventures are also exempted from import duties on equipment goods, machine components, spare parts, and transport equipment and materials (CIE, 1998). Table 11 shows that the dollar value of exports by foreign invested companies – about 40% of which stem from light manufacturing- has grown by 80% per year between 1992 and 1997 (albeit from a small base). This has raised the share of exports by foreign invested companies from less than 4% to almost 20% of total exports in 1997.

Table 11: FDI accounts for a growing share of Vietnam's exports

	1994	1997
Total exports by foreign companies (\$ million)	161.1	1,790
Total light industrial exports by foreign companies (\$ million)	n.a.	728
Share of FDI in total exports (%)	3.9	19.5
Share of FDI in light industry exports (%)	n.a.	21.6

Source: Line 1, and 3 GSO, line 2 and 4 estimation from MPI data

The Asian crisis has interrupted these encouraging trends. In 1998, foreign direct investment to Vietnam fell from \$2.0 billion in 1997 to less than \$800 million, with an estimated decline of \$612 million in light industry (IMF, 1999). As can be seen in table 12, in 1998 real manufacturing export earnings grew by less than 1%. Had light manufacturing exports earnings continued to grow at their five years average pre-crisis rate of 45% per year, Vietnam might have exported an additional \$1.2 billion of light manufacturing exports in 1998. Fortunately, table 12 also shows that as far as manufacturing exports are concerned Vietnam is recovering from the worst impact of the crisis. In the first 8 months of 1999, total exports have staged a strong come back. And while the decline in agricultural prices on world

markets may have more enduring effects, the manufacturing sector may quickly be able to restore high levels of export growth.

Table 12: Is the crisis over?

	Real growth In 1998 (%) (constant 97 Dong value)	Nominal growth In 1998 (%) (dollar value)	Nominal growth (%) 8 months 1998 - 8 months 1999 (dollar value)
Total exports	1.0	2.4	18.1
-Agriculture	6.6	7.6	5.2
-Oil and mining	-12.9	-12.2	35.0
-Manufactures	0.6	1.6	30.7

Source: General Department of customs

II. Looking towards the future: Vietnam's potential for export-led growth

The low growth elasticity of employment in industry -i.e. the fact that industrial growth generates few jobs- is typical of countries that have promoted capital-intensive and local market oriented industrialization (see Krueger, 1983). Indeed, as documented above, capital-intensive industries that grow behind high import barriers offer few employment opportunities for a developing country's labor force. By contrast, during the last three decades, countries that have followed export oriented growth strategies were able to raise industrial employment at annual rates close to 80% of their industrial growth (see for example Gillis et al., 1990). In labor abundant countries, export-led growth policies which rely on comparative advantage are instrumental not only for generating strong and sustainable growth but also for establishing a labor-intensive, employment generating, *pattern* of growth. This raises the two following interrelated questions: to what extent is Vietnam's export potential under-exploited and could Vietnam move towards a labor-intensive and export-led pattern of growth in the near future?

a) Trade Theory

Recent evidence has shown that the composition of a country's exports is to a large extent determined by its availability of natural and human resources (see Wood and Berge, 1997, Owens and Wood, 1997, or Wood and Mayer, 1998). This confirms the predictions of the Heckscher-Ohlin trade theory, according to which the composition of exports in open market economies is largely influenced by a country's endowment in factors of production. The theory predicts that countries tend to export the kind of goods whose production requires an intensive use of their relatively abundant –and thus cheap- resources.

In particular, the higher a country's availability of skilled labor relative to land, the larger its share of manufactures in exports. This is because the production of manufactures is skill-intensive and primary production is land-intensive. That is, the production of manufactures requires many educated workers and little land, while the reverse is true in agriculture. Thus, countries that have a large pool of well-educated workers and little land have a comparative advantage in manufactures. Indeed, a high endowment of skill per worker and a low availability of land should be associated with a high share of manufacturing to primary exports. On the other hand, a high endowment of land and a low availability of skilled workers is expected to be associated with a high share of primary to manufacturing exports.

b) Vietnam's export structure and resource endowment in comparative perspective

Table 13 compares Vietnam's resource endowments with those of a number of other countries in East and South East Asia. It shows that Vietnam has a high endowment of skilled labor and relatively little land. In 1990, the latest year for which data is available for all countries listed in table 14, Vietnam's workers had an estimated average of 6.28 years of education. This was close to the regional average and was above the levels of China, Malaysia, Thailand and Indonesia. It shows Vietnam's impressive effort to build up human capital. In addition, table 13 shows that Vietnam's availability of land relative to its adult population is low. In 1990, Vietnam had more workers per square kilometer of land than most other countries in the region, including the four countries mentioned above. Such resource endowments form the basis of a very strong comparative advantage in manufactures.

Looking at table 13, it is clear, however, that much of Vietnam's comparative advantage is still untapped. In 1997, manufactures accounted for only 36.7% of Vietnam's total exports. This is the lowest share of all the East and South-East Asian countries listed in table 13. In China, for example, manufactures represented 86.7% of exports, while in the whole of East Asia they made up on average 83% of total exports. Even a decade ago, all these countries (except Indonesia) had more manufacturing goods in their exports than Vietnam in 1997. Most relevant, however, is a comparison between Vietnam and the Philippines. The Philippines has an endowment of resources similar to that of Vietnam, but its exports in 1997 consisted of 87.6% of manufactures. This suggest that Vietnam is well within its potential and that there is scope for Vietnam to significantly increase manufacturing exports in the near future.

Table 13: Export structure and resource endowments

Country	Share of manufactures in total export revenues		Average years of education in 1990	Square km of land per 100 workers in 1990
	1990	Latest year*		
Vietnam	n.a	36.7	6.28	0.75
China	72.9	86.7	5.9	1.14
Hong Kong	95.8	95.6	9.2	0.02
Indonesia	35.7	55.4	4.6	1.60
Korea	92.8	88.1	9.9	0.31
Malaysia	54.8	78.5	6.0	3.00
Philippines	67.5	87.6	6.9	0.80
Singapore	72.6	86.9	5.9	0.03
Taiwan, China	92.7	94.3	8.0	0.24
Thailand	60.5	73.3	5.6	1.36
Average (excluding Vietnam)	71.7	82.9	6.88	0.94

* All latest year data is from 1997. The only exceptions are Singapore for which data is for 1998 and Taiwan for which it refers to 1996

Source: For all countries, except Vietnam: export data is from COMTRADE. Manufactures refer to categories 5-8 less 68 of the Standard International Trade Classification (SITC); Education and population data are from Barro and Lee (1996) and land

data is from World Bank (*World Development Report*, various); average years of education is the average number of years of schooling of the adult population (15 and over) and land per worker is the ratio of land area divided by the adult population. For Vietnam export, education and population data are from the Vietnam General Statistical Office (GSO); land data is from World Bank (*World Development Report*, 1995)

c) *Vietnam's export potential: an estimate*

To what extent is Vietnam's comparative advantage in manufactures under-exploited? Using statistical results by Wood and Mayer (1998) can give us an idea of the answer. With a sample of 115 countries and data for 1990, the authors estimated the following regression:

$$(1) \quad \ln (X_m/X_p) = -5.11 + 1.47 \ln (\text{skill/worker}) - 0.6 \ln (\text{land/worker}) \\ (-14.1) \quad (7.18) \quad (-6.59) \quad R^2 = 0.56$$

where each country's share of manufactures relative to primary exports (X_m/X_p) is related to its "human capital" (skill/worker) and to its relative endowment of land and labor (land/worker). All variables are expressed in natural logs (ln). The coefficients are significant at the 1% level and the explanatory power of the regression is high; the variables account for 56% of cross-country differences in export composition.

The coefficients obtained from this regression allow us to calculate any single country's predicted share of manufactures in total exports on the basis of its human and natural resources. Applying these coefficients to Vietnam, whose resource endowments are shown in table 13, yields the following results:

$$(2) \quad \text{Predicted } \ln (X_m/X_p) = -5.11 + 1.47 \ln (6.28) - 0.6 \ln (0.0075) = 0.515$$

$$(3) \quad \text{Predicted } X_m/X_p = \exp(0.515) = 1.673$$

$$(4) \quad \text{Predicted } X_m/X = 1.673/(1 + 1.673) = 0.63$$

It appears that Vietnam's predicted earnings from manufacturing exports (X_m/X_p in equation 3) amount to 167% of earnings from primary exports instead of its actual 58%. Thus, its predicted share of manufactures in total exports (X_m/X in equation 4) is 63% instead of just 37.6%. In other words, with a more efficient use of its available resources, Vietnam could be expected to increase its share of manufactures in total exports by more than 25 percentage points.

Of course, these estimates must be taken with a grain of salt. First, in the analysis of Wood and Mayer, workers' skills are measured by the average number of years of schooling of the adult (over-15) population, while natural resources are measured by total land area. Both of these measures are imperfect. In particular, average years of schooling may overestimate the skills of Vietnam's workers since it does not take into account the quality of schooling nor skill acquisition through training or on the job experience – areas in which Vietnam are usually considered to fare poorly compared to other countries. In addition, total land area does not account for variation among countries in the quality of their land nor in their oil reserves. Since Vietnam is an oil exporter, total land area may understate Vietnam's

availability of natural resources. For these two reasons, Vietnam's true manufacturing export potential may be somewhat over-estimated in the above calculations.

On the other hand, the above results are obtained with a cross-country regression based on 1990 rather than 1997 data. If anything, this is likely to lead to an underestimation of Vietnam's true manufacturing export potential since there tends to be an increase in world demand for manufactures over time (see Wood and Berge, 1997). Indeed, it is unlikely that all the increase in East Asian countries manufacturing exports between 1990 and 1997 (see table 14) can be fully accounted for by corresponding changes in resource endowments.

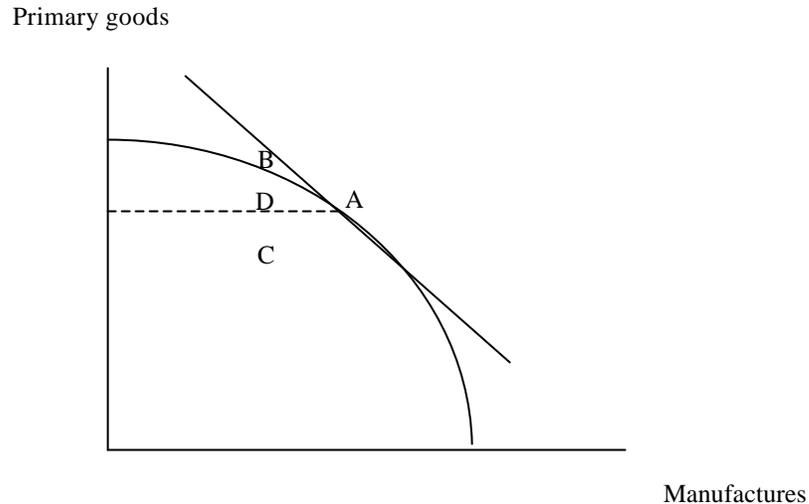
d) The value of future manufacturing exports

The above calculations have shown that there is scope for Vietnam to increase its manufacturing exports. But by how much? The above section has focused only on one aspect of Vietnam's exports, namely its commodity composition. It has shown that given Vietnam's resources, manufactures should quickly be able to reach around 63% of total exports. What does this suggest with respect to the absolute value of manufacturing exports?

Traditional trade theory generally assumes that economies are efficient. This means that production is located on the production possibility frontier, such as for example on point B in figure 2 below. In such a case, any increase in the production of manufactures must occur at the expense of primary production. So, for example, a movement along the production possibility frontier from B to point A, leads to an increase in manufacturing production but to a fall in primary production. Such a shift occurs as a result of an increase in relative prices of manufactures. And, as already emphasized, it assumes that the initial allocation of resources is optimal. It would be difficult to argue that this model accurately reflects the situation in Vietnam.

If countries start with an allocation of resources that is sub-optimal, production that takes place within the production possibility frontier. If Vietnam's current production is taking place at a point such as C in figure 2, a better allocation of resources could increase both manufacturing and primary production. However, if Vietnam's initial allocation of resources is such that production takes place on point D, there is no scope for increasing primary production through a better allocation of resources. The dotted line in figure 2 represents the production possibility frontier of a country that has reached zero marginal productivity in primary production. Any additional worker allocated to agriculture, while raising the number of people among whom agricultural incomes have to be shared, do not contribute any additional output. This happens when the amount of land is not large enough to absorb more than a given share of a country's workforce. In such a case, a better allocation would entail a movement from D to A along the dotted line, increasing manufacturing production while leaving primary production unchanged.

Figure 2



This last scenario may plausibly reflect Vietnam's current situation. There is currently a large labor surplus in Vietnam's agriculture. The average amount of agricultural land per capita is less than one tenth of an hectare (UNDP, 1999a) and peasants are estimated to be working only 71% of their time (GSO, 1999a). Thus, the agricultural labor force is already larger than what the limited available land can absorb. In such circumstances one may reasonably assume that marginal labor productivity is close to zero, and that each manufacturing job that is not created represents, in the countryside, one more mouth to feed with the same rice bowl. This implies that labor could be drawn from the primary sector into manufacturing without substantially reducing the production of primary goods. In addition, investment in manufacturing would presumably not require a large amount of capital to be drawn away from agriculture. Section I of this paper indicates that much capital could merely be redirected from the capital-intensive and import-substituted industrial State enterprises towards the export-oriented sector. More capital could also be raised from abroad through foreign investment and through better mobilization of savings.

But by how much, then, could manufacturing exports be expected to increase through a better allocation of resources? Given income from non-manufacturing export of \$5,812.6 million in 1997, the above calculations based on the regression by Wood and Mayer (1998) suggest that there is scope for Vietnam to at least triple its manufacturing exports in the near future, from \$3,372 million to about \$9,881 million. This means that Vietnam's still unused comparative advantage in manufactures can be estimated to amount to roughly \$6.5 billion, which represents about 25% of the country's 1997 GDP or \$85 per capita.

e) The Labor Content of Vietnam's untapped comparative advantage

How would a better use of Vietnam's comparative advantage in manufactures translate into employment growth? We can get an idea by using the "factor content" method. This method involves calculating the amount of labor embodied in trade flows. Although not undisputed, it has widely been used in studies that estimate the impact of increased trade flows or of alternative trade strategies on labor demand (see Wood, 1994). Even though it is a partial equilibrium analysis, it has generally been found to produce estimates of the same order of magnitude as general equilibrium models.

The essential piece of information that is required for these calculations is an estimation of the labor intensity of exports and import substitutes. The first row in table 14 is an export weighted average of gross output per worker in three sectors: garments and textiles, footwear and "other" light industries. It is based on a survey of 200 State-owned enterprises (SOEs) by the Ministry of Finance and shows that each worker produces on average \$3,885 worth of output per year. The second row shows similar information for private foreign companies in light industry. According to data from the Ministry of Planning and Investment, the average gross output per worker in this sector is slightly higher than in SOEs, reaching \$4,300. Finally, row three is an average between the first two rows. It is the best available estimate of the labor-intensity in Vietnam's exports and indicates that each worker produces \$4,078 worth of output per year.

But when exports increase, so do imports. And while higher exports create jobs, higher imports tend to displace domestic workers. Thus, the last row in table 14 also shows estimates of the labor-intensity in Vietnam's industries that compete with imports. Due to the lack of comparable production and trade data, this sector is assumed to contain the following heavy industries: chemicals, machinery and equipment, and iron and steel. In these sectors, average output per worker is estimated at \$9,200, indicating that the export sector is slightly more than twice as labor-intensive as import-substituting enterprises. This is well in line with previous estimates in developing countries and it is similar to the situation observed in Brazil, Indonesia or Thailand in the 1970s (see Krueger, 1983). It indicates that an expansion of trade according to the lines of Vietnam's comparative advantage should be beneficial to labor demand.

Table 14: The labor intensity of exports and import substitutes

Sector	Output/worker (dollars)
Export industries (SOEs)	3,855
Export industries (FDI)	4,300
Export industries (average)	4,078
Import-substituted industries	9,200

Source: Rows 1 and 4 are calculated from a survey of 191 State-owned enterprises by the Ministry of Finance. The second row is calculated from data from the Ministry of Planning and Investment. Row 3 is an average between row 1 and row 2.

Factor content calculations based on table 14 (and shown in Appendix I) suggest that a tripling of Vietnam's manufacturing exports would create between 1.5 and 1.7 million direct jobs in export-oriented companies, with a best estimate of 1.6 million jobs. In addition, if the production of domestically purchased intermediates for export production have labor requirements similar to exporting companies, another 700,000 jobs would also be created indirectly. Increased imports worth \$6.5 billion, on the other hand, are likely to displace between 200,000 and 350,000 workers in import-substituting companies (with a best estimate of 260,000). In addition to these workers - essentially employees in SOEs- another 400,000 jobs may be lost in firms that produce intermediates for such import-substituting companies. The net positive employment effect of an additional \$6.5 billion of manufacturing exports and imports is thus likely to lie between 1.3 and 1.4 million direct jobs, with another 300,000 indirect jobs.

f) How near is the labor-intensive future?

How long will it take to create these jobs ? This all depends on Vietnam's ability to recover from the Asian crisis. Prior to the Asian crisis export growth was very strong. As pointed out in section I of this paper, had light manufacturing exports continued to grow at their five-year-average pre-crisis rate of 45% per year, Vietnam might have been able to export an additional \$1.2 billion of light manufactures in 1998 alone. This means that around 300,000 direct jobs would have been created in the manufacturing export sector (see Appendix II on the employment effects of the Asian crisis).

If such a high export growth rate had been sustained, Vietnam might have tripled its exports in only about 3 years. Thus, labor-intensive exports would have directly absorbed more than 500,000 workers per year (on average). Even when allowing for the jobs that would have been lost due to increased imports, this compares very favorably to the roughly 200,000 workers that have annually entered employment in industry between 1993 and 1997. It also shows that prior to the Asian crisis Vietnam was on the way towards more labor-intensive growth. However, even if exports grow at only half their pre-crisis rates, 5 to 6 years would be enough for Vietnam to triple its earnings from manufacturing exports. In this case, manufacturing exports would generate on average around 300,000 direct jobs every year. This suggests that even at reduced export growth rates the future promises to be more labor-intensive than the past.

III. Labor regulations and private sector development

In the future, as Vietnam will move ahead on the road of reform and pursue further international integration, it will have to ensure the redeployment of labor both from the public to the private sector and from protected sectors into sectors in which it has a comparative advantage. In addition, it will have to create the conditions for a rapid development of the private sector. Thus, this section looks at whether Vietnam's new Labor Code implemented in 1995 and related Decrees are consistent with these objectives. Three types of labor regulations are looked at: minimum wages, non-wage compensation, and laws regulating employment termination. The analysis is mainly based on new VLSS data and on two case studies, one in export-oriented companies in Haiphong and another at ABB Transformers, a joint venture located in Hanoi.

III.I. Minimum wages

How do minimum wages affect labor costs and private sector employment growth? This depends on the degree of enforcement and on the extent to which the minimum wage is binding. In developing countries, enforcement is often possible only in very visible companies, including medium and large export-oriented firms (see Agrawal, 1996). In export-oriented sectors, effective minimum wages tend to increase production costs, hurt exports and therefore reduce employment. They may also deter foreign investment; in principle, since many developing countries compete to attract export-oriented foreign investors, a small difference in labor costs can have a large impact on the location of investment. In theory, a high minimum wage may also reduce employment –although to a lesser extent- in the inward oriented formal sector, where higher prices can be passed on to consumers but where employers tend to adopt less labor-intensive production. Thus, a high minimum wage may

ultimately increase the number of workers who seek jobs in the rural and urban household sector, increasing the supply of labor where most of the poor are found.

a) Regulations

In Vietnam, the minimum wage level is set at different rates for domestic and foreign enterprises. For the domestic sector –whether private or public- the monthly minimum wage is set at 144,000 VND (about \$10.35) since January 1997. In the public sector, this minimum wage is used as the base on which actual salaries are calculated. All public sector wages are a multiple of the minimum wage. Thus, any increase in the minimum wage leads automatically to an increase in all public sector wages (which probably explains why its level has remained unchanged since 1997). In foreign companies and joint ventures the minimum wage is higher. Until July 1999, minimum wages were denominated in dollars. Thus the dollar cost of wages in foreign companies was not affected by the currency slide in the previous years. Nowadays, these minimum wages are quoted in domestic currency and are set at 626,000 VND in the inner districts of Hanoi and Ho Chi Minh, 556,000 VND in other large cities and 487,000 VND everywhere else. So for foreign companies, the minimum wage represents between 338% and 435% of the minimum wage for domestic companies. How does this affect labor costs?

b) Evidence: domestic companies

For domestic companies, the minimum wage is very low. Annually, it would yield an income of less than VND 1.73 million. This falls below the World Bank's general poverty line set at VND 1.787 million for 1998 (World Bank, 1999). As can be seen in table 17, VLSS data shows that such a minimum wage represents roughly one fourth of Vietnam's average wage and one third of rural wages. This is modest by international standards. Table 17 also shows that Vietnam's minimum wage is far below average wages in all types of employment, including small household enterprises. The only exception is for cooperatives, where the average wage is only about 25% above the minimum wage.

Table 17: the minimum wage is low compared to average wages

	Monthly Average wage (in Dongs)	Ratio minimum wage To average wage
Total	522,610	0.276
Total urban	625,420	0.230
Total rural	445,090	0.324
Total males	570,760	0.252
Total females	447,150	0.322
Government	395,650	0.364
State enterprises	629,690	0.229
Cooperatives	182,820	0.788
Private enterprises	623,430	0.231
Small household enterprises	518,390	0.278
Mix economic sector	846,540	0.170
Other	495,380	0.291

Source: VLSS 2 (GSO, 1999)

Although the level of the minimum wage relative to average wages is an important piece of information, one must keep in mind that minimum wages are designed to increase earnings of workers at the lowest end of the earnings distribution. These workers are typically those with lower levels of education. Thus, what ultimately matters is the ratio of minimum wages to average wages for low educated and low paid workers. Table 18 below shows that even workers with no diploma earn on average more than 3 times the minimum wage. This reflects the small earnings differentials by levels of education in Vietnam. As can be seen in table 18, workers with upper secondary education only earn 20% more than workers with no diploma.

Table 18: the minimum wage is low even for workers with little education

	Monthly Average wage (in Dongs)	Ratio of minimum to average wage
No diploma	486,230	0.30
Primary diploma	509,430	0.28
Lower secondary diploma	497,050	0.29
Upper secondary diploma	567,620	0.25
College and university	747,840	0.19

Source: VLSS 2 (GSO, 1999)

Given this paper's focus on Vietnam's export potential, the question as to whether the minimum wage is binding in the labor-intensive export-oriented sector is of particular interest. A visit to Haiphong's export-oriented garments, footwear and food processing enterprises shows that here again market wages are above minimum levels. In Haiphong, full-time workers earn on average 300,000 to 550,000 VND per month, depending on productivity. This is two to four times more than the mandatory minimum. The lowest level of pay that was observed in Haiphong was 10,000 VND a day, which still yields a monthly income of more than 50% above the minimum wage. Thus, the minimum wage is unlikely to present any obstacle to the development of the export-oriented domestic private sector.

c) Evidence: foreign invested enterprises

As pointed out above, the minimum wage for foreign companies is higher than for domestic enterprises and varies across regions. Table 19 below shows that it represents between 93% and 106% of the country's average wages, and between 78% and 89% of private sector wages. In both urban and rural areas the minimum wage for foreign companies is set at levels roughly equal to average wages. Such ratios of minimum to average wages are high. Table 20 shows that minimum wages are even higher than wages of well-educated workers, with upper secondary diplomas. What about labor-intensive export sectors? A case study in Haiphong (where the minimum wage is set at VND 556,000) shows that the mandatory minimum wage is about 25% above market wages for the type of workers employed in the garment and footwear sectors (Belser, 1999). As pointed out above, the lowest wage level observed in Haiphong's domestic export-oriented enterprises was 10,000 VND per day – which would yield less than 50% of the mandatory minimum.

Table 19: in foreign invested companies the minimum wage is high

	Monthly Average wage (in Dongs)	Ratio minimum wage To average wage
Total	522,610	0.93 – 1.06
Total urban	625,420	0.89 – 1.00
Total rural	445,090	1.09
Private enterprises	623,430	0.78 – 0.89
100% FDI	979,550	0.49 – 0.64
Joint ventures	524,180	0.93 – 1.19

Source: VLSS 2 (GSO, 1999)

Table 20: The minimum wage is higher than wages of skilled workers

	Monthly Average wage (in Dongs)	Ratio minimum wage To average wage
No diploma	486,230	1.00 - 1.28
Primary diploma	509,430	0.95 - 1.23
Lower secondary diploma	497,050	0.98 - 1.26
Upper secondary diploma	567,620	0.85 - 1.10
College and university	747,840	0.69 - 0.88

Source: VLSS 2 (GSO, 1999)

To what extent is this minimum wage enforced? According to Vietnam's Ministry of Labor, Invalids, and Social Affairs (MOLISA) minimum salary breaches are widespread in foreign invested companies, mainly in garments, leather tanning, and paper production, as well as in agriculture. Interviews in Haiphong showed that some managers of foreign invested companies or joint ventures have indeed difficulties recalling the level of the minimum wage. Others openly admit paying below mandatory minimum. Most visited foreign companies, however, appeared to comply with regulations (Belser, 1999). This is unsurprising given that foreign invested companies are among the most visible companies, for which monitoring is easiest.

How does this minimum wage affect employment? In theory there are two channels through which high labor costs in foreign invested companies can hurt employment. The first is by inducing companies to substitute capital for labor and adopt less labor-intensive technologies. No such effect has however been reported by managers of foreign companies in Haiphong. Foreign companies in export-oriented sectors are mostly subsidiaries which import raw materials and transform them into finished products. There is thus not much scope for substituting machines for workers. Shoes and clothes have to be stitched together by workers and no machines can replace them.

The second and potentially more important channel through which higher labor costs can hurt employment is through reduced export competitiveness. Many of Vietnam's neighbors (in particular Indonesia) have recently experienced large currency devaluations due to the Asian crisis. This has brought about major reductions in the dollar cost of wages. In addition, many Asian countries have responded to the crisis by improving the business environment for foreign enterprises (World Bank, 1998). This has further eroded Vietnam's regional export competitiveness. Thus, coupled with the effects of the Asian crisis, Vietnam's

relatively high minimum wage may reduce its attractiveness to export-oriented foreign investors and hold off some new investments. Furthermore, our case study in Haiphong shows that many foreign companies are just one of several affiliates established in different Asian countries. This means that investors are able to quickly shift part of their production to affiliates in more competitive countries.

Few investors, however, seem to complain about labor costs, whose importance must certainly be weighed against the costs linked to restrictive foreign exchange regulations, poor infrastructure, opaque bureaucratic procedures, difficult access to land, expensive utilities and services, unfavorable business laws, and -not the least- a certain degree of unpredictability in the Government's policies towards foreign investors. Indeed, labor costs are only part of what defines competitiveness. There seems to be much scope in Vietnam for cost-saving reforms other than those that reduce the purchasing power of workers. At less than \$2 a day, labor costs in Vietnam remain very low and attractive by international standards.

III.II. Non-wage compensation

When minimum wages are high and enforced, payroll taxes to finance non-wage benefits may further increase labor costs, erode export competitiveness and hurt employment. On the other hand, if minimum wages are poorly enforced or set at levels below market wages market forces are likely to lead to a substitution between wages with non-wage compensation. In such a case, non-wage benefits (or payroll taxation) usually reduce take-home pay without substantially affecting labor costs (see McIsaac and Rama, 1997 or Gruber, 1997). But here again, the extent to which such substitution between wages and non-wage benefits happens in practice depends on the extent to which non-wage benefits can be enforced.

a) The Regulations

The Labor Code provides for a certain number of non-wage benefits. In this area, there are no distinctions between domestic and foreign invested companies. Since the adoption of the Labor Code in 1995, contributions to the social insurance fund are mandatory in all enterprises that employ more than 10 workers: employees must pay 5% of their wages and employers a further 15% of workers' wages. For businesses that employ fewer than 10 people, or for employees with contracts shorter than 3 month, social insurance allowances have to be directly included in take-home pay. The social insurance fund benefits workers in case of occupational disease, workplace accidents, maternity, retirement or for death allowances (there is no unemployment insurance in Vietnam so far). The replacement rate is generally 75% of wage levels. In addition to social insurance, employers and employees are also subject to mandatory health insurance: employers must contribute 2% of workers wages and employees 1%.

b) Evidence:

In Vietnam, compliance with non-wage regulations is very poor. According to data from the Vietnam Social Security (VSS), out of about 40 million workers only 4 million are covered by social insurance. And out of these 4 million, only 380,000 are private sector workers. Such low compliance is a typical problem in developing countries, where too few

inspectors with too few means cannot do much to enforce labor laws on a broad scale. At the central level, VSS has currently 15 inspectors to make sure that companies and workers pay their contributions. At district level, VSS has on average 6 full-time employees to collect revenues, distribute entitlements and inspect compliance. This is far too few to ensure the application of the Labor Code's progressive provisions.

A similar picture emerges from information collected at firm level. Evidence from MPDF (1999) shows that many of the country's larger private sector manufacturers hire workers without signing any contracts that require social insurance payments. The survey found that 6% of firms generally sign no contracts at all with their workers, while another 23% of firms sign only daily or monthly contracts. Furthermore, in the whole private manufacturing sector, seasonal and part-time workers (for whom no social security contribution need to be made) represent around 30% of the total labor force. A case study in Haiphong shows that among export-oriented manufacturers many companies appear to make some contributions to social insurance. But, here again, often less than 100 percent of the workforce is covered. In addition, the level of contribution is often lower than stipulated by the Labor Code: both firms and workers agree to pay respectively 15% and 5% of the mandatory minimum wage rather than of actual wages (Belser, 1999).

This suggests a low level of confidence in the social insurance system. In principle, workers should have an incentive to pay their contributions since they derive important benefits in case of workplace accident, occupational disease, or retirement. In practice, however, workers appear to prefer a higher take-home pay. There are at least three reasons that can explain such an attitude. The first is the fact that pensions are not adjusted for inflation. For private sector workers, the replacement rate of pensions is 75% of nominal wages. Thus, workers may expect their future benefits to be small in real terms. The second reason, is the low level of confidence workers have in Vietnam's new social security institutions. Anecdotal evidence suggests that workers perceive non-wage benefits as a tax rather than as an insurance against risk. The last reason has to do with workers low wages. It has been observed in other countries that the demand for benefits typically grows with the level of earnings. When income is low workers have little interest in benefits. They need cash to pay for their basic needs (Filer et al., 1996). It is worth pointing out, however, that even in high-income countries workers often resist social insurance contributions (although admitting the necessity of such insurance mechanisms).

III.III. Employment termination and dispute settlement

Labor markets have an important role in the success of economic reforms by ensuring labor mobility. To exploit its comparative advantage in labor-intensive manufactures, Vietnam will have to ensure the redeployment of workers from protected capital-intensive public enterprises to sectors in which it has a comparative advantage. Job security and other regulations that reduce employment flexibility tend to make such adjustment more difficult. In addition, complex procedures for terminating employment and high mandatory severance payments tend to discourage employers from hiring workers in the first place. In Vietnam, issues of labor mobility are particularly important in State enterprises undergoing reforms or equitization (i.e. privatization). But it also applies to joint ventures between State enterprises and foreign investors, where most workers are on life time contracts. If employment levels cannot be adjusted in these enterprises, such form of foreign investment may rapidly dwindle.

a) Regulations

According to the Labor Code, employment can be unilaterally terminated by the employer in case of "business restructuring" or "change of technology", provided a severance allowance of 1 month's salary for every year of service is paid to the terminated workers. However, when the need arises for a "massive layoff", the employer must discuss each case with the Executive Committee of the local trade union; if both parties agree, employment termination become effective 30 days after the local labor office has been notified. In addition, unilateral employment termination is also possible without having to consult with trade unions in case of "natural disaster forcing the employer to scale down production" or if "the business terminates its operation". Here, the employer must pay a severance allowance of only one half month's salary for every year of service.

There are two types of labor disputes that may arise in the context of employment termination: those between the employer and the unions, and those between the employer and the individuals. Disputes between employers and unions must be solved as follows: a company with more than 10 employees must set up a local "Labor Reconciliation Council" representing both employers and employees. This council must propose an agreement; if any party does not accept the agreement, it can ask the provincial "Labor Arbitration Council" to make a new proposal; if the union refuses this new proposal it can request the People's Committee of the Province to settle the dispute or stage a strike; if the employer does not agree with the new proposal, it can request the People's Court to reconsider the decision. Disputes between employers and individuals are simpler: either party may directly ask the People's Court to settle the dispute. Thus, in such a case there is no need to form a "Labor Reconciliation Council" nor can there be any involvement of People's Committees.

b) Evidence

Most private sector companies hire workers on very short-term contracts. This allows employers to deal with labor redundancies and adjust employment levels within the legal framework by simply not renewing contracts. A case study in Haiphong shows that most full-time workers in the private footwear, garment and food processing sectors are on 6 months to 1 year contracts, and that no employer ever had to reduce its labor force by breaking a contract (Belser, 1999). The MPDF survey (MPDF, 1999) shows that out of 95 interviewed firms, only 20% sign more than 1 year contracts for most of their labor force and that a majority of the companies sign 6 months to 1 year contracts.

Foreign investors who have signed joint ventures agreements with State-owned enterprises have less flexibility. Usually, most of their workers are on life long contracts. The story summarized in the next section shows that although the Labor Code establishes a clear procedure for employment termination and dispute settlement, such procedures remain unfamiliar in Vietnam. In addition, the case study brings to attention the fact that unions can ultimately refer disputes over employment termination to the Provincial People's Committee. This means that, in such cases, it is an executive branch of the Government which is responsible for interpreting the Labor Code. This contrast with countries where Governments can impose compulsory arbitration through independent courts. The procedure in Vietnam thus resembles the situation in Spain, for example, where collective dismissals require the approval of the Ministry of Labor, which usually grants its approval only if unions agree.

This, in turn, means that the only way to terminate employment is to offer high severance pay to workers in order to induce the union's consent (Pencavel, 1996).

Related to the issue of who ultimately interprets the Labor Code is the question of *how* the Labor Code is interpreted. Under exactly what conditions and circumstances can employment be terminated on the grounds of "business restructuring", "change of technology" or "termination of business operation" ? The case study in the next section clearly shows how a restrictive interpretation of the Labor Code by local authorities could substantially slow the speed of reforms in the State sector and discourage foreign investment in joint ventures with State companies.

c) A case study

ABB Transformers is a joint venture created in 1994 between ABB, a multinational company which owns 65% of the joint venture's capital, and CTBT, a State-owned enterprise under the Ministry of Planning and Investment. The company manufactures power transformers and other capital-intensive electrical equipment for the Vietnamese market. Through the joint venture agreement, ABB agreed that ABB Transformers would take over 474 State employees from CTBT. These workers were all on long term or life time contracts.

Due to low sales, ABB offered pre-retirement separation packages of about \$4,000 to more than 100 workers between 1996 and mid 1998, reducing its labor force from 474 to about 350. In September 1998, because of low sales, ABB decided to close down 2 of the company's 4 business divisions and to retrench another 67 workers. The company justified employment termination on two of the Labor Code's provisions: "change in technology" and "termination of business operation". But no consultation was undertaken with the labor unions, nor was the local labor office notified 30 days in advance. In addition, some workers were retrenched for allegedly poor health.

By January 1999, ABB Transformers proceeded with the first layoffs. But as dismissed people protested and as ABB realized that the company was breaking the Labor Code's provisions for cases of "massive layoffs" it took all workers back on board. The company restarted the whole process again in March 1999. Consultation was undertaken with the labor union, which did *not* agree to the layoffs. And as the dispute could not be settled through the company's "Labor Reconciliation Council", the Ministry of Labour Invalids and Social Affairs (MOLISA) was requested to formulate a new proposal. But before MOLISA could make any new proposal, the union staged a demonstration within the premises of the company, and apparently asked Hanoi's People's Committee to settle the dispute. Not knowing how to handle the situation, the People's Committee asked the Prime Minister's Office to take over the resolution of the dispute.

The Prime Minister's Office decided to set up an inspection team to investigate the issue and report its conclusions to the Prime Minister. This inspection team produced its recommendations on the 16th of August 1999. The document recognizes that the joint venture is making losses but advises the Prime Minister's Office to take the following decision:

- 1) the company "is required to re-operate the 2 closed-down divisions for which it received an Investment license in order to create more jobs for the employees" (on the ground that these two businesses were marginally profitable);

2) "the company is required to utilize all employees who were retrenched" and to "limit (...) the imports of simple mechanical parts in order to encourage the domestic production";

3) the company "should concentrate on the quality of the products in order to reduce the costs as well as the loss of the company";

4) the company "should train the skill for its employees so that they can work for the company";

5) the company should "strengthen the financial management by finding the way to cut costs and making profit for the company, in order to compensate for the loss caused by the management of the company".

Among other considerations, these conclusions are based on the ideas that imported second hand machines are not "new" technology and that the termination of a business operation is illegitimate if the business is not incurring losses –thus dismissing the two reasons ABB Transformers invoked for terminating employment of the 67 workers. A final decision is soon expected by the Prime Minister.

Summary and conclusions

Between 1992 and 1997, Vietnam was one of the fastest growing economy in the world. This growth was led by the industrial sector which expanded at 13% per annum. However, Vietnam's strong manufacturing growth has only had a moderate impact on industrial employment, which grew by 4% per annum. This represents less than 30% of the rate of industrial growth. In stark contrast, Asian countries which followed export oriented growth strategies during the last three decades were able to raise industrial employment at annual rates close to 80% of their industrial growth.

One explanation of this difference lies in the capital intensive and inward looking nature of much of Vietnam's industrial sector, which is still dominated by State owned enterprises concentrated in heavy industry. The surge of foreign direct investment into Vietnam in the mid to late 1990s has not altered this situation to any significant degree. Although the share of foreign capital flowing into light industry has increased in recent years, close to 90% of the stock of foreign investment is still in capital-intensive industries. This pattern of growth in large part reflects Vietnam's high barriers to heavy industrial imports, which not only protect State enterprises but also attracts foreign investors into import-substituted and capital-intensive activities, often in joint ventures with State enterprises.

In the future, however, growth promises to be much more labor-intensive. Between 1992 and 1997, real export earnings increased by an impressive 19% per year and the share of light manufactures in total exports rose from 13.5% to 36.7%. Had manufacturing exports earnings continued to grow at their pre-crisis rates Vietnam might have exported an additional \$1.2 billion of light industrial goods and created up to 300,000 manufacturing jobs in 1998.

In addition, Vietnam's high human capital and its large supply of labor relative to land suggest that there is scope for significantly raising manufacturing exports in the near future through a better allocation of resources. Cross-country statistical evidence shows that Vietnam's untapped export potential represents roughly 25% of its GDP and that up to 1.6 million jobs could be created in the next few years through labor-intensive exports. With high export growth rates, these jobs could be created in the next 3 to 6 years.

The paper also shows that current regulations regarding minimum wages and non-wage benefits are unlikely to harm private sector development. Their impact on foreign invested companies are, however, more ambiguous. For these companies, the minimum wage is above market wages and non-wage benefits further increase labor costs. Whether this deters foreign investment or induces a relocation of production to more competitive countries is unclear. The presumption is that at less than \$2 a day, labor costs in Vietnam remain low and attractive. Finally, in theory, Vietnam's new Labor Code ensures labor mobility. Restrictive interpretations of the Labor Code may, however, deter foreign investment in joint ventures and slow Vietnam's adjustment process from an inward looking State-led economy to a more market based economy specialized along the lines of its comparative advantage.

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Appendix I
Factor content of Vietnam's untapped comparative advantage

a) Direct employment effect: an estimate

The number of jobs created in export sectors (Z_x) can be calculated as:

$$Z_x = X \cdot (1/L_x)$$

where X is the value of exports we are interested in, and L_x is the (export weighted) average output per worker in export sectors. Given the estimates shown in table 12, we can calculate the number of jobs created through an additional \$6.5 billion of exports as

$$Z_x = X \cdot (1/L_x) = 6.5 \text{ billion} \cdot (1/4,078) = 1,596,125 \text{ jobs}$$

This indicates that, through a better use of its comparative advantage in manufacturing exports, Vietnam could create around 1.6 million new jobs in export sectors.

How many jobs would be lost in import-competing sectors due to a \$6.5 billion worth of additional imports? This is more difficult to assess, mainly for two reasons. The first is that a large share of the increased imports will consist of intermediates for export production. Such imports do not displace any domestic production. The second reason is that many of the remaining imports do not compete with existing domestic industries. Indeed, a large share of developing countries' imports are typically more technology- and skill-intensive than local production (see Wood, 1994). These goods are not direct substitutes for domestic production and their labor market effect is difficult to gauge. It is assumed here that they consist mainly of consumer goods on which higher export earnings can be spent without adverse effect on domestic production. Thus, the number of jobs lost due to increased imports (Z_m) must be calculated as:

$$Z_m = (M - M^* - M_{nc}) \cdot (1/L_m)$$

where M is the value of imports, M^* is the value of imports used as intermediates in exports, M_{nc} is the value of remaining imports that are non-competing, and L_m is the average output per worker in import-substituting sectors.

M^* , the value of imports used as intermediates in exports, can be calculated as:

$$M^* = (I_m/I_t) \cdot (I/O \cdot X)$$

where I_m/I_t is the share of intermediates in export production that are imported, where I/O is the share of intermediates in the export sector's gross output, and X is total exports. According to data from the Ministry of Finance, the cost of intermediate inputs represent between 87% and 90% of gross output in garments and textiles and footwear. Anecdotal evidence suggest that in private companies, both domestic and foreign invested, virtually all of these inputs are imported. State enterprises, on the other hand, tend to buy more domestic intermediates. Thus, assuming conservatively that overall 50% of intermediates are imported, we can estimate M^* as follows:

$$M^* = 0.5 \cdot (0.9 \cdot 6.5 \text{ billion}) = 2.925 \text{ billion}$$

This indicates that \$2.925 billion worth of imports are likely to be used as intermediates in export production.

Mnc, or the value of non-competing imports out of the remaining imports, is generally estimated by comparing import data with data on domestic production. Krueger (1983), for example, defines a statistic T_i such as: $T_i = C_i - P_i / C_i$, where C_i is domestic purchases and P_i is domestic production. A good is then usually considered as non-competing if $T_i > 0.75$. That is, if domestic production represents only 25% or less of domestic consumption. Vietnamese data, however, makes the use of such a method impossible. Based on international evidence, the share of non-competing imports may be conservatively estimated to make up another third of imports that are not used in export production (see Krueger, 1983). Mnc may thus, somewhat superficially, be estimated as:

$$Mnc = (1/3) \cdot (X - M^*) = (1/3) \cdot (6.5 \text{ billion} - 2.925 \text{ billion}) = 1.19 \text{ billion}$$

We can now calculate the number of workers made redundant due to a \$6.5 billion increase in imports (Z_m) as follows:

$$Z_m = (M - M^* - Mnc) \cdot (1/L_m) = (6.5 \text{ b.} - 2.925 \text{ b.} - 1.19 \text{ b.}) \cdot (1/9,200) = 260,000$$

In other words, international integration and an efficient use Vietnam's comparative advantage would lead to about 260,000 redundancies in State sector. Thus, the net forgone employment (Z) due to Vietnam's untapped comparative advantage represents roughly 1.34 million manufacturing jobs, calculated as:

$$Z = Z_x - Z_m = 1,596,125 - 260,000 = 1,336,269$$

b) Sensitivity analysis

Of course, the above numbers are rough estimates. The methodology used above involves no sophisticated counterfactual (i.e. what else would be different if Vietnam was able to export more manufactures). This would tend to lead to an underestimation of the employment effects of a more export-oriented Vietnam, most importantly because open countries also grow faster than nations with few exports. In addition, these estimates involve several assumptions open to discussion and debate. Table 15 shows how changes in the model's underlying assumptions affect the above results.

First, we experiment with different labor-intensity coefficients in Vietnam's export sector. The estimates presented above are based on an average output per worker in export industries of \$4,087. While this may be a good approximation, the true average may actually lie somewhere in the range between \$3,885 and \$4,300 (see table 12). Row 3 of table 15 thus indicates that the lower and upper bound of the number of jobs created through an additional \$6.5 billion or worth of exports are respectively 1.5 and 1.7 million.

Similarly, row 4 provides a range of estimates of the number of jobs lost due to increased imports. The average value refers to our estimate that 45% of imports are used as intermediates in exports and that another third of imports are non-competing. We find that the number of redundant workers is roughly 260,000. The higher estimates assume that only 40% of imports are intermediates and that only 20% of remaining imports are non-competing. Here

we find that the number of redundant workers is 340,000. The lower estimates on the other hand assume that 50% of imports are intermediates and that 40% of the remaining imports are non-competing. In such a case, we find that the number of redundant workers due to increased imports is only 210,000. Thus, the true number of redundant workers as a result of deeper international integration and a better allocation of resources is likely to range between 210,000 and 340,000. Overall, these results indicate that the net positive labor market effect from a better use of Vietnam's comparative advantage lies somewhere between 1.2 and 1.5 million jobs, with a best estimate of 1.34 million.

Table 15: sensitivity tests

Predicted share of manufactures (%)	63		
Absolute export shortfall (billion \$)	6.5 (25% of GDP)		
Labor effect of exports (million workers)	low	average	high
	+1.51	+1.6	+1.69
Labor effect of imports (million workers)	low	average	high
	-0.21	-0.26	-0.34
Net effect (million workers)	low	average	high
	+1.17	+1.34	+1.49

c) Indirect employment effects: a best guess

The above calculations only take into account jobs directly created in exports and directly lost in import substituted sectors. According to the information used above, export sectors import half of their intermediate inputs. The other half originates in the domestic economy. If the production of these intermediate goods have similar labor requirements to export sectors, this means that the expansion of exports would indirectly create an additional 717,000 jobs. This is calculated as:

$$Z_{xi} = (I_d/I_t) \cdot (I/O \cdot X) \cdot (1/L_x) = 0.5 \cdot (0.9 \cdot 6.5 \text{ billion}) \cdot 4,078 = 717,263$$

where I_d/I_t is the share of intermediates in export production that are bought domestically, where I/O is the share of intermediates in the export sector's gross output, X is total exports, and L_x is the labor content of domestic intermediates. Thus, the total number of jobs created both directly and indirectly (Z_{xt}) through an additional \$6.5 billion of exports would amount to about 2.3 million:

$$Z_{xt} = Z_x + Z_{xi} = 1,596,125 + 717,263 = 2,313,388$$

Of course, the same argument can be made about the number of jobs lost due to increased imports. There is no data available, however, on this sector's share of intermediates in gross output nor on the amount of imported intermediates. As a rule of thumb one may guess that the total number of jobs lost both in capital-intensive State enterprises and in companies that produce their intermediate inputs may amount to roughly 1.5 times the number of direct jobs lost in import-substituted companies. That is:

$$Z_{mt} = 1.5 \cdot Z_m = 1.5 \cdot 260,000 = 390,000$$

This would leave a net positive impact of :

$$Z_t = Z_{xt} - Z_{mt} = 2,313,388 - 390,000 = 1,923,388$$

In other words, taking into account indirect jobs that result from export and import-substituted companies' requirements for intermediate goods, we can estimate that a better use of Vietnam's comparative advantage in manufacturing could create up to 2 million jobs.

Appendix II

The employment effect of the Asian crisis

As pointed out in section I of this paper, had light manufacturing exports continued to grow at their five years average pre-crisis rate of 45% per year, Vietnam might have been able to export an additional \$1.2 billion of light manufactures in 1998 alone. How many jobs would this have created? We can get an estimation by using the factor content method described in Appendix I.

The number of jobs created in export sectors (Z_x) can be calculated as:

$$Z_x = X \cdot (1/L_x)$$

where X is the value of exports we are interested in, and L_x is the (export weighted) average output per worker in export sectors. Given estimations shown in table 12, we can calculate the number of jobs created through an additional \$1.2 billion of exports as:

$$Z_x = 1.2 \text{ billion} \cdot (1/4,078) = 294,262$$

with a lower and an upper estimate (Z_{xl} and Z_{xu}) of respectively:

$$Z_{xl} = 1.2 \text{ billion} \cdot (1/4,300) = 279,070$$

and
$$Z_{xu} = 1.2 \text{ billion} \cdot (1/3,855) = 311,284$$

This indicates that in 1998, without the Asian crisis, Vietnam may have created between 280,000 and 311,000 jobs in export sectors, with a best estimate of about 295,000.

How many jobs would have been lost due to a \$1.2 billion worth of additional imports? Remember that this must be calculated as:

$$Z_m = (M - M^* - M_{nc}) \cdot (1/L_m)$$

where M is the value of imports, M^* is the value of imports used as intermediates in exports, M_{nc} is the value of remaining imports that are non-competing, and L_m is the average output per worker in import-substituting sectors.

M^* , the value of imports used as intermediates in exports, can be calculated as:

$$M^* = (I_m/I_t) \cdot (I/O \cdot X)$$

where I_m/I_t is the share of intermediates in export production that are imported, where I/O is the share of intermediates in the export sector's gross output, and X is total exports. As already pointed out in Appendix I, according to data from the Ministry of Finance, the cost of intermediate inputs represent between 87% and 90% of gross output in garments and textiles and footwear, and we can assume that overall 50% of intermediates are imported. Thus, we can estimate M^* as follows:

$$M^* = 0.5 \cdot (0.87 \cdot 1.2 \text{ billion}) = 313 \text{ million}$$

This indicates that \$552 million worth of imports would have been used as intermediates in export production.

In Appendix I, M_{nc} , or the value of non-competing imports out of the remaining imports, were estimated to represent one third of imports that are not used in export production. M_{nc} may thus be estimated as:

$$M_{nc} = (1.2 \text{ billion} - 522 \text{ million}) \cdot 0.3 = 226 \text{ million}$$

We can now estimate the number of jobs that would have lost in import-competing sectors if the Asian crisis had not existed as:

$$Z_m = (1.2 \text{ billion} - 522 \text{ million} - 226 \text{ million}) \cdot (1/9,200) = 49,000$$

Thus, given output per worker of \$9,200 in import-substituted sectors (see table 12), we can estimate that the Asian crisis has preserved about 50,000 workers from becoming redundant in State owned enterprises.

Finally, the net negative employment effect of the Asian crisis in terms of foregone industrial employment can be calculated as:

$$Z = Z_x - Z_m = 294,000 - 49,000 = 245,000$$

In other words, the net number of manufacturing jobs that have not been created because of the Asian crisis can be estimated to be equal to 245,000. Of course, these are rough estimations, which are dependent on a certain number of debatable assumption. They are intended to provide an order of magnitude rather than exact figures.