

The Garment Industry in Cambodia: Its Role in Poverty Reduction through Export-Oriented Development

著者	Yamagata Tatsufumi
権利	Copyrights 日本貿易振興機構（ジェトロ）アジア経済研究所 / Institute of Developing Economies, Japan External Trade Organization (IDE-JETRO) http://www.ide.go.jp
journal or publication title	IDE Discussion Paper
volume	62
year	2006-06-01
URL	http://hdl.handle.net/2344/131

Discussion Papers are preliminary materials circulated
to stimulate discussions and critical comments

DISCUSSION PAPER No. 62

The Garment Industry in Cambodia: Its Role in Poverty Reduction through Export-Oriented Development

Tatsufumi Yamagata

June 2006

Abstract

Cambodia's export-oriented garment industry has contributed greatly to poverty reduction in the country through employment of the poor. This paper provides a statistical verification of this contribution based on firm-level data from 164 sampled companies collected in 2003. Its main conclusions confirm the substantial impact that employment in the garment industry has had on poverty reduction in Cambodia. Firstly, entry-level workers receive wages far above the poverty line. Secondly, females make up the predominant share of the main category jobs in the industry. Thirdly, barriers to employment and to promotions up to certain job categories are not high in terms of education and experience. Another important finding is that a typical sample firm exhibited high profitability, although there was wide variation in profitability among firms. This average of high profitability could be a good predictor of Cambodia's viability in the intensified competition since the phase out of the Multi-Fiber Arrangement (MFA) at the beginning of 2005. A point of note is that Cambodia's pattern of industrial development led by a labor-intensive industry is similar to that of neighboring countries in East Asia which earlier went through the initial stage of industrial development, except that Cambodia has lacked a strong government industrial promotion policy which characterized the earlier group.

Keywords: Cambodia; export-oriented industrialization; garments; poverty reduction

JEL classification: J30, J31, L67, O53

The Institute of Developing Economies (IDE) is a semigovernmental, nonpartisan, nonprofit research institute, founded in 1958. The Institute merged with the Japan External Trade Organization (JETRO) on July 1, 1998. The Institute conducts basic and comprehensive studies on economic and related affairs in all developing countries and regions, including Asia, the Middle East, Africa, Latin America, Oceania, and Eastern Europe.

The views expressed in this publication are those of the author(s). Publication does not imply endorsement by the Institute of Developing Economies of any of the views expressed.

INSTITUTE OF DEVELOPING ECONOMIES (IDE), JETRO
3-2-2, WAKABA, MIHAMA-KU, CHIBA-SHI
CHIBA 261-8545, JAPAN

©2006 by Institute of Developing Economies, JETRO

The Garment Industry in Cambodia: Its Role in Poverty Reduction through Export-Oriented Development^{*}

Tatsufumi Yamagata[†]
Institute of Developing Economies

June 2006

Abstract

Cambodia's export-oriented garment industry has contributed greatly to poverty reduction in the country through employment of the poor. This paper provides a statistical verification of this contribution based on firm-level data from 164 sampled companies collected in 2003. Its main conclusions confirm the substantial impact that employment in the garment industry has had on poverty reduction in Cambodia. Firstly, entry-level workers receive wages far above the poverty line. Secondly, females make up the predominant share of the main category jobs in the industry. Thirdly, barriers to employment and to promotions up to certain job categories are not high in terms of education and experience. Another important finding is that a typical sample firm exhibited high profitability, although there was wide variation in profitability among firms. This average of high profitability could be a good predictor of Cambodia's viability in the intensified competition since the phase out of the Multi-Fiber Arrangement (MFA) at the beginning of 2005. A point of note is that Cambodia's pattern of industrial development led by a labor-intensive industry is similar to that of neighboring countries in East Asia which earlier went through the initial stage of industrial development, except that Cambodia has lacked a strong government industrial promotion policy which characterized the earlier group.

Keywords: Cambodia; export-oriented industrialization; garments; poverty reduction
JEL classifications: J30, J31, L67, O53

^{*} This is a report of the main results from a field survey of the export-oriented garment industry in Cambodia. The survey was conducted in 2003 by the Institute of Developing Economies (IDE) in cooperation with LIDEE Khmer, the Council for the Development of Cambodia (CDC), the Cambodia Investment Board (CIB), and the Garment Manufacturers Association in Cambodia (GMAC). The author would like to give special acknowledgement to His Excellency Suon Sitthy (CIB Secretary General) and Ray Chew (the former manager of GMAC) for providing their complete cooperation. The field survey was led and supervised by Sau Sisovanna and Hing Thoraxy. The team leader was Phauk Samrech. Dav Ansan, Heng Bunsong, Mak Huch, Preap Manel, Seng Piseth, and Krouch Say were excellent assistants. Saint Lundy directed data processing, and Shina Matsuura (an IDE Research Fellow) also participated in the field survey. This research project could not have been completed without the cooperation of all these people. Finally, the author is grateful to Naoko Amakawa, Naomi Hatsukano, Satoru Kobayashi, Yukiko Sakanashi and participants of seminars at the IDE for their useful comments on the Japanese version of this paper.

[†] E-mail: tatsufumi_yamagata@ide.go.jp.

1. Introduction

The garment industry has led the Cambodian economy since the mid-1990s. Garments are the country's biggest export making up about three-quarters of total exports, and the industry is a symbol of the country's dynamism in the world economy. The industry is also the main non-farm formal sector creating employment opportunities for the poor. The greater part of the workforce is female, less educated, and has migrated from rural areas. Thus, the garment industry is seen as contributing to poverty reduction in Cambodia by providing employment opportunities with higher wages for the poor who would otherwise be engaged in low-wage economic activities in rural areas.

There was lively discussion about the survival of Cambodia's garment industry prior to the final phase out of the Multi-Fiber Arrangement (MFA) on 1 January 2005 which was expected to greatly intensify competition in the international garment market. One of the most influential forecasts was that of a WTO discussion paper (Nordås [2004]), which predicted that that only China and India would gain from the MFA phase out and that Cambodia and other smaller suppliers of garments would lose out. Fortunately, there was no immediate collapse of the industry in Cambodia. Garment exports to the United States grew over the whole of 2005, while those to EU declined only slightly. However, the prospects for the industry in Cambodia are not certain and the future trend in garment exports needs to be watched.

Despite its importance and predominance as the leading modern and internationalized industrial sector in Cambodia, there has been little research done on the garment industry at the firm level, while that on garment workers has attracted the most attention (Engquist [2001], Forder [1999], Hall [1999]). Bargawi [2005], Hach, Huot and Boreak [2001], Knappe [2002], and Konishi [2003] have analyzed the structure and features of production in the industry by surveying some factories. However, the coverage of the sample firms in these research works has been limited, therefore they do not provide a comprehensive picture of the structure of garment factories based on a substantial sample size.

This paper is based on a firm survey conducted from August to October 2003 covering 164 export-oriented garment-manufacturing firms. The sample size represented 84 percent of the total number of

members firms in the Garment Manufacturers Association in Cambodia (GMAC), which is the sole industrial association of export-oriented garment manufacturers in Cambodia. Although the total membership of GMAC is 196 firms, this figure includes those that have closed down, but remained registered members. Therefore, the data set covers most of the export-oriented garment-manufacturing firms operating in 2003. Thus, this data set can provide comprehensive statistics on Cambodia's export-oriented garment industry which have been derived from the information of individual firms not available in the existing literature. With this data set we can analyze more thoroughly the impact of the garment industry's development on poverty reduction in Cambodia by examining such factors as: worker remuneration based on sex, job category and experience; female workers as a share of the labor force; the frequency of promotion; the required level of education; and hours worked. Moreover, the prospects for the industry can also be examined by investigating firm profitability; the characteristics of managers; sources of capital; and the scale of firms.

The main conclusions of this study confirm the substantial impact that employment in the garment industry has had on poverty reduction in Cambodia. Firstly, female workers, especially in certain job categories, make up the predominant share of the labor force, and workers earn wages that are far higher than the poverty line. Secondly, barriers to employment and promotions up to a certain level of job categories are not high in terms of educational attainment and experience. Thus, employment in the garment industry is a wonderful job opportunity for rural women who otherwise would be engaged in low-wage economic activities.

Another finding concerned the profitability of the export-oriented garment firms. The profitability of a typical firm in the sample was high, although the variation in profits-to-sales ratio was also great. This high average profitability could help the industry to survive the intensified competition that has come with the end of the MFA.

The remaining sections of paper are as follows. Section 2 looks at the institutional background of the garment industry in Cambodia. Import restrictions imposed by the United States and Canada were critical determinants of the quantity of garment exports from Cambodia, while labor standards supported by the United States and the International Labour Organisation (ILO) dictated wage and working conditions. Section 3 forms the core of this paper, presenting the statistical results derived from the field survey. The final section summarizes the main findings and provides some interpretations of them.

2. Development of the Garment Industry in Cambodia

The textile and apparel industries have led industrialization at the early stage of development in many countries of the world. In general, competition in the international market has been keen, and it has not been rare for latecomers to emerge and often replace the countries where the average wage rate has become too high to be competitive. Most developed countries which have lost competitiveness have imposed quantitative restrictions on the trade in textiles and clothing since the 1950s, although there has been progress in trade liberalization as a whole. The Multi-Fiber Arrangement governed the trade in textiles and clothing from 1974 to 1994. This arrangement was superseded in 1995 by the Agreement on Textiles and Clothing (ATC) under the administration of the World Trade Organization (WTO). The ATC stipulated that all quantitative restrictions on the trade in textiles and clothing were to be phased out, and would be abolished completely by 1 January 2005.

There was serious concern that low income countries, such as Bangladesh and Cambodia, which relied heavily on the garment industry, would suffer from the keen competition expected to be triggered by the complete liberalization of trade in textiles and clothing from the beginning of 2005. The most cited study, published as a discussion paper by the WTO (Nordås [2004]), predicted that China would expand its exports and India would follow, and that the other relatively small exporters would suffer seriously from the competition of these two giants. However, it turned out that some garment-exporting Least Developed Countries (LDCs), such as Bangladesh, Cambodia and Haiti, fared very well throughout the year 2005. Tables 1 and 2 show the trends in garment exports to the United States and EU from the five largest garment exporters and the two leading exporters among the LDCs, Bangladesh and Cambodia. As Nordås [2004] correctly expected, China and India expanded garment exports to the US and EU, the world's two largest markets. However, unlike Nordås' expectation, Bangladesh and Cambodia also increased their exports to the United States during 2005 by more than 20 percent. Though their garment exports to the EU declined between 2004 and 2005, the drops were not significant; and the growth in the same figures by more than 30 percent between 2003 and 2004 surpassed the decline in 2005 (Table 2). As a whole, the sum of garment exports to the two largest markets grew by 2.54 percent for Bangladesh and by 11.06 percent for Cambodia in 2005. Since the US and EU are going to be imposing new restrictions on textile and garment imports from China for at

least a couple of years, exports from that country will slow down, making room for the remaining garment exporters to increase growth. Thus, the prospects for Cambodia to continue expanding its garment exports are encouraging.

Although Cambodia did not become a member of the WTO until October 2004, its garment exports to the United States had been increasing dramatically since the time of the Asian economic crisis that started in 1997 (see Figure 1). Thorax [2003] showed that this was due to the large-scale inflow of foreign direct investment into the country's export-oriented garment industry. With the surge in garment imports from Cambodia, the United States started negotiation with the Cambodian government. The two countries concluded a trade agreement on textiles and apparel in 1999, which set down quantitative restrictions on exports of textiles and garments from Cambodia to the United States.

In the agreement import ceilings, *i.e.* quotas, were assigned item by item, and were conditional on Cambodia meeting decent labor standards in its garment producing factories. The agreement stipulated that quotas allocated to factories with low labor standards would be withdrawn. The local office of the International Labour Organization was assigned to carry out surprise inspections of all export-oriented garment factories to detect those violating the stipulated labor standards (ILO [2001, 2002a, b, c, 2003a, b]). As a result, the agreement was rigorously enforced.

One of the issues the ILO inspections focused on was compliance with regulations on minimum wages. Table 3 shows the regulations according to the status of workers. They stipulate that regular workers are entitled to earn the equivalent of or more than 45 US dollars per month. As will be explained in the next section, this wage rate is considerably higher than that earned by entry-level workers employed in typical garment factories in Bangladesh, another garment exporter among the LDCs. Cambodia's minimum wage regulations are strictly enforced through monitoring by the ILO, and the minimum wage rate is binding for garment factories in the country.

Most of the labor standards which must accord with ILO inspections originated in the Labor Code of the State of Cambodia enacted in 1992, and the Kingdom of Cambodia Labor Code which superseded the former in 1997. However, despite the wide coverage of ILO inspections, there are still many factories which do not satisfy the labor standards (Hall [1999]).

3. Statistical Profile of the Garment Industry in Cambodia

Because the United States and Canada have imposed quotas on most textile and apparel items imported from Cambodia until 1 January 2005, export-oriented garment factories had a strong incentive to belong to the Garment Manufacturers Association in Cambodia where membership was a *de facto* condition to receive quotas for exporting to the United States. Thus being a member of GMAC became synonymous with being an export-oriented garment firm. As of August 2003 the number of GMAC member firms was 196, although some of them had closed down without notifying GMAC of the fact. Therefore, the actual number of export-oriented firms operating in 2003 was less than 196.

All member firms are requested to notify GMAC of the number of their workers and amount of their capital. Table 4 provides statistical figures on the number of workers in each GMAC member firm. It can be seen that the average number of workers is large and that the standard deviation is also great. The figure for the average is 903, while the median is 559. The range between the minimum number of workers, 18, and the maximum, 9500, is enormous and the standard deviation is a very great 1098. These figures are more impressive when compared with the same variables of a corresponding industrial association in Bangladesh. The corresponding figures for the Bangladesh Garment Manufacturers and Exporters Association (BGMEA), which is the largest industrial association for export-oriented garment production in Bangladesh, are juxtaposed with those for Cambodia in Table 4. Bangladesh garment exports are roughly four times greater in US dollar terms than those of Cambodia, which is reflected in the large number of member firms in the BGMEA compared with that for GMAC: 3115 members for the former compared with 196 for the latter. However, the average number of workers in BGMEA member firms, 399, is less than half of the 903 average for GMAC members, while the standard deviation in the number of workers for the former is far smaller than that for the latter. In other words, there are many small firms exporting garments in Bangladesh, while a small number of large factories are engaged in export-oriented garment production in Cambodia.

It is interesting that Cambodia and Bangladesh, two rising stars among the LDC garment exporters, exhibit quite dissimilar features as shown in Table 4. It would be worthwhile, therefore, to scrutinize details of the garment producing firms in Cambodia, which are not available from the data collected by GMAC. This study will

examine aspects of production, employment, capital accumulation and management in order to shed light on the prospects for the garment industry and its impact on poverty reduction in Cambodia. No other studies to date have provided information on the above-mentioned aspects of the industry using a reasonably substantial number of sample firms. GMAC collects data on only a small number of variables, and the collected figures are not updated often. Moreover, though there are some in-depth studies highlighting a small number of firms, such as Hach, Huot and Boreak [2001], Knappe [2002], and Konishi [2003], those using a large number of samples are few. A survey on the investment climate in Cambodia conducted by the World Bank was used in Batra, Kaufmann and Stone [2003]. This seems to be the only study with interviews conducted at a number of firms using a structured questionnaire. However, since this study covered many industries, the questionnaire used for the survey was not designed to focus on garment production.

The present study is based on a field survey conducted by the Institute of Developing Economies in cooperation with the LIDEE Khmer, a research-oriented NGO in Cambodia. To the author's knowledge this is the first survey focusing specifically on the production and management of the garment industry in Cambodia using a sizable sample of firms and a structured questionnaire.¹ The field survey was conducted between August and October 2003, which was after a general election. Fortunately, there was no disturbance due to the post-election turmoil. With the cooperation of the Council for the Development of Cambodia (CDC), the Cambodia Investment Board (CIB) and GMAC, the survey team attempted to visit all the firms listed by the CDC and GMAC. As a result, 164 questionnaires were collected and confirmed to be valid. The sample size represented 70.1 percent of all firms registered with GMAC. Since some firms had closed down by the time of the field survey, the actual coverage was higher than 70.1 percent. All flow variables were as of fiscal year 2002, *i.e.* January - December 2002, while all stock variables were as of the end of December 2002. The following sections present the results from analyses of the data collected above.

Firm Locations

The lists of firms maintained by the CDC and GMAC show that most of the export-oriented garment

¹ The questionnaire is attached as Appendix 2.

producing firms are located in Phnom Penh Municipality and Kandal Province (Table 5). Firms located in other areas, such as Kromg Preach Shihanouk, account for no more than 10 percent of the total. There are four sub-regions in the Phnom Penh Municipality-Kandal Province area where export-oriented garment producing firms concentrate. These are: the area along Road No. 5, the Toulkok area and along Road No. 4, the Steung Meanchey area and along Veng Sreng Street, and the area along Road No. 2. Almost an equal number of firms are located in each of the four sub-regions. (Table 5; see Figure 2 for the exact locations of the four sub-regions.) Table 5 shows that survey samples were collected almost proportional to the distribution of GMAC member firms.

Management

One aspect of the management of export-oriented garment producing firms in Cambodia that was thoroughly reflected in the field survey is that most of the top managers are foreign nationals. The questionnaire asked interviewees to answer who “the (real) most influential decision-maker” is in order to identify the top manager, whatever her/his actual position is. Then, attributes of the decision-maker were asked.

Table 6 shows the distribution of top managers by their geographical origin, while Table 7 shows their ethnic identity. The greatest numbers of top managers had Chinese nationality. Thirty percent of top managers came from mainland China, while 15 percent and 21 percent were from Hong Kong and Taiwan, respectively. Those from South Korea, Singapore, Malaysia and the United States follow in that order. Only 8 percent of top managers were of Cambodian nationality. By ethnic identity, around 77 percent of top managers answered that they were Chinese whatever their geographical origins. These statistics demonstrate that ethnic Chinese manage the export-oriented garment industry in Cambodia.

More than 90 percent of top managers had attained education beyond high school (Table 8). More than a quarter had obtained a master’s degree including MBA. Regarding work experience, more than a quarter of these top managers had worked for other textile-related firms, but the majority of them had not worked for any other firms before. Their average age, which happened to be equal to the median, was 47.0 years old with 4.7 years service for the current firm on average (Table 9). Their average duration of working in the garment business was 14.6 years.

The average length of business operations for the surveyed firms was a short 4.7 years, reflecting the fact

that the majority of firms currently in operation were established only in recent years. Figure 3 shows the distribution of firms registered with GMAC by their year of establishment. The figure is based on data collected by GMAC. About 85 percent of currently operating firms started business after 1997, while the peak year for setting up operations was 1998. According to many interviewees, the reason for starting operation around that time was because neighboring countries were suffered severe economic stagnation brought on by the Asian economic crisis that broke out in 1997. Cambodia was less affected by the crisis, so many multinationals engaged in the garment business shifted their production sites to the country. This development is all the more impressive when the political situation in Cambodia at that time is taken into account. In 1997 there was a coup d'etat which caused not only serious political turmoil but also property damage to some of the garment factories. One factory owner in an interview said that all the sewing machines in his factory were stolen or destroyed during the disturbances. Despite such circumstances, however, a great amount of capital flowed into Cambodia's garment industry.

The majority of firms said they were subsidiaries with 73 percent of them working as subcontractors (Table 10). Most impressively, more than 90 percent of the firms stated that they had not borrowed any money from outside. Table 11 shows that 148 of the surveyed firms answered that their ratio of capital to assets was 100 percent.²

Table 12 provides a general overview of the ownership of export-oriented garment producing firms. It shows that the majority of firms are 100 percent foreign-owned. One hundred twenty-five firms confirmed that they were 100 percent owned by foreigners, and 7 firms said they were joint ventures with Cambodians. Only 14 firms were owned wholly by Cambodians. The table shows clearly that Chinese capital has contributed the most substantially to Cambodia's export-oriented garment industry. Thorax [2003] endorses the importance of foreign direct investment for the industry.

Production

A main feature of the export-oriented garment industry in Cambodia is that most firms do not produce fabrics and instead specialize in making garments from imported fabrics. Table 13 shows that 87.4 percent of the

² It should be noted that those answers were likely not based on their balance sheets, and that the respondents gave rough figures of their ratios; therefore the values should be taken as estimates. However, the answers were given by responsible managers (see Table A2 in Appendix 1 for the positions held by interviewees in the sample firms); therefore the figures given are considered to

sample firms engaged in only sewing fabrics and making final products. This feature contrast markedly with Bangladesh, another outstanding garment exporter among the LDCs. Bakht *et al.* [2006] point out that the majority of knitwear producing factories in Bangladesh are vertically integrated and undertake the weaving of fabrics and the making of garments from the fabrics knitted in-house. In Bangladesh vertical integration was promoted by strictly applying the rule of origin set down in the Generalized System of Preferences (GSP) offered by the EU. In other words, in order to receive a preferential tariff exemption from the EU in accordance with the GSP, Bangladesh began encouraging vertical integration from the middle of the 1990s. Although a similar system has been applied to Cambodia as an LDC and knitwear is a major category of garment export, Cambodia has not responded as Bangladesh has.

Regarding the size of export-oriented garment producing firms, the distribution is polarized between a small number of large firms and a large number of small firms. Table 14 shows the distribution of sample firms in terms of their amount of sales. The size distribution by the number of workers is also available in the data held by GMAC, which is shown in Table 4 and Figure 4. The skewness of the size distribution is evident in Figure 4.

Regarding the intensity of operation, in 2002 the majority of firms operated for 10 hours per day on average running one shift (Table 15), the 10 hours consisting of 8 hours of regular work time and 2 hours of overtime. Only 17 firms ran multiple shifts. Since the statutory overtime wage rate is set at twice the regular wage, and since this regulation is relatively strictly enforced in Cambodia, firms are likely to avoid a night shift and to reduce working hours.

Finally, the industry exhibits high profitability as a whole. Figure 5 shows the distribution of sample firms by their ratio of profits to sales³. It shows that the majority of the sample firms exhibit positive profits, and that a typical firm generates profits as high as 20-30 percent of sales⁴. On the other hand, a high variation in the ratio can also be observed. There are a considerable number of sample firms that exhibit negative profits. Moreover, the standard deviation of the ratio is 35.58 points. Therefore the coefficient of variation exceeds unity. A similar profile

be more or less true.

³ Profits are defined as sales minus costs for materials and energy, costs for other intermediate inputs, wages and salaries, insurance payments, interest on loans, and rent for buildings and land. Costs for machinery and taxes are not taken into account. In this sense, the profits as defined in this paper should be regarded as “gross profits before taxes.” Any questions on tax payments are so touchy to the garment producing firms that they were not included in the questionnaire.

⁴ Precisely speaking, the mean and median of the profits-to-sales ratio are 30.2 percent and 24.9 percent, respectively. The sample size for this diagram was reduced to 127 firms due to the elimination of samples with insufficient information (18 firms) and negative value added (19 firms).

of high profitability and wide diversity is shared with the export-oriented garment industry in Bangladesh (Bakht *et al.* [2006]).

Employment and wages

Table 16 shows the number of workers employed by production section, job category, work experience and sex. The sample firms employed 147 thousand females and 21 thousand males. As mentioned above, the export-oriented garment producing firms in Cambodia tend toward specializing in the final making process of wearing apparel. The composition of the workforce reflects this tendency with 87.6 percent of the total workforce in the sample firms allocated to the garment section where garments were made from imported fabrics or sweaters and socks were knitted from imported yarn. There were relatively fewer workers engaged in other production sections such as knitting, weaving, dyeing and finishing fabrics. The median length of work experience for workers ranged from one to five years according to the factory managers of the sample firms.

An important feature of the export-oriented garment industry in Cambodia is the very high ratio of female workers. Table 17 shows the ratio of females by production section and job category; 87.7 percent of the total workforce in the sample firms was female. The ratio was particularly high in the garment section. Engineers were more likely to be male than female, as were executives and managerial staff. This high reliance on female labor in Cambodia's export-oriented garment industry is the same as it was for the garment industry in other Southeast Asian countries two and three decades earlier (Pang [1988]). The development of the industry empowers women economically by providing them with large-scale employment opportunities that also pay a markedly high wage rate (as will be discussed below). This has been confirmed by some studies on rural households in Cambodia (Amakawa [2004] and Kobayashi [2004]). One caveat concerns the high number of female supervisors. To a certain extent this was due to the immigration of Chinese female supervisors from subsidiaries located in other countries. According to interviewees at some firms, many supervisors were female Chinese who had long experience in the garment industry before coming to Cambodia. Therefore, the large number of female supervisors does not necessarily mean that there is much scope for Cambodian female operators and quality controllers to be readily promoted to supervisors.

In general, garment workers in Cambodia earn relatively high wages. The average earnings are far higher than those of garment workers in Bangladesh where per capita income is higher than in Cambodia. In 2004 the per capita gross national income in Bangladesh was US\$ 440, while in Cambodia it was US\$ 320 (World Bank [2005]). But the garment workers in the latter are better paid. The wage rate for an entry level garment worker is around twice as higher in Cambodia than in Bangladesh, as will be pointed out below.

Table 18 shows the monthly wage profile in US dollars⁵ as constructed from interviews of managers in garment factories in Cambodia. Each cell under the male and female categories contains three figures: the first is the mean of the monthly earnings averaged among firms employing the concerned category of employees; the second is the median of the monthly earnings among the firms; and the third figure in parentheses is the number of firms employing the concerned category of employees. One of the focal categories is “helpers in the garment section with less than one-year experience,” which is the job category for entry level workers. As Table 3 indicates, US\$ 45 is the monthly minimum wage for regular workers, and most of the firms answered that they pay that amount. Thus it turned out that the mean and median of the wage for entry level workers are both US\$45.⁶ This contrasts with the equivalent of US\$21-23 that UNIDO [forthcoming] reports was the average monthly earnings in 2003 for a garment-section helper in Bangladesh with less than one year of experience.⁷

Monthly earnings equal to US\$ 45 for an entry level worker is very high relative to the standard of living in Cambodia. In fact, this amount of earnings is far above the estimated poverty line for Cambodia. The food poverty line in 1999 for Phnom Penh was US\$0.45 per day and was US\$0.35 for the country’s rural areas; the overall poverty line for Phnom Penh and the rural areas was US\$ 0.63 and was 0.46 per day, respectively⁸ (Council for Social Development [2002]). Multiplied by 30 days, the food and overall poverty lines per month for Phnom Penh in 1999 was US\$ 13.50 and \$18.90, respectively. Thus, monthly earnings of US\$45 for a garment section helper are more than three times higher than the food poverty line for Phnom Penh. The greatness of this wage still remains even when taking into account the number of a worker’s dependent family members. According to the

⁵ US dollars are widely circulated in Cambodia, and as mentioned above the minimum wages are also defined in US dollars. Therefore, all interviewees provided figures of wage rates in terms of US dollars.

⁶ Readers may wonder whether the managers exaggerated the amount of wages paid. But casual observations confirmed the amount was true in the case of the garment industry in Cambodia.

⁷ Bakht *et al.* [2006] also confirm the same level of monthly earnings for helpers with less than one-year experience in the knitwear industry in Bangladesh in 2001.

⁸ These estimates are based on Cambodia’s Social Economic Survey 1999. The food poverty line is the amount of expenditure for “2,100 calories of energy per day with a small allowance for non-food items such as shelter, and clothing” (Council for Social

Population Census of Cambodia, the country's dependency ratio was 86.1 percent in 1999. This meant that one person between the ages of 15 and 64 fed on average 0.861 persons of younger and/or older age. In other words, one economically active person fed roughly one dependent family member on average. Clearly US\$ 45 is far greater than the amount of income needed for two persons to live above the overall poverty line in Phnom Penh. Therefore, employment as an entry level worker in the export-oriented garment industry is poverty reducing.

Another interesting feature of the wage structure in the garment industry in Cambodia is that the difference in earnings between operators and helpers is not great. For example, the average monthly earnings of a male operator in the garment section with less than one year of experience is US\$54 which is only 20 percent higher than the earnings of a helper with the same length of experience. This moderate wage difference between helper and operator contrasts with that in the garment industry of Bangladesh. Bakht *et al.* [2006] and UNIDO [forthcoming] point out that a helper with less than one-year experience earns the equivalent of US\$ 21-23 while an operator with the same length of experience receives US\$ 32-35, a wage difference of 40-65 percent. Thus, the wage rate increases less when promoted from helper to operator in Cambodia than in Bangladesh. For workers categorized as "other officers" in Table 18, which designates office employees below the level of manager, the level of earnings for such employees in both Cambodia and Bangladesh is nearly the same. Finally, it is evident from Table 18 that there is very little increase in earnings for helpers and operators from length of experience unless they are promoted to higher job categories. In other words, the rate of return for job-specific accumulated experience is low for garment section helpers and operators.

Entry barriers in terms of educational attainment for people seeking employment in the garment industry are not high. The employers do not expect a high level of education for factory-floor garment workers. Table 19 indicates that most firms do not set any educational level requirements for helpers and operators. Table 20 shows that the average level of education for these categories is primary schooling.⁹ Although more than half of the sample firms stated that for supervisors and quality controllers, the average level was lower secondary schooling. One caveat that came out in the interviews was that many of the firms required job applicants to take a written examination prepared by the firm, and, it seems that some of the firms scrutinize the ability of potential workers

Development [2002], p. 31). The overall poverty line incorporates additional basic needs.

⁹ Hach, Huot and Boreak [2001] also pointed out the low level of education characterizing garment workers in Cambodia. They stated that the level of education of more than 60 percent of their sampled workers was only primary schooling (*ibid.*, p. 52).

directly from the results of their company-made examination rather than from educational attainment.

Finally, according to the interviews, the average duration for a helper to become an operator was 10.1 months; the median was 6 months (Table 21). This implies that managers of export-oriented garment factories anticipate that a typical worker hired as a helper is likely to be promoted to operator within a year after her/his joining the company. Thus, promotion from helper to operator does not seem to be so difficult.

In sum, a female worker in Cambodia can get a job in a garment factory paying a high wage rate even without a high level of educational attainment. Then, after she gets a job as a helper, she is likely to be promoted to an operator within one year. In this way an ordinary female worker in Cambodia can increase her earnings through employment in the garment industry and can raise herself and members of her family out of poverty.

Investment Climate

The investment climate in Cambodia is generally seen as unfavorable because of inconsistently enforced taxes and regulations, immature financial market, political instability, corruption, crime and poor infrastructure (Batra, Kaufmann, and Stone [2003], World Bank [2004]).

Table 22 reveals how serious the problem of governance is in Cambodia. Of 164 questionnaire responses, 146 answered that the payment of so-called “speed money” to government officials was unavoidable in order to expedite and smooth the procurement of materials. In effect, almost 90 percent of respondents considered that bribery was necessary whether or not the respondent herself/himself paid speed money. Moreover, around a third of respondents thought that the average amount of speed money had increased between 1999 and 2003. Table 23 shows the range in the amount of speed money paid per container that respondents regarded as necessary in order to process imported fabrics through customs.¹⁰ While 43 respondents out of the 164 stated that no extra money was necessary for the purpose, the remaining respondents stated that payments of speed money were necessary. The average amount paid was US\$ 171.4, while the largest amount a respondent claimed to have paid was US\$ 1500.

The government has endeavored to carry out export-promotion policies. They have been ones adopted by most developing countries, such as tax deductions on export earnings and tariff exemptions on imported machinery.

¹⁰ According to one respondent, the size of the most typical container is 40 feet long and able to hold eight to ten ton of fabrics.

Two thirds of the sample firms said they took advantage of the tax deductions for exports, while more than 85 percent of them said they received tariff exemptions on imported machinery.

In general, the investment climate in Cambodia has not been particularly favorable even though the country has attracted foreign direct investment into the garment industry. The country's physical and institutional infrastructure is poorly developed. Problems of governance still create serious challenges in many areas of development activities. Moreover, export promotion policies for the garment industry, the country's most important manufacturing sector, are not impressive. If these impediments and shortcoming are ameliorated, Cambodia will attract more investment from abroad.

4. Concluding Remarks

This paper has presented basic statistical information on a large number of firms operating in Cambodia's export-oriented garment industry in order to examine the industry's contribution to poverty reduction and the features of the industry that have enabled it to remain competitive internationally in garment production since the end of the MFA.

The industry contributes to poverty reduction in Cambodia by providing employment for the poor at markedly high wages. The wage rate for entry level workers is largely in compliance with the statutory minimum wage. Female workers are employed far more than males in the main job categories. Moreover, a high level of education is not required for worker to be employed, and promotions from the entry-level job category of helper to the next category of operator are not very difficult. Thus, employment in the industry offers wide scope for the poor to substantially increase their earnings.

The industry is also competitive in exporting to the two main world markets, the United States and EU. It survived liberalization of the market after the MFA was phase out at the beginning of 2005. The competitiveness of the industry at present is confirmed by the data collected in 2003 for this paper. The profitability of a typical firm is high, although the variation in the profits-to-sales ratio is also great. This high average profitability might be a factor for the industry's ability to cope with the intensified competition after the MFA phase out. The great variation in

profitability is also consistent with the serious concerns that people involved in the export-oriented garment business had about the prospects of the industry before total liberalization in January 2005.

The development of Cambodia's export-oriented garment industry as a labor-intensive industry that is contributing to poverty reduction is much like that of Bangladesh and the development of its export-oriented garment industry (Bakht *et al.* [2006] and UNIDO [forthcoming]). This pattern of poverty reduction led by the development of a labor intensive industry was pursued earlier by neighboring East Asian countries (Amjad [1981], Pang [1988]). However, there is a significant difference between the two patterns. Bangladesh and Cambodia are realizing the development of their industry without any strong government industrial promotion policies, whereas the earlier countries experienced a great deal of government promotion and intervention in industrial development (Amsden [1989], Komiya, Okuno and Suzumura [1988], Wade [1990], World Bank [1993]). The pattern of poverty reduction through industrialization in Bangladesh and Cambodia is new and impressive in the sense that a part of the East Asian pattern of development is being reproduced without strong government promotion. It indicates that even without this promotion, competitiveness of labor-intensive industries on the strength of low wages (by international standards even though high by domestic standards) can be powerful enough to overcome impediments caused by deficient infrastructure and weak governance.

Reference

- Amakawa, Naoko [2004], "Income and Jobs of a Village Household in Cambodia: A Case Study of a Rainy Season Rice Growing Village in Kompong Spueu (in Japanese)," in Naoko Amakawa, ed., *Kambojia Shin-jidai* (Cambodia in a New Era), Chiba, Japan: Institute of Developing Economies, pp. 327-377.
- Amjad, Rashid. ed. [1981], *The Development of Labour Intensive Industry in ASEAN Countries*, Bangkok: International Labour Organisation, Asian Employment Programme.
- Amsden, Alice H. [1989], *Asia's Next Giant: South Korea and Late Industrialization*, New York: Oxford University Press.
- Bakht, Zaid; Md. Salimullah; Tatsufumi Yamagata; and Mohammad Yunus [2006], "Competitiveness of a Labor-Intensive Industry in a Least Developed Country: A Case of the Knitwear Industry in Bangladesh," mimeographed, Chiba, Japan: Institute of Developing Economies.
- Bangladesh Garment Manufacturers and Exporters Association (BGMEA) [2003], *Members Directory 2002-2003*, Dhaka: BGMEA.
- Bargawi, Omar [2005], "Cambodia's Garment Industry: Origins and Future Prospects," ESAU Working Paper 13, London: Overseas Development Institute.
- Batra, Geeta; Daniel Kaufmann; and Andrew H. Stone [2003], *Investment Climate Around the World: Voices of the Firms from the World Business Environment Survey*, Washington, D.C.: World Bank.
- Council for Social Development, Kingdom of Cambodia [2002], *National Poverty Reduction Strategy, 2003-2005*, Phnom Penh: Council for Social Development.
- Engquist, Michael [2001], *Making Garments Worth Producing: A Survey on the Trade Union Movement within the Cambodian Garment Industry*, Phnom Penh: STAR Kampuchea.
- Forder, Julie A. [1999], *PLA Tools in Action: Lessons Learnt during a Sexual Health Needs Assessment with Cambodia's Young Garment Workers*, Phnom Penh: CARE International in Cambodia.
- Hach, Sok; Chea Huot and Sik Boreak [2001], *Cambodia's Annual Economic Review - 2001*, Phnom Penh: Cambodia Development Resource Institute.
- Hach, Sok; and Sarthi Acharya [2002], *Cambodia's Annual Economic Review - 2002*, Phnom Penh: Cambodia Development Resource Institute.
- Hall, John A. [1999], *Human Rights and the Garment Industry in Contemporary Cambodia*, Stanford: Stanford Law School.
- International Labour Organisation (ILO) [2001], *First Synthesis Report on Working Conditions in Cambodia's Garment Sector*, Phnom Penh: ILO, November.
- International Labour Organisation (ILO) [2002a], *Second Synthesis Report on Working Conditions in Cambodia's Garment Sector*, Phnom Penh: ILO, April.
- International Labour Organisation (ILO) [2002b], *Third Synthesis Report on Working Conditions in Cambodia's Garment Sector*, Phnom Penh: ILO, June.
- International Labour Organisation (ILO) [2002c], *Fourth Synthesis Report on Working Conditions in Cambodia's Garment Sector*, Phnom Penh: ILO, September.
- International Labour Organisation (ILO) [2003a], *Fifth Synthesis Report on Working Conditions in Cambodia's Garment Sector*, Phnom Penh: ILO, June.
- International Labour Organisation (ILO) [2003b], *Sixth Synthesis Report on Working Conditions in Cambodia's Garment Sector*, Phnom Penh: ILO, June.
- Knappe, Matthias [2002], *Cambodia: Building Blocks for a Country Action Plan for Textiles and Clothing*, Geneva: International Trade Centre.
- Kobayashi, Satoru [2004], "A Descriptive Analysis of Livelihood Activities in Two Contemporary Cambodian Villages: A Case Study from the Eastern Region of the Tonle Sap Lake (in Japanese)," in Naoko Amakawa, ed., *Kambojia Shin-jidai* (Cambodia in a New Era), Chiba, Japan: Institute of Developing Economies, pp. 275-325.
- Komiya, Ryutaro; Masahiro Okuno; and Kotaro Suzumura, eds. [1988], *Industrial Policy of Japan*, Tokyo: Academic Press Japan
- Konishi, Yasuo [2003], *Towards a Private Sector-Led Growth Strategy for Cambodia, Volume 1: Value Chain Analysis*, Reston, Virginia, United States: Global Development Solutions.
- National Institute of Statistics, Ministry of Planning, Kingdom of Cambodia [1999], *General Population Census of Cambodia 1998, Final Census Results*, Phnom Penh: National Institute of Statistics.
- Nordås, Hildegunn Kyvik [2004], "The Global Textile and Clothing Industry post the Agreement on Textiles and

- Clothing,” Discussion Paper No. 5, Geneva: World Trade Organization
(http://www.wto.org/english/res_e/booksp_e/discussion_papers5_e.pdf).
- Pang Eng Fong, ed. [1988], *Labour Market Developments and Structural Change: The Experience of ASEAN and Australia*, Singapore: Singapore University Press.
- Sothea, Oum; and Sok Hach [2004], *Cambodia Economic Watch*, Phnom Penh: Economic Institute of Cambodia, October.
- Thoraxy, Hing [2003], *Cambodia's Investment Potential: Challenges and Prospects*, Phnom Penh: Japan International Cooperation Agency.
- United Nations Industrial Development Organization (UNIDO) [forthcoming], *Industrialization and Poverty Alleviation: Pro-Poor Industrialization Strategies Revisited*, Vienna: UNIDO.
- Wade, Robert [1990], *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*, Princeton: Princeton University Press.
- World Bank [1993], *The East Asian Miracle*, New York: Oxford University Press.
- World Bank [2004], *World Development Report 2005: A Better Investment Climate for Everyone*, Washington, D.C.: World Bank and New York: Oxford University Press.
- World Bank [2005], *World Development Report 2006: Equity and Development*, Washington, D.C.: World Bank and New York: Oxford University Press.

Table 1. Exports of Knit and Woven Garments to the United States

Rank	Origin	Amount (Million US\$)			Rate of Change (%)	
		2003	2004	2005	2003-04	2004-05
	All Countries	62,911	66,875	70,807	6.30	5.88
1	China	8,690	10,723	16,808	23.39	56.75
2	Mexico	7,098	6,845	6,230	-3.56	-8.98
3	Hong Kong	3,732	3,878	3,523	3.93	-9.16
4	India	2,056	2,277	3,058	10.74	34.29
5	Indonesia	2,155	2,402	2,882	11.47	19.99
8	Bangladesh	1,759	1,872	2,268	6.45	21.15
13	Cambodia	1,229	1,418	1,702	15.42	20.06

Source: U.S. Department of Commerce, Bureau of Census.

Note: Knit and woven garments are defined as commodities with HS codes of 61 and 62.

Table 2. Exports of Knit and Woven Garments to the EU

Rank	Origin	Amount (Million US\$)			Rate of Change (%)	
		2003	2004	2005	2003-04	2004-05
	All Countries	56,918	65,552	69,642	15.17	6.24
1	China	10,913	13,714	20,334	25.66	48.27
2	Turkey	8,112	9,348	9,790	15.24	4.72
3	Bangladesh	3,471	4,578	4,346	31.90	-5.08
4	Romania	4,124	4,572	4,285	10.87	-6.28
5	India	2,599	3,020	3,988	16.23	32.02
19	Cambodia	475	643	587	35.27	-8.77

Source: Eurostat.

Note: The same as for Table 1.

Table 3. Monthly Minimum Wage by Status of Worker (US dollars)

	Apprentice worker	Probation worker	Regular worker	Casual worker
Contract period	3 months at most	2 months at most	No requirement	No requirement
Minimum wage	30	40	45	45

Source: ILO [2001, 2002a, b, c, 2003a, b].

Table 4. Number of Firms and Workers in the Export-oriented Garment-producing Industry in Cambodia and Bangladesh

	Cambodia	Bangladesh
Number of firms	196	3,115
Number of workers: Mean	903	399
Number of workers: Median	559	313
Number of workers: Maximum	9,500	7,600
Number of workers: Minimum	18	18
Number of workers: Standard Deviation	1,098	373

Note: The figures are based on the firm membership lists of: the Garment Manufacturers Association in Cambodia (GMAC) and the Bangladesh Garment Manufacturers and Exporters Association (BGMEA). GMAC is the sole industrial association of export-oriented garment manufacturers in Cambodia, while the BGMEA is the largest association of garment manufacturers and exporters in Bangladesh. That country also has another association, the Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA), which consists of around 600 member firms for knitwear. Some firms are members of both the BGMEA and BKMEA. The mean, median, maximum, minimum and standard deviation shown above are derived from data on 194 firms in Cambodia and 2891 in Bangladesh which provided data on the size of their workforce..

Source: GMAC, data as of August 2003; BGMEA [2003].

Table 5. Geographical Distribution of Export-oriented Garment-producing Firms

Province	Symbol	Location	All GMAC members	Sample Size
Phnom Penh and Kandal	A	Road No. 5	51	41
	B	Toukok and Road No. 4	53	38
	C	Steung Meanchey and Veng Sreng Street	55	44
	D	Road No. 2 (Phnom Penh and Kandal)	52	34
Sihanoukville			8	7
Kompong Cham			3	0
Kompong Spue			1	0
Not recorded			11	-
Total			234	164

Table 6. Geographical Origin of Top Managers

Country/Region	Number of firms	%
Cambodia	13	7.93
China	50	30.49
Taiwan	35	21.34
Hong Kong	25	15.24
South Korea	12	7.32
Singapore	6	3.66
Malaysia	5	3.05
United States	4	2.44
Other	14	8.53
Total	164	100.0

Table 7. Ethnic Identity of Top Managers

	Number of firms	%
Cambodian	13	7.93
Chinese	126	76.83
Korean	12	7.32
Malaysian	5	3.05
Other	8	4.87
Total	164	100.0

Note: Information was derived from the answers to question 5.5 of the questionnaire. “Taiwanese” and “Hong Kong” identities were provided by respondents. The provided category in the questionnaire was “Chinese.” with no further subcategory breakdown.

Table 8. Educational Attainment and Work Experience of Top Managers

Education	Number of firms	%	Work Experience	Number of firms	%
High school	11	9.4	None	92	57.1
Vocational school	43	36.8	Previously employed in other textile firms	44	27.3
textiles-related	11	9.4	Previously employed in non-textile firms	8	5.0
engineering	6	5.1	Government official	8	5.0
College	12	10.3	Other	9	5.6
University (B.A.)	19	16.2	Subtotal	161	100.0
Master’s	32	27.4			
MBA	15	12.8			
Subtotal	117	100.0			
No answer	47		No answer	3	
Total	164		Total	164	

Table 9. Age and Work Experience of Top Managers

	Age	Tenure in the firm	Years worked in garment business
Mean	47.0	4.7	14.6
Median	47.0	4.0	13.0
Maximum	72	20	42
Minimum	28	0	0
Standard deviation	9.6	3.0	9.3

Table 10. Status of Firms

Status	Number of firms	Number of subcontracting firms
Holding company	9	1
Subsidiary	93	74
Independent	62	44
Total	164	119

Table 11. Distribution of Firms by Ratio of Capital to Assets

Ratio	Number of firms	%
25-49%	2	1.2
50-74%	4	2.5
75-99%	7	4.3
100%	148	91.9
Subtotal	161	100.0
No answer	3	
Total	164	

Table 12. Distribution of Firms by Source of Capital

	100% foreign capital	Joint venture with Cambodian	Total	%
Hong Kong	40	3	43	32.6
Taiwan	31	0	31	23.5
China	19	1	20	15.2
Joint ventures set up with capital from Hong Kong, Taiwan, China and other foreign countries	4	1	5	3.8
Korea	8	1	9	6.8
Singapore	3	0	3	2.3
Europe and United States	7	0	7	5.3
Southeast Asia (Indonesia, the Philippines, and Thailand)	3	0	3	2.3
No answer	10	1	11	8.3
Subtotal	125	7	132	100.0
Only Cambodia			14	
No answer			18	
Total			164	

Table 13. Distribution of Firms by Production Process

Process 1	Process 2	Number of firms	%
Sewing	-	139	87.4
	Knitting fabrics	4	2.5
Knitting sweaters or socks	-	7	4.4
	Dyeing	2	1.3
Knitting fabrics		3	1.9
Dyeing only		1	0.6
Other		3	1.9
Subtotal		159	100.0
No answer		5	
Total		164	

Table 14. Distribution of Firms by Value of Sales

Sales (Million US dollars)	Number of firms	%
1	20	13.7
5	58	39.7
10	38	26.0
20	14	9.6
30	3	2.1
40	2	1.4
50	5	3.4
100	4	2.7
150	0	0.0
200	1	0.7
250	1	0.7
Subtotal	146	100.0
No answer	18	
Total	164	

Table 15. Distribution of Firms by Operating Hours and Shifts

# of shifts # of hours	1	2	3	Total
8	43	0	0	43
9	1	0	0	1
10	89	0	0	89
11	1	0	0	1
15	0	2	0	2
16	0	8	0	8
17	0	1	0	1
18	0	1	0	1
20	0	1	0	1
24	0	0	4	4
Total	134	13	4	151

Note: There were firms that did not answer, so the total number of firms is less than 164.

Table 16. Total Number of Workers Employed at the Sample Firms by Section, Job Category, Work Experience and Sex

	Experience Category	<1 year		1-5 years		6 years<		Total	
		Male	Female	Male	Female	Male	Female	Male	Female
Administration Section	Managers/Executives	27	11	281	137	96	40	404	188
	Other Officers	44	113	765	1,156	111	110	920	1,379
Garment Section	Engineers	18	6	337	62	24	1	379	69
	Supervisors	25	242	663	2,683	132	563	820	3,488
	Quality Controllers	43	1,002	365	6,039	20	589	428	7,630
	Operators	795	11,726	11,107	86,889	373	12,697	12,275	111,312
	Helpers	285	1,806	1,117	5,411	312	1,575	1,714	8,792
Other Production	Engineers	3	0	27	6	1	0	31	6
	Supervisors	6	3	137	364	21	107	164	474
	Quality Controllers	4	93	96	1,366	7	30	107	1,489
	Operators	370	1,302	2,345	9,611	274	787	2,989	11,700
	Helpers	4	121	360	380	21	37	385	538
Total		1,624	16,425	17,600	114,104	1,392	16,536	20,616	147,065

Table 17. Ratio of Female Workers

	Category	Ratio (%)
Administration Section	Managers/Executives	31.8
	Other Officers	60.0
Garment Section (Sewing and knitting sweaters/socks)	Engineers	15.4
	Supervisors	81.0
	Quality Controllers	94.7
	Operators	90.1
	Helpers	83.7
Other Production Sections (weaving fabrics, dyeing, and finishing)	Engineers	16.2
	Supervisors	74.3
	Quality Controllers	93.3
	Operators	79.7
	Helpers	58.3
Total		87.7

Table 18. Monthly Wage by Section, Job Category, Work Experience and Sex

Category	Experience	<1 year		1-5 years		6 years<	
		Male	Female	Male	Female	Male	Female
Administration Section	Managers/Executives	605	383	770	473	738	493
		500	200	400	300	474	300
	Other Officers	(15)	(7)	(73)	(32)	(22)	(12)
		127	134	149	138	150	167
		120	120	140	120	120	145
		(21)	(38)	(128)	(136)	(18)	(16)
Garment Section (Sewing and knitting sweaters/ socks)	Engineers	173	328	185	189	331	75
		120	328	125	185	150	75
	Supervisors	(9)	(2)	(42)	(12)	(7)	(1)
		142	101	127	117	238	208
	Quality Controllers	73	65	100	90	225	200
		(10)	(20)	(83)	(120)	(14)	(21)
	Operators	57	70	93	87	248	138
		50	48	70	70	240	110
	Helpers	(7)	(26)	(54)	(122)	(6)	(14)
		54	51	59	57	67	59
		45	45	50	48	65	45
		(39)	(66)	(97)	(141)	(11)	(22)
		45	46	51	50	48	51
		(13)	(30)	(54)	(94)	(3)	(8)
Other Production Sections (knitting fabrics, dyeing, and finishing)	Engineers	203	-	256	143	200	-
		229	-	250	100	200	-
	Supervisors	(3)	(0)	(13)	(3)	(1)	(0)
		271	177	117	124	236	96
	Quality Controllers	270	225	80	90	250	85
		(4)	(3)	(42)	(51)	(8)	(5)
	Operators	90	72	109	78	172	146
		90	50	80	73	130	100
	Helpers	(2)	(7)	(23)	(54)	(3)	(4)
		54	53	58	58	74	73
		45	45	50	50	70	70
		(17)	(23)	(69)	(73)	(8)	(9)
		50	56	52	54	56	54
		48	50	45	48	50	50
		(4)	(6)	(33)	(36)	(4)	(5)

Note: The first figure in each cell is the mean of monthly wage, while the second figure is the median of that wage. The third figure in parentheses is the number of sample firms that employ the workers of the concerned job categories.

Table 19. Job Categories and the Minimum Education Level Required by Firms

Education Level	Supervisors	Quality controllers	Operators	Helpers
No requirement	108 (65.9)	119 (72.6)	139 (84.8)	144 (87.8)
Primary	6 (3.7)	8 (4.9)	14 (8.5)	13 (7.9)
Lower secondary	21 (12.8)	19 (11.6)	10 (6.1)	7 (4.3)
Higher secondary	26 (15.9)	17 (10.4)	1 (0.6)	0 (0.0)
Bachelor's or higher	3 (1.8)	1 (0.6)	0 (0.0)	0 (0.0)
Total	164 (100.0)	164 (100.0)	164 (100.0)	164 (100.0)

Note: Figures in parentheses are the percentage of the total number of sample firms.

Table 20. Education Level by Job Category

Education Level	Supervisors	Quality controllers	Operators	Helpers
Primary	16 (9.8)	31 (19.0)	131 (80.4)	138 (87.9)
Lower secondary	89 (54.6)	95 (58.3)	28 (17.2)	17 (10.8)
Higher secondary	49 (30.1)	34 (20.9)	4 (2.5)	2 (1.3)
Bachelor's or higher	9 (5.5)	3 (1.8)	0 (0.0)	0 (0.0)
Sub total	163 (100.0)	163 (100.0)	163 (100.0)	157 (100.0)
No answer	1	1	1	7
Total	164	164	164	164

Note: Figures in parentheses are the percentage of the total number of sample firms.

Table 21. Number of Months for a Helper to Be Promoted to Operator

Mean	Median	Standard Deviation
10.1	6	14.1

Note: The sample size for this variable was 89 firms.

Table 22. Interviewees Opinion about Paying Speed Money

	Do you think speed money to government officers is inevitable in order to procure materials smoothly?	Do you think the average level of speed money has increased for these five years?
Yes	146	54
No	18	110
Total	164	164

Table 23. Distribution of Firms by the Amount of Speed Money Paid per Container to Expedite the Importing of Fabrics

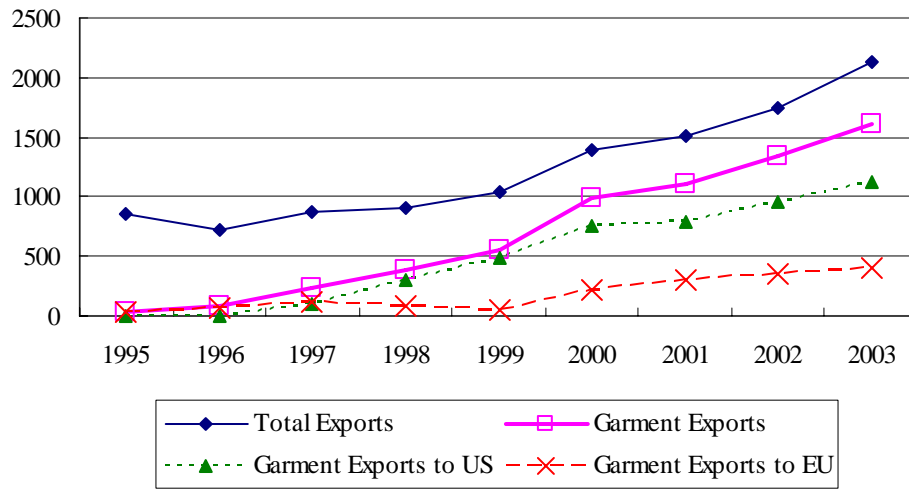
Amount (US\$)	Number of firms	Amount (US\$)	Number of firms
0	43	301-400	6
1-100	27	401-500	3
101-200	40	501-600	3
201-300	38	601 or more	4

Note: The mean, median, maximum and standard deviation of the amount of speed money paid are 171.4, 150, 1500 and 191.4. The sample size was 164 firms.

Table 24. Utilization of Tax and Tariff Advantages for Export-Oriented Firms

	Tax deductions on export earnings	Tariff exemptions on imported machinery
Firms utilizing	107	142
Firms not utilizing	57	22
Total	164	164

Figure 1. Growth of Garment Exports (million US dollar)



Sources: (1995-2001) Hach and Acharya [2002], Table 3.4, p. 19; (2002-2003) Sothea and Hach [2004].

Figure 2. Areas in Phnom Penh and Its Vicinity Where Garment Factories Are Concentrated

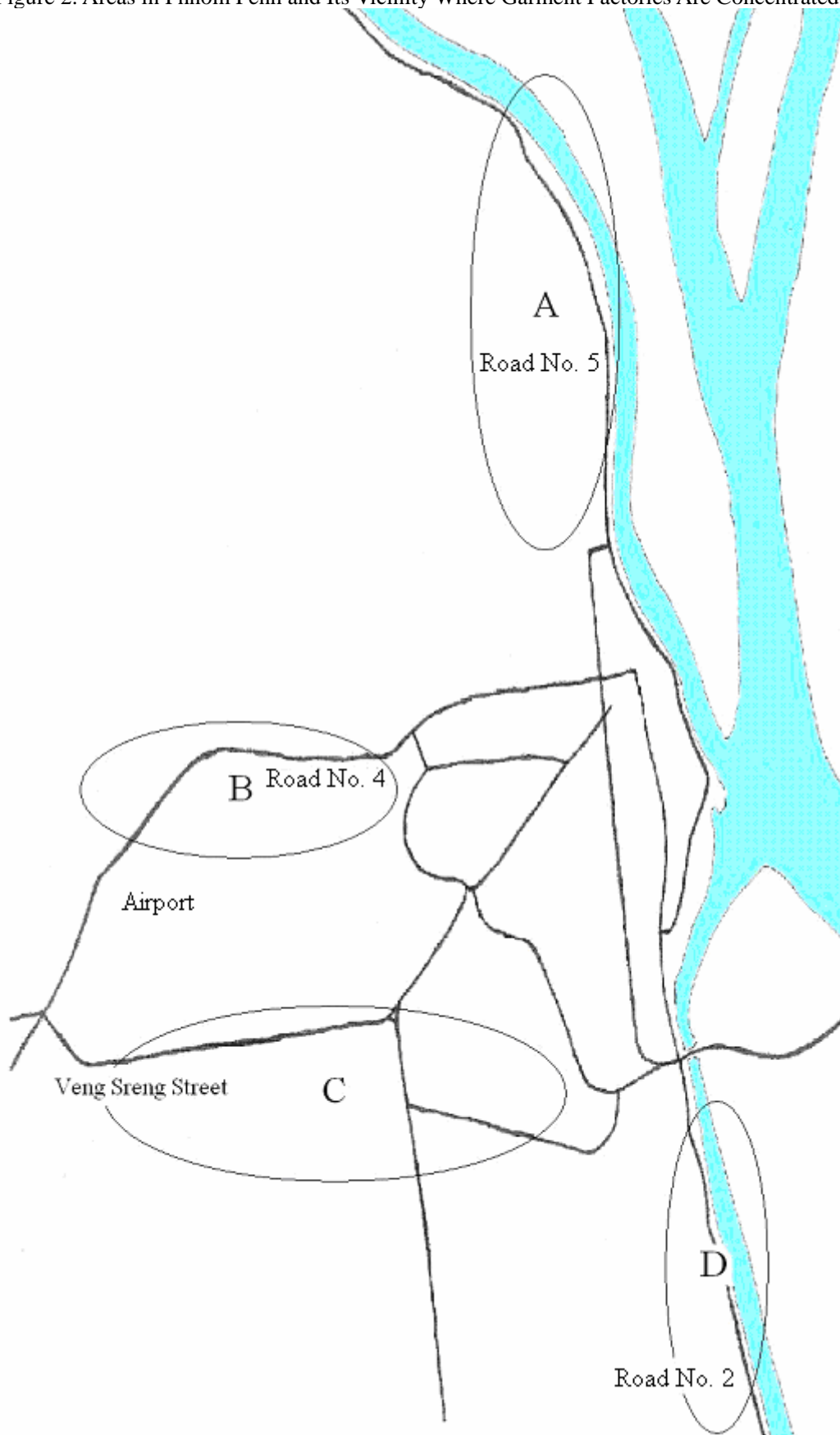
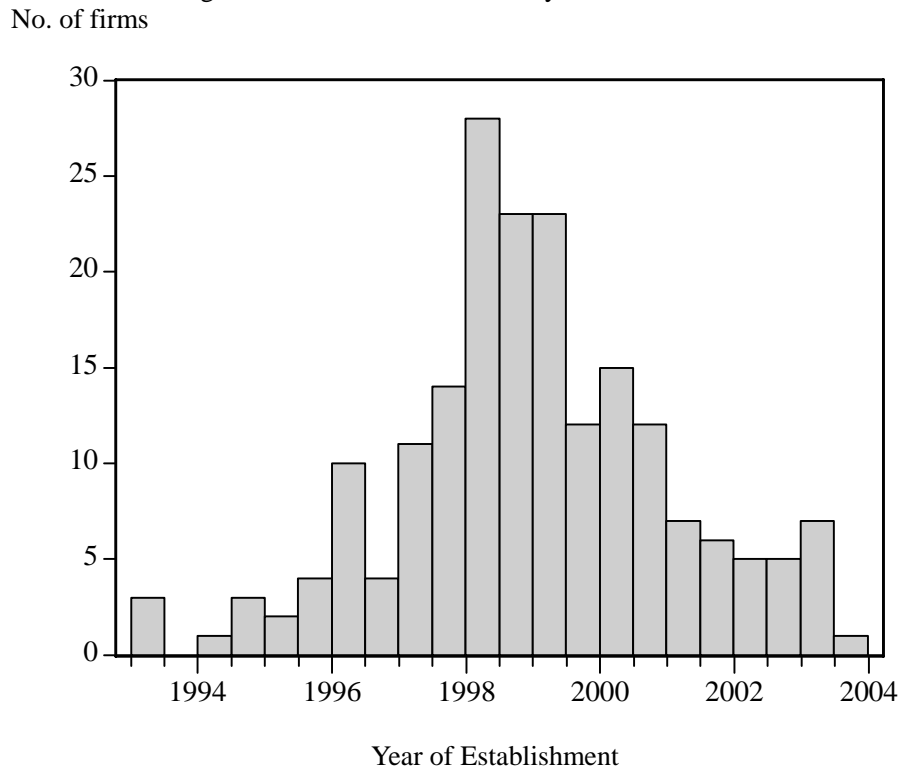
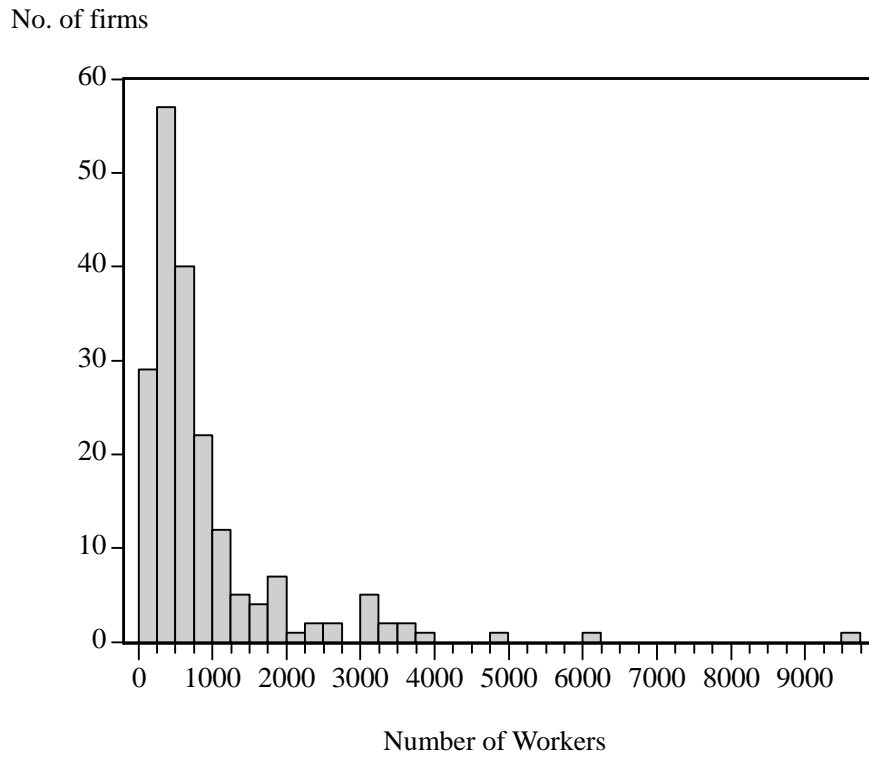


Figure 3. Distribution of Firms by Year of Establishment



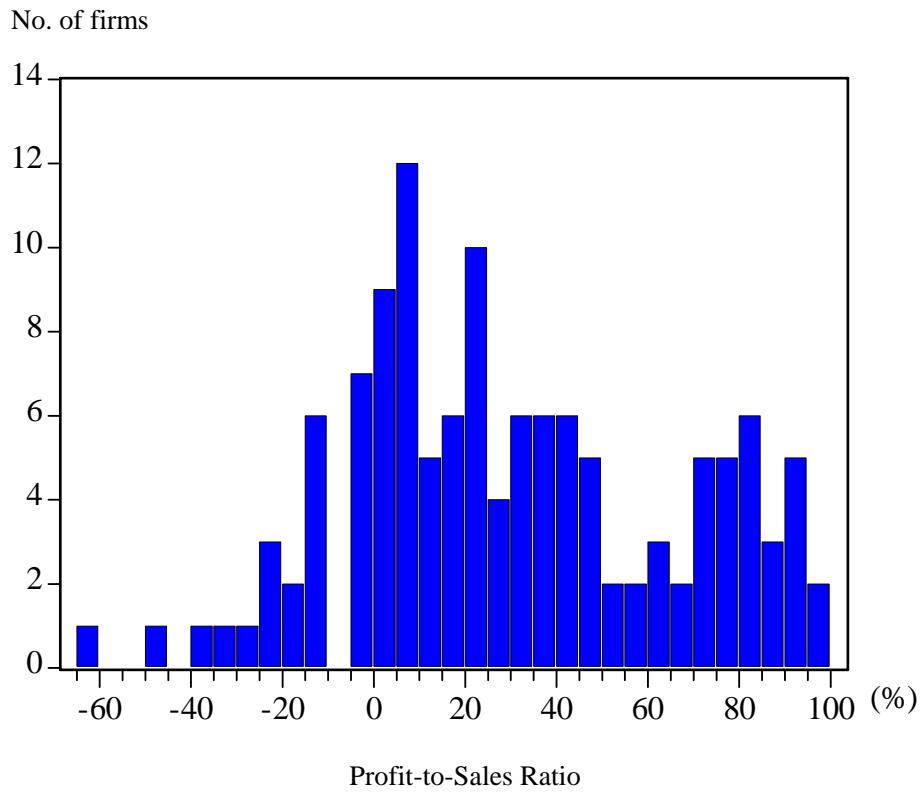
Source: GMAC.

Figure 4. Distribution of Firms by Number of Workers



Source: GMAC.

Figure 5. Distribution of Firms by Profits-to-Sales Ratio



Note: The sample size for this diagram was reduced to 127 firms due to the elimination of samples with insufficient information (18 firms) and with negative value added (19 firms). The mean and median of the profits-to-sales ratio are 30.20 percent and 24.90 percent, respectively. The standard deviation is 35.58

Appendix 1. Sampling Method

The Institute of Developing Economies conducted a survey of export-oriented garment producers in Cambodia from August to October 2003 in cooperation with LIDEE Khmer (Ligue des Etudiants Khmers de l'Etranger), a research-oriented Cambodian NGO. The Council for the Development of Cambodia (CDC), the Cambodia Investment Board (CIB) and the Garment Manufacturers Association in Cambodia (GMAC) also cooperated fully with the project. Although conducted right after a general election, the survey work suffered no serious disruption due to political disturbances.

The survey team made every effort to visit all the firms listed by GMAC and all the firms registered by the CDC as garment manufacturers. The number of firms successfully interviewed is displayed in Table A1. About 30 percent of the firms listed by the CDC or GMAC were not part of the final sample group, either because they had closed down before the survey or they did not answer the questionnaire.

Table A1. Total Number of Listed Firms and the Number in the Survey Sample

	Total	Sample
Firms listed by the CDC	221	159
Firms listed by GMAC, but not listed by the CDC	10	2
Firms listed by neither, but found during the survey	3	3
Total	234	164

Since export-oriented garment factories are concentrated in Phnom Penh and Kandal Province encompassing Phnom Penh, the survey was undertaken mainly in these two areas. Seven firms out of eight GMAC member firms located in Sihanoukville were also interviewed, although four GMAC members located in Kompong Cham and Kompong Spue were not visited. On the whole, the overall geographical distribution of the GMAC member firms was well represented in the survey sample, as shown in Table 5.

Table A2. Job Positions of Interviewees

Positions	Number of firms	%
General Managers	58	35.4
Chiefs of Administrative Section	30	18.3
Shipping Managers	18	11.0
Assistants to the General Manager	18	11.0
Other managers	40	24.4
Total	164	100.0

Whenever possible the interviews were conducted using either the English or Khmer version of the

questionnaire. The English version is shown in Appendix 2. Interviews were sought primarily with the general manager of a firm as long as she/he was agreeable to the interview. Where it was not agreeable, or where the general manager spoke neither Khmer nor English, as with some of the Chinese general managers, then the survey team interviewed the firm's administration section chief, shipping manger, assistant to the general manager or other person in a managerial position. In all of these latter cases, the people had been directed by the general manager to handle our interviews, and the answers given by these subordinates were with the approval of the general manager.

Appendix 2. Questionnaire

Institute of Developing Economies
3-2-2 Wakaba, Mihama-ku, Chiba-shi, 261-8545, Japan

and

LIDEE Khmer
428, Street 271, Phnom Penh, Cambodia

The purpose of this survey is to better understand the current situation of garment producing firms and to promote garment production in Cambodia. Information of your company will be treated as strictly confidential and the information you provide will be used for research only. Neither your nor your company's name will be used in any document prepared based on this survey. This questionnaire is supposed to be filled by a single factory. If your company has multiple factories, please fill in separate answer sheets for other factories.

Schedule No. /_/_/_/_/

1. Basic Information

Name of the Company _____

Legal Status of the Company _____

Codes: 1 = Sole Proprietorship; 2 = Partnership; 3 = Private Limited Company; and 4 = Public Limited Company

Address

Office: _____

Factory: _____

Telephone

Office: _____

Factory: _____

Fax

Office: _____

Factory: _____

E-Mail _____

Contact Person: Name _____ Designation _____

(It is ideal that the contact person fills this questionnaire.)

2. History of the Company

2.1 Year of establishment of the company _____

2.2 Year in which operation started _____

3. Company Characteristics

3.1 Independent Holding Company Subsidiary

Name of the Group (if applicable) _____

3.2 Subcontractor (CMT) Yes No

4. Sources of Finance

4.1 What was the ratio of equity to debt of your company by December 2002? (adds to 100%)

Equity _____%

(100%=family ____%; other domestic ____%; foreign ____% [country _____])

Debt _____%

4.2 What were the sources of debt of your company by December 2002? (adds to 100%)

Financial Institutions _____%, Informal _____%, Others _____%

4.3 In which month does your company's fiscal year begin? month _____

5. Management

5.1 Who is the real most influential decision-maker on business of your company?

Name _____ Designation _____

Age _____ (in Years); Academic Qualification (Exam Passed) _____

Previous Occupation _____;

Code: 1: Same company in lifetime; 2: employee in other textile firm;

3: employee in other non-textile firm; 4: government officer; 5: others (specify _____)

5.2 How long has s/he been involved in your company? _____ years

5.3 How long has s/he been involved in garment industry? _____ years

5.4 What is her/his nationality? _____

5.5 What is her/his ethnic origin? _____

5.6 Are there any foreigners whose ethnic origin is not Cambodia permanently stationed in your company?

Yes No

5.7 Whom are the foreigners in charge of negotiation with for your company?

(Multiple check is OK)

Government local companies 100% foreign-owned companies in Cambodia

Joint Ventures with foreign companies Companies located abroad

6. Production

6.1 Which production process does your company undertake? Circle the number of the applicable item(s).

1. Knitting Fabrics; 2. Knitting Sweaters/Socks; 3. Dyeing;
4. Sewing (T-shirts, Polo-shirts, Woven Shirts, Blouses, etc.)
5. Other (specify)_____

6.2 Production Level (FY2002)

6.2.1. Knitting Fabrics

Types of Fabrics	Fabrics Produced		Yarn Used		
	Quantity (kg)	Price (US\$/kg)	Country of Origin	Quantity (kg)	Price (US\$/kg)

Fabrics Type: 1: Single Jersey; 2: Rib; 3: Fleece; 4: Pique; 5: Lacoste; 6: Interlock; 7: Others

6.2.2. Dying

Fabrics Dyed		Fabrics Used			Dye Used		
Quantity (kg)	Price (US\$/kg)	Country of Origin	Quantity (kg)	Price (US\$/kg)	Country of Origin	Quantity (kg)	Price (US\$/kg)

6.2.3. Knit and Woven Garments

Types of Garments	Goods Produced		Material Used			
	Dozens	Price per Dozen	Main Material (yarn or fabrics)	Quantity (kg)	Country of Origin	Price (US\$/kg)

Types of Garments

Knit Garments: 01 T-shirts; 02 Other Shirts; 03 Sweaters; 04 Trousers and Slacks;
05 Ladies' Tops; 07 Dress; 08 Nightwear and Pajama; 09 Underwear; 10 Socks; 11 Other Knit Garments;
Woven Garments: 12 Men's Shirts; 12 Blouses; 14 Trousers and Slacks; 15 Skirts;
16 Dress; 17 Nightwear and Pajama; 18 Underwear; 19 Suit-type Coat; 20 Other Woven Garments.

6.3 Service Delivery: What kinds of companies deliver the following services to your company?

Material procurement: (trading company; buying house) [...] [...] [...]

Sales intermediation: (trading company; buying house) _____

Transportation: [...] [...] [...] Subcontracting out (sewing process): [...] [...] [...]

Legal consultancy [...] [...] [...] Accounting [...] [...] [...] Banking [...] [...] [...]

Codes: 1. local companies; 2. 100% foreign-owned companies in Cambodia; 3. Joint Ventures with foreign companies; 4. Companies located abroad.

7. Market

Where did your company supply garments for 2002?

Types of Garments	Sold		
	To Which Country	Quantity	Total Value Amount

Types of Garments: See legends in the section 6.2.

8. Equipment

Type and Number of Equipment: What kind of and how many knitting machines did your company have at the end of December 2002? Please fill the following table for all machines in operation by their type and vintage.

No.	Type	Numbers	Country Made	Year Made	Year Bought	Purchase Price	Operation Rate (%)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Code: Sewing machines: 01=Straight lockstitch; 02=Overlock; 03=Others;

Knitting machines: 11=Circular Knitting; 12=Flat Knitting; 13=Socks Knitting; 14=Linking, 15= Others,

Other machines: 21=Generator; 22= Dyeing; 23=Printing; 24=Fabrics Finishing;

25= Others

9. Employment, Wage Level and Working Conditions

9.1 Employment: How many workers of the following categories were employed on average in FY2002? (the number of part-time employees in parentheses)

(.....persons)

	Experience Designation	less than 1 year		1-5 years		6 years +		Total	
		male	femal e	male	femal e	male	femal e	male	femal e
Administration Section	Managerial/Executive								
	Other Officers								
Garment Section (Sewing and knitting sweaters/socks)	Engineer								
	Supervisor								
	Quality Controller								
	Operator								
	Helper								
Other Production Sections (knitting fabrics, dying, and finishing)	Engineer								
	Supervisor								
	Quality Controller								
	Operator								
	Helper								

9.2 Change in Employment: How many workers have increased/decreased for last three years?

+ / -- _____ persons

9.3 Wage Level: What were the average monthly wage rates of the following categories of workers in FY2002?

(US\$.)

	Experience Designation	less than 1 year		1-5 years		6 years +		Average	
		male	femal e	male	femal e	male	femal e	male	femal e
Administration Section	Managerial/Executive								
	Other Officers								
Garment Section (Sewing and knitting sweaters/socks)	Engineer								
	Supervisor								
	Quality Controller								
	Operator								
	Helper								
Other Production Sections (knitting fabrics, dying, and finishing)	Engineer								
	Supervisor								
	Quality Controller								
	Operator								
	Helper								

9.4 Incentive Payment in Wage:

Performance Bonus Yes (Share in total remuneration ____ %) No
 Attendance Bonus Yes (Share in total remuneration ____ %) No

9.5 Change in Wage: By how much percentage has the wage for a first-year helper changed for last three years?
 + / -- _____%

9.6 Working Days: How many days in FY2002 did your company operate? _____ days

9.7 Working Hours: How long did a typical worker work in each shift (including overtime) on average in FY2002?

(hours)

	Shift A	Shift B	Shift C
Knitting section (e.g. fabrics, Sweater, Socks)			
Sewing Section (Other knit and woven garments)			
Dyeing Section			

10. Skill of Workers

10.1 Educational Requirements: Is there any educational requirement for employees in you company?
 Supervisor ____ Quality controller ____ Operator ____ Helper ____

Code: 0. No requirement; 1.Primary; 2. Lower secondary; 3. Higher secondary; 4. Bachelor or higher

10.2 What is the average educational level?

Supervisor ____ Quality controller ____ Operator ____ Helper ____

Code: 1.Primary; 2. Lower secondary; 3. Higher secondary; 4. Bachelor or higher

10.3 Training: Does your company have any training scheme for employees?

Formal in-house training How often? _____ times/year; How long? ____ days

Formal outside training How often? _____ times/year; How long? ____ days

No formal training scheme

10.4 Promotion:

How many current supervisors in the sewing section were sewing-machine-operators before they became supervisors? _____ persons

How long does it take for a helper to be promoted to a sewing-machine-operator on average?
 _____ months

11. Problems in Business

11.1 Delay in Delivery: How many times have you experienced delay in material delivery for last three months?
 _____ times

11.2 Delay in Payment: On average, how many days does it take to collect payment for your sales?
 _____ days

11.3 Blackout: How many days did your company experience an electric power failure in working hours for three months?
 _____ days

11.4 Problems in enforcement of contracts: Suppose a contract between your company and other legal entities is broken. Then, who will be in charge of settling the problem on behalf of your firm?

Codes: 1. manager: foreigner; 2. manager: Khmer; 3. agent: foreigner; 4. agent: Khmer

11.5 Government:

11.5.1 Who will be in charge of negotiation with the government on the issues like licenses, taxes, quotas, etc. ?

Codes: 1. staff: foreigner; 2. staff: Khmer; 3. staff foreigner and Khmer 4. agent: foreigner; 5. agent: Khmer, 6. agent foreigner and Khmer

11.5.2 How many days does your company spend to petition the government to secure complete export documentation? _____ days

11.5.3 Do you think speed money to government officers is inevitable in order to procure materials smoothly?
 Yes No

11.5.4 How much speed money do you think is reasonable as speed money when a garment producing company imports a container of fabrics from abroad? _____ US\$

11.5.5 Do you think the average level of speed money has increased for these five years?
 Yes No

12. Policy Related Issues

12.1 Was the advance income tax deduction on export earnings applied to your company during FY2002?
 Yes No

12.2 Was tariff exemption on imports of capital machinery for export-oriented sector applied to your company during FY2002?
 Yes No

12.3 Were any preferential interest rate to export oriented sectors applied for loans granted to your company during FY2002?
 Yes No

13. Prospects after MFA Fade Out

13.1 Do you feel any influences due to MFA fade out after 2004 right now?
 Yes No; If yes, what is that?
 Drop in orders; Withdrawal of foreign partners; M&A; Others _____

13.2 Do you have any plans at this moment to cope with MFA fade out?
 Yes No; If yes, what is that?
 Dispose of equipment; Lay-off workers; M&A; Increase in sales in domestic market;
 Increase in investment abroad; Others _____

14. Flow Data for 2002

Items	Value (US\$)
A: Gross Value of Output	
B: Industrial Costs	
B1: Costs of Materials (yarn, fabrics, etc.)	
B2: Costs of Fuel and Electricity (production)	
B3: Wage and Salary for workers	
C: Non-industrial Costs	
C1: Utilities (water/telephones)	
C2: Transportation	
C3: Office Supplies and Facilities	
C4: Insurance Payment	
C5: Interests	
C6: Rent	
C7: Others	

Name of the Field Investigator _____ Date / / / / / / /