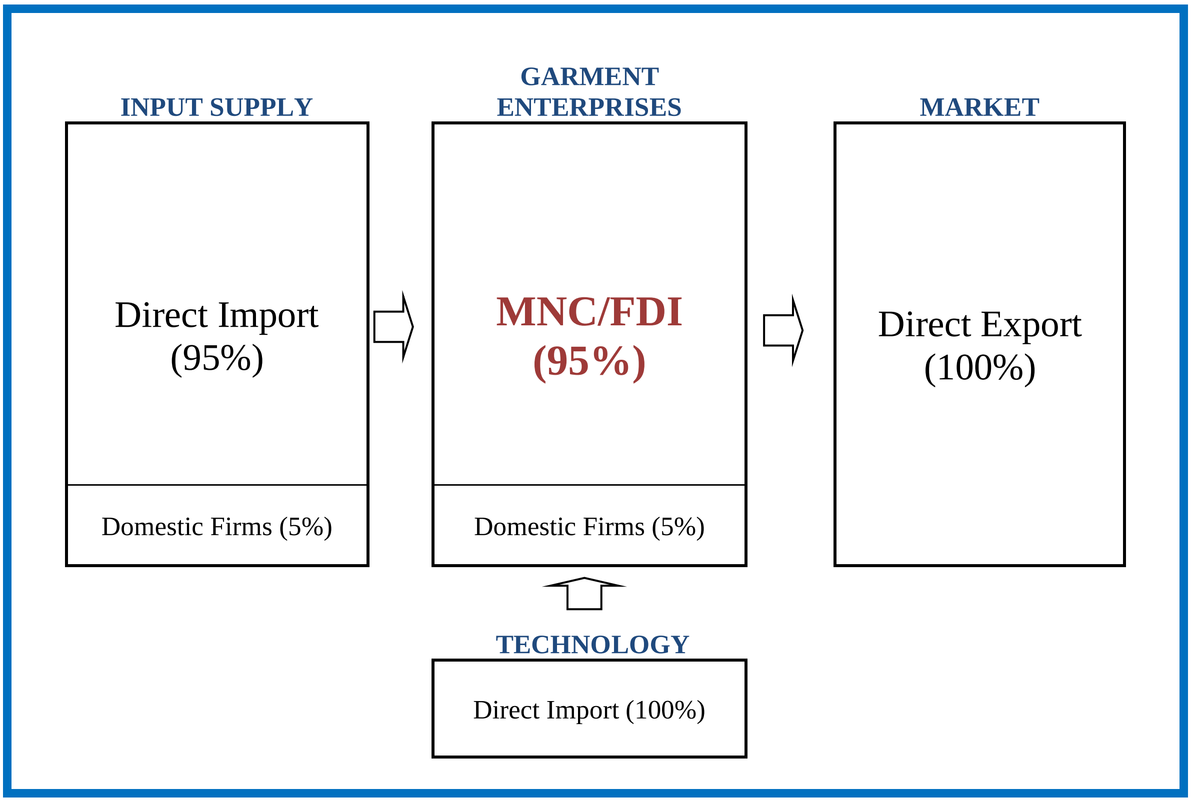
Study Report No. 04

# Foreign Direct Investment and Industrial Linkages in Cambodia

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## List of Acronyms

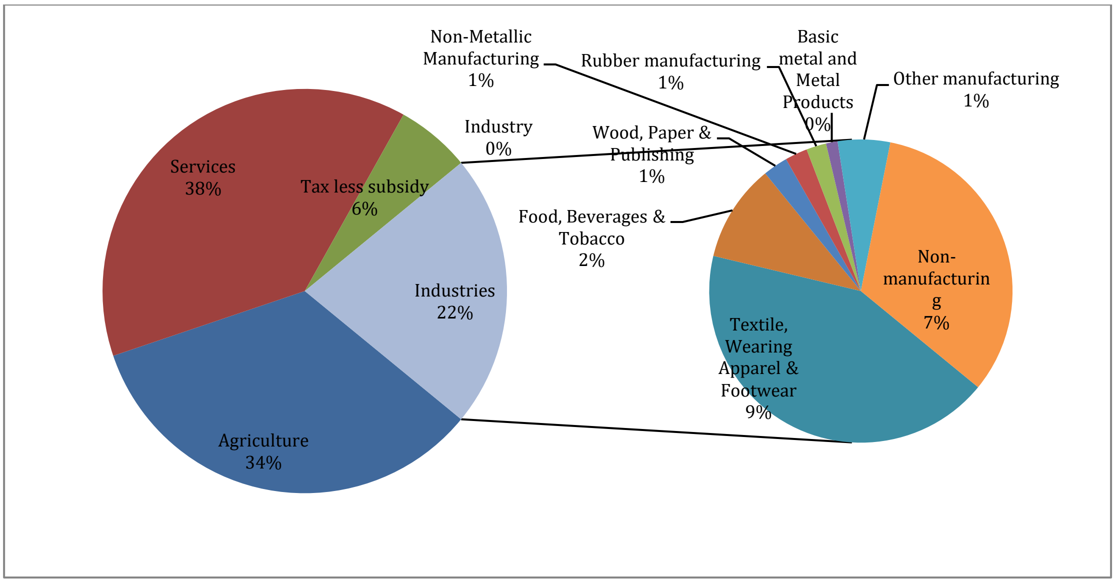
| | |
|---|---|
| CDC | Council for the Development of Cambodia |
| CEA | Cambodian Economic Association |
| CEO | Chief Executive Officer |
| CMT | Cut, Make, and Trim |
| CPS | Centre for Policy Studies |
| EU | European Union |
| FASMEC | Federation of Association of Small and Medium Enterprises in Cambodia |
| FDI | Foreign Direct Investment |
| FOB | Free on Board |
| GDP | Gross Domestic Product |
| GMAC | Garment Manufacturing Association in Cambodia |
| GSP | Generalized System of Preferences |
| MAFF | Ministry of Agriculture, Forestry, and Fisheries |
| MFN | Most Favoured Nation |
| MNC | Multinational Corporation |
| QIP | Qualified Investment Project |
| R&D | Research and Development |
| RGC | Royal Government of Cambodia |
| SME | Small and Medium Enterprise |
| UK | United Kingdom |
| US | United States |
| USD | United States Dollars |
| VAT | Value-Added Tax |

# I. Introduction

## 1.1. Cambodia's Economic Structure and Industrial Development

Amidst an impressive average growth rate of approximately 7.5% per annum over the past 15 years, the overall structure of Cambodia's economy has not much changed. It remains dominated by the service sector, while agriculture has stayed at around one third of GDP for about 15 years. The industrial sector remains the smallest sector but its growth has been important. According to the national accounts, the industrial sector represented 22% of total output in 2012. The garment and footwear sectors are undoubtedly the most important, followed by food, beverages and tobacco (see **Figure 1**).

**Figure 1**: Structure of Cambodia's economy and manufacturing industry




*Source*: Authors, based on Statistical Year Book (National Institute of Statistics, 2011)

The extent of industrialization in Cambodia is relatively low due to decades of civil war and internal strife from the 1970s to the 1990s. The Cambodian government's policy toward foreign investment in the form of generous tax incentives and openness for foreign investment, coupled with the Generalized System of Preferences (GSP) and Most Favoured Nation (MFN) status provided by the US and the EU, led to an influx of investment into the garment sector from mid 1990s. The garment exports have increased consistently since then. However, Cambodia is at the production end of the value chain of the garment sector, and so its activities are limited to what is called "cut, make, and trim" (CMT).

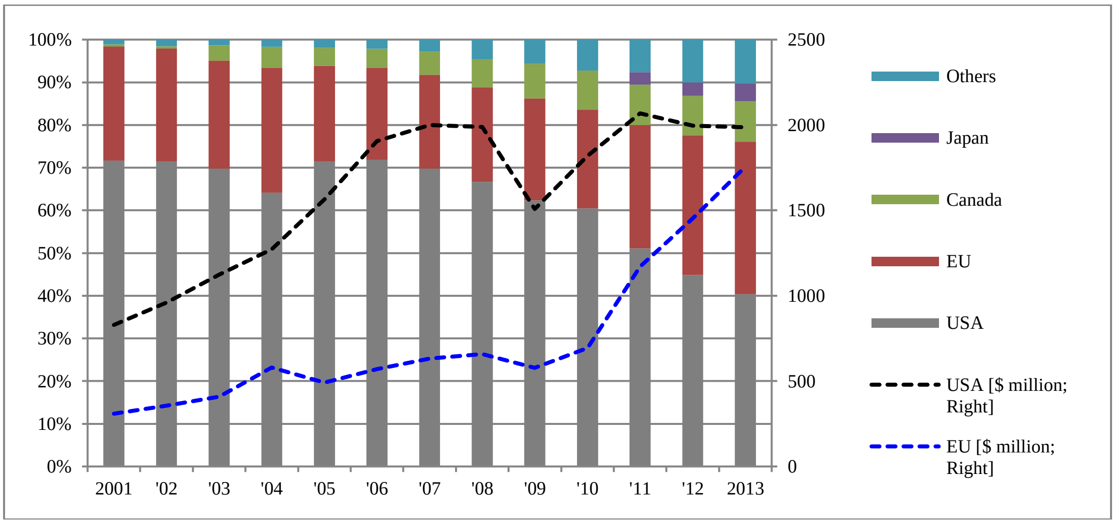
Typical of the experience in developing countries, industrialization in Cambodia started with export growth, bypassing the period of import substitution. This is also the case for neighbouring countries like Laos, Myanmar, and Vietnam, whose export growth is funded by foreign direct investment (FDI), (Amakawa 2010).

Foreign firms in Cambodia have hardly any links with other sectors of the domestic economy. As a result, there is little expectation of learning from FDI in Cambodia. The garment industry is Cambodia's largest manufacturing industry, expanding remarkably since 1997. However, this largely foreign-owned and wholly export-oriented industry imports all of its raw materials. Recently, some foreign firms became interested in manufacturing raw materials and intermediate goods to supply other export foreign firms. This development has added more value to Cambodia's domestic industry and economy as a whole.

Cambodia's industry features a dual structure, consisting of traditional industries led by local capital to serve the local market and modern industries mainly led by foreign capital to serve the foreign market. Between these two extremes, there exist certain some industries with local capital that serve the foreign market and other industries with foreign capital that serve the local market. For example, rubber plantations and rubber processing factories have existed in Cambodia since the French colonial era and they are instances of local capital serving foreign markets. However, in the past decade, the rubber industry has attracted many foreign investors who have acquired large land concessions to grow rubber, which takes 6 to 7 years to mature.

Garment factories in Cambodia, which are largely foreign-owned, are generally responsible only for the final garment manufacturing processing and packaging, using imported cloths and threads. In contrast, the small-scale food processing industry uses local capital and inputs to supply the local market.

**Figure 2**: Structural changes of the export markets for apparel products




*Source*: Authors, based on MEF (2010), GMAC Website, and Neak and Yem (2006)

Over time, Cambodia has diversified the export markets for its apparel products although the pace has not been swift. **Figure 2** illustrates the structural change of the market destinations for Cambodia's apparel export. In the past, the garment product was almost entirely dependent on markets in the US (more than 70%) and the EU (nearly 30%). Exports to Canada became more significant from 2003, accounting then for about 4% of the total garment export, and has increased to nearly 10% in 2013. The export to Japan has also became more sizeable since 2011, when it accounted for 3% of the total garment export. This increased to more than 4% in 2013. The size of other markets has also expanded over time. In contrast, the share of garment exported to the US market has declined to just 40% in 2013, while the EU market has absorbed more and more garment products. The EU is now responsible for 35% of Cambodia's garment export, nearly the size of the US market.

## 1.2. Research Objective and Methodology

In many middle-income countries, foreign direct investment (FDI) has been central to export successes, and it has helped local firms who are competitors, suppliers, and clients of the FDI firms to upgrade their production and management functions.

The objective of this study is to explore the linkages between these companies, to analyse the interactions between large-scale, foreign-owned firms and domestic firms. The relationship that local firms have with Multinational Corporations/Foreign Direct investments (MNC/FDI) are observed in the following three forms: horizontal, forward, and backward linkages.

**Horizontal Linkages**: domestically owned industrial firms (competitors) that produce similar products as the MNC/FDI.

**Forward Linkages**: domestically owned manufacturing firms that engage in purchaser relationships with the MNC/FDI operating in another sector or with a foreign company outside the country (Direct Import) in another sector.

**Backward Linkages**: domestically owned industrial firms that engage in supplier relationships with the MNC/FDI operating in another sector or with a foreign company outside the country (Direct Export) in another sector.

The study relied on the Enterprise Census 2011 as a basis for understanding the pattern of Cambodia's manufacturing industry. The data from the Enterprise Census 2011 were analysed to identify key industries as presented below in **Table 1**.

**Table 1**: Number of enterprises and number of employees in selected manufacturing industries in Cambodia

| | Industry | 4-digit ISIC | No. of establishments | No. of employees |
|---|---|---|---|---|
| I | Garment and Footwear | 1410-1430 | 515 | 265,092 |
| II | Rubber Processing | 2013 | 22 | 8,748 |
| III | Cassava Processing | 1062 | 14 | 1,046 |
| III | Rice Processing | 1061 | 139 | 2,441 |
| IV | Small-scale Food Processing | 1010-1200 | 411 | 14,887 |

*Source*: Authors, based on data from the Enterprise Census 2011.
Note: The figures include establishments with more than 10 employees only.

The study took a snowball approach in order to identify relevant firms for the survey and analysis. The survey proceeded in the following three steps.

**Step 1**: The interview was conducted with the central government bodies responsible for FDI relations. The interview led to the identification of appropriate MNC/FDI to be interviewed.

**Step 2**: Based on the MNC/FDI identification in step 1, more interviews were proceeded with the selected MNC/FDI. The interviews had led to the identification of domestically owned firms with either (1) competitor, (2) customer, or (3) supplier relations to the interviewed MNC/FDI.

**Step 3**: Based on the domestic firm identification in step 2, more interviews were conducted with the most relevant domestic firms. In addition, the interviews tried to identify domestically owned firms engaging in either direct import (customer linkages) or direct export (supplier linkages) of industrial products.

As the first step, the study team conducted the interviews with the Council for the Development of Cambodia (CDC), the government body responsible for the FDI. In Step 2 and Step 3, the study team worked in close cooperation and consultation with the Garment Manufacturing Association in Cambodia (GMAC), the Federation of Association of Small and Medium Enterprises in Cambodia (FASMEC), and Cambodia Rubber Development Association (CRDA), in order to identify from their member lists the firms that best reflect the types of investment sources and the four categories of industries (as indicated in **Table 2**).

The research team successfully interviewed 35 firms (employing more than 10 workers) from four categories of the manufacturing industry. Consideration was given to whether the firms were mainly foreign-owned and whether they exported between 2012 and 2013. The sample consists of 13 firms in the garment and footwear industry, one beverage company, one cannery factory, four rubber processing factories, one cassava processing factory, two large rice mills, and 13 small-scale food processing firms. The interviews were conducted with the owners or senior managers of the firms in 2013. Each interview took approximately 45 minutes, using a semi-structured questionnaire.

**Table 2**: Taxonomy of manufacturing industry by FDI and export characteristics

| | | Export | |
|---|---|---|---|
| | | Yes | No |
| FDI | Yes | Garment and footwear | Beverage, cannery, textile |
| FDI | No | Rubber processing, cassava processing, and rice mills | Small-scale food processing |

As illustrated in **Table 2**, the surveyed firms are classified into four main categories based on the sources of FDI and types of final markets. Firms in the garment and footwear industry (Category I) are mainly foreign-owned exporting firms. Firms in the beverage industry (Cambodia Beverage Company Ltd) and the Cannery industry (CROWN Beverage Cans Cambodia Limited) are foreign owned but serve local demand. A textile company (Top Sports Textile Limited) produces immediate inputs (fabric) to supply other garment factories in Cambodia but also export markets. In our taxonomy, these firms are considered as Category II, which are foreign-owned and mainly supplying the local market. Firms in Category III, such as rubber processing, cassava processing, and large rice mills, are mainly domestic firms but export most of their products. Rubber and cassava processing firms process raw products into intermediate goods and export while large rice millers process the paddy rice and export them for final consumers. Firms in Category IV are small-scale food processing firms which are typically Cambodian local firms that serve local markets only.

## 1.3. Challenges in Conducting the Firm Survey

- The fact that there are weak linkages between manufacturing MNC/FDI in Cambodia and the domestic sector was a challenge for the study as it was difficult to locate companies that fit the sampling frame. Although we sought and established collaboration with business associations[1] with the hope that they could identify and recommend companies that meet our study criteria, they lacked detailed knowledge on the business chain of their members. Using the information gathered through consultation with the business associations firms were selected that corresponded most closely to the study design. These firms were interviewed during which the nature and extent of linkages with other firms were explored.

- Generally, firms were not keen to provide responses to the questions related to their business operation.

- Firms were hesitant to specify the names of their competitors as well as clients and suppliers. Where they shared names, they declined to comment or provide information about their competitors, suppliers, or customers. They find it unethical to speak about other companies, especially their competitors. In the case that a company name is provided, they refused to provide any further information including the contact address, as they expected that the research team would contact and talk more with that particular company. This has added to the difficulty in identifying the linkages. In the case of the garment industry, the foreign companies were not aware of any Cambodian owned factories; or otherwise, they did not see them as competitors.

- Most respondents found the questionnaire too long, particularly when CEOs or senior managers were being interviewed. Time pressures made the conversation rushed and thus the interpersonal relationship and trust required

[1] Garment Manufacturers Association in Cambodia (GMAC), Federation of Associations for SMEs of Cambodia (FASMEC), and Cambodia Rubber Development Association.

for some questions was not established between the researchers and the respondents. Moreover, the structured nature of the questionnaire made the conversation less natural. CEOs or senior managers do not generally respond well to such a mode of conversation.

- Recent social and political developments in Cambodia also created obstacles for the study. Cambodia experienced a high number of labour strikes in 2012 and 2013. Cambodia's chairmanship over the annual ASEAN Summit in November 2012, especially with the presence of world leaders in the East Asia Summit, provided labour unions with opportunities to demand better pay and working condition through the means of strikes. The number of labour strikes increased further during 2013, the election year. The political deadlock after the election gave more leverage for labour unions to strike, especially to pursue their demands for a $160 monthly minimum wage. According to a local media report (Sek, 2014), there were 101 strikes in the first 11 months of 2012 and 136 strikes over the same period in 2013. This figure does not include the 241 nationwide strikes by Free Trade Union members in December 2012. This situation stirred up the business community, especially the garment industry, who as a result were reluctant to cooperate with the study team.

# II. Survey Findings

## 2.1. Profile of the Surveyed Enterprises

### Enterprise Characteristics

To describe the four categories of manufacturing industry in more details, we consider the percentage of local content of inputs used for processing, technology (nationality of engineers), and linkages to domestic enterprises. This provides a broad picture of the manufacturing industry's structure in Cambodia in terms of local contribution. **Table 3** indicates that all the surveyed garment factories are primarily foreign owned, relying totally on foreign sources for capital, market, raw materials, technology, and linkages. The opposite is the case for those in the small-scale food processing and rice mills.

**Table 3**: Characteristics of firms in selected manufacturing industries in Cambodia

| | | Percentage of local content (%) | | | | |
|---|---|---|---|---|---|---|
| | Industry | Capital | Market | Input | Technology | Linkages |
| I | Garment and Footwear | 0 | 0 | 0 | 0 | 0 |
| II | Beverage and cannery | 0 | 100 | 0 | 0 | 0 |
| II | Textile | 0 | 50 | 0 | 0 | 0 |
| III | Rubber processing | 100 | 0 | 100 | 100 | 0 |
| III | Cassava processing | 100 | 0 | 100 | 100 | 0 |
| III | Rice processing | 100 | 50 | 100 | 100 | 100 |
| IV | Small-scale food processing | 100 | 100 | 100 | 100 | 100 |

*Source*: Authors, based on Enterprise Mapping Survey (by CEA/CPS, 2013)

**Foreign Firms:**

The sample includes 15 FDI firms, most of which are woven and knitted apparel makers. Others include a textile factory, a footwear maker, a beverage can manufacturer, and a beverage company. They are all 100% owned by foreign investors of different nationalities. In the case of multiple ownerships (where the largest investment share represents less than 100%), other co-investors are not Cambodian either. On average, these firms employ around 2,800 workers (range: 235-8,130).

**Table 4**: Profile of MNC/FDI Firms

| Industry | 4-digit ISIC | Location | SEZ | Legal Status | Country | % largest Share | Presence Yr | # Employee (2012) |
|---|---|---|---|---|---|---|---|---|
| Woven Apparel | 1410 | Phnom Penh | Non-SEZ | Subsidiary | Malaysia | 100% | 1997 | 8130 |
| Woven Apparel | 1410 | Phnom Penh | Non-SEZ | Subsidiary | Bangladesh | 100% | 1999 | 2240 |
| Knitted Apparel | 1430 | Phnom Penh | Non-SEZ | Subsidiary | Malaysia | 100% | 1992 | 6800 |
| Woven Apparel | 1410 | Phnom Penh | Non-SEZ | Limited Partne | USA | 100% | 2010 | 450 |
| Knitted Apparel | 1430 | Kandal | Non-SEZ | Subsidiary | Chana | 100% | 2011 | 1200 |
| Woven Apparel | 1410 | Phnom Penh | Non-SEZ | Subsidiary | Chana | 100% | 2004 | 7000 |
| Woven Apparel | 1410 | Phnom Penh | Non-SEZ | Subsidiary | Hong Kong | 100% | 2000 | 1600 |
| Woven Apparel | 1410 | Phnom Penh | Non-SEZ | Subsidiary | Hong Kong | 100% | 2011 | 1270 |
| Knitted Apparel | 1430 | Phnom Penh | Non-SEZ | Subsidiary | Singapore | 55% | 2010 | 1613 |
| Knitted Apparel | 1430 | Phnom Penh | Non-SEZ | Subsidiary | Taiwan | 51% | 2005 | 7050 |
| Woven Apparel | 1410 | Svay Rieng | SEZ | Subsidiary | Japan | 100% | 2008 | 1610 |
| Textile | 1312 | Svay Rieng | SEZ | Subsidiary | Hong Kong | 60% | 2011 | 500 |
| Footwear | 1520 | Svay Rieng | SEZ | Subsidiary | Taiwan | 100% | 2007 | 2200 |
| Beverage cans | -88 | Phnom Penh | Non-SEZ | Subsidiary | Singapore | 100% | 2007 | 235 |
| Beverage | 1104 | Phnom Penh | Non-SEZ | Subsidiary | USA | ... | 1993 | 313 |

*Source*: Enterprise Mapping Survey (by CEA/CPS, 2012/13)

**Local Enterprises**:
There were 20 local firms interviewed for the survey. These firms operate in some of the major industries of the Cambodian economy including garments (5 firms), rubber processing (3 firms), bakery and food products (6 firms), and rice milling (3 firms). Other firms include a beverage company, a carton paper manufacturer, and a plastic product factory. Most of these local enterprises are located in Phnom Penh: 5 of them are in Kampong Cham province and one in Battambang province. On average, these enterprises employ more than 400 workers. About half of them are sole proprietors; the others are partnership limited companies.

**Table 5**: Profile of domestic firms

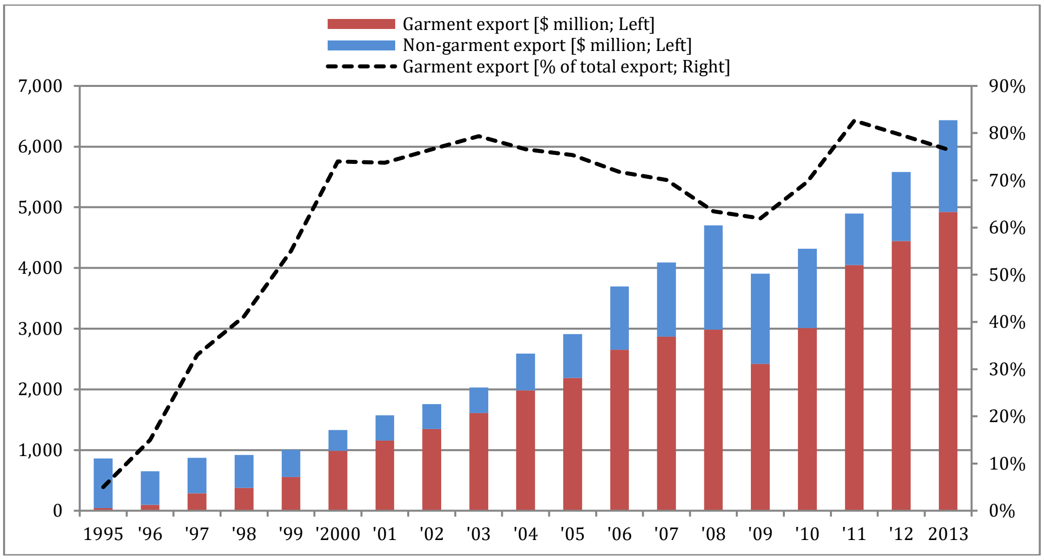
| No. | Firm | Industry | 4-digit ISIC | Location | Legal Status | % Largest Share | Presence Yr | # Employee (2012) |
|---|---|---|---|---|---|---|---|---|
| 1 | Sopheak Nika | Rubber processing | 2219 | Kampong Cham | Limited Partnership | 20% | 1979 | 4100 |
| 2 | Khun Meng Group | Rubber processing | 2219 | Kampong Cham | Limited Partnership | 80% | 2011 | 132 |
| 3 | Long Sreng International Co., Ltd | Rubber processing | 2219 | Kampong Cham | Sole Proprietorship | 100% | 1996 | 1500 |
| 4 | Liya Embroidery | ... | ... | Phnom Penh | Unregistered | 100% | 1999 | 120 |
| 5 | Khu Pheap Garment Co., Ltd | Woven Apparel | 1410 | Phnom Penh | Sole Proprietorship | 100% | 2007 | 110 |
| 6 | Apsara Garment Co., Ltd | Woven Apparel | 1410 | Phnom Penh | Sole Proprietorship | 60% | 2009 | 450 |
| 7 | First Fit Co., Ltd | Woven Apparel | 1410 | Phnom Penh | Sole Proprietorship | 100% | 2013 | ... |
| 8 | Inter Hopewell Garment Co., Ltd | Woven Apparel | 1410 | Phnom Penh | Sole Proprietorship | 100% | 2005 | 560 |
| 9 | Sun Art | Food product | 1062 | Kampong Cham | Limited Partnership | 75% | 2009 | 70 |
| 10 | Ky Siv Chheng Protein Foods | Food product | 1010 | Phnom Penh | Sole Proprietorship | 100% | 2004 | 7 |
| 11 | Ngouy Kveng Heng Noodles Enterprise | Food product | 1074 | Phnom Penh | Sole Proprietorship | 100% | 2007 | 20 |
| 12 | Patei Chung Heng | Food product | 1010 | Phnom Penh | Sole Proprietorship | 100% | 1999 | ... |
| 13 | LYLY Food Industry Co., Ltd | Food product | 1079 | Phnom Penh | Limited Partnership | 80% | 2002 | 150 |
| 14 | Men Sarith | Beverage | 1104 | Phnom Penh | Sole proprietorship | 100% | 2010 | 25 |
| 15 | Asia Bakery and Confectionary Pte. Ltd | Food product | 1071 | Phnom Penh | Limited Partnership | 51% | 2007 | 150 |
| 16 | Asia Carton Ptc, Ltd | Carton papers | 1701 | Phnom Penh | Limited Partnership | 66% | 2000 | 40 |
| 17 | Karong Khmer | Plastics product | 2220 | Phnom Penh | Unregistered | 50% | 2013 | 30 |
| 18 | Khmer Foods Group | Rice Mill | 1061 | Phnom Penh | Limited Partnership | ... | 1999 | 25 |
| 19 | Nicolin Investment | Rice Mill | 1061 | Kampong Cham | Limited Partnership | 25% | 2010 | 60 |
| 20 | Baitong (KAMPUCHEA) PLC | Rice Mill | 1061 | Battambang | Limited Partnership | 50% | 2008 | 120 |

*Source*: Enterprise Mapping Survey (by CEA/CPS, 2012/13)

## 2.2. Garment Industry

Cambodia's garment industry began about 20 years ago. It has become a predominant feature of Cambodia's manufacturing sector and is important to the industry sector as a whole. Cambodia's garment exports have jumped from an insignificant US$40 million in 1995 to US$1 billion in 2000 and almost US$5 billion in 2013. Nonetheless, Cambodia has captured a very small subset of the whole industry internationally (Cancún, M. 2003).

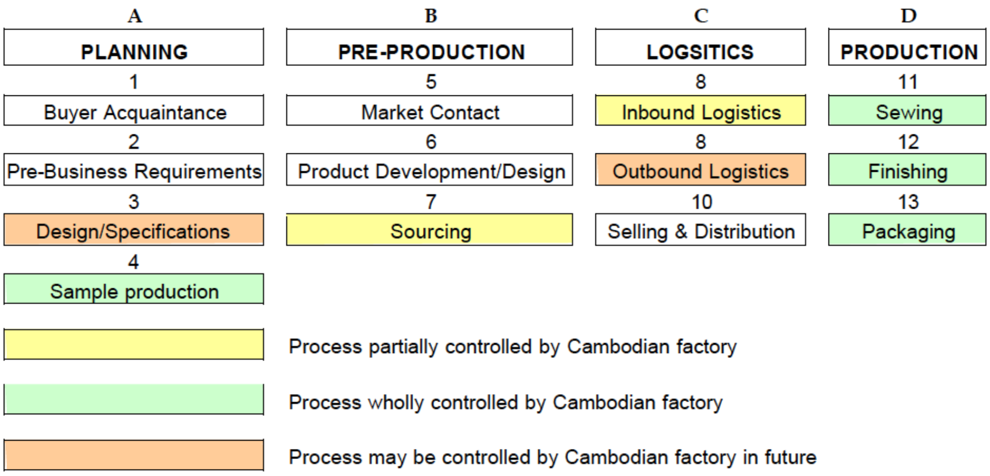
**Figure 3**: Evolution of garment output and export




*Source*: Authors, based on MEF (2010), GMAC Website, and Neak and Yem (2006)

Both the upstream and downstream sectors of the industry are managed by the buyers and the parent companies. Garment factories in Cambodia are generally foreign subsidiaries and perform a few functions such as sample production, sewing, finishing, and packaging. As indicated in **Figure 4**, most of higher value-added functions, such as product development/design, selling and distribution, do not take place in the subsidiaries located in Cambodia. The profile of value chains presented in **Figure 4** was established in 2003. Nonetheless, consultations with key players in the industry suggest this structure has not changed much since then.

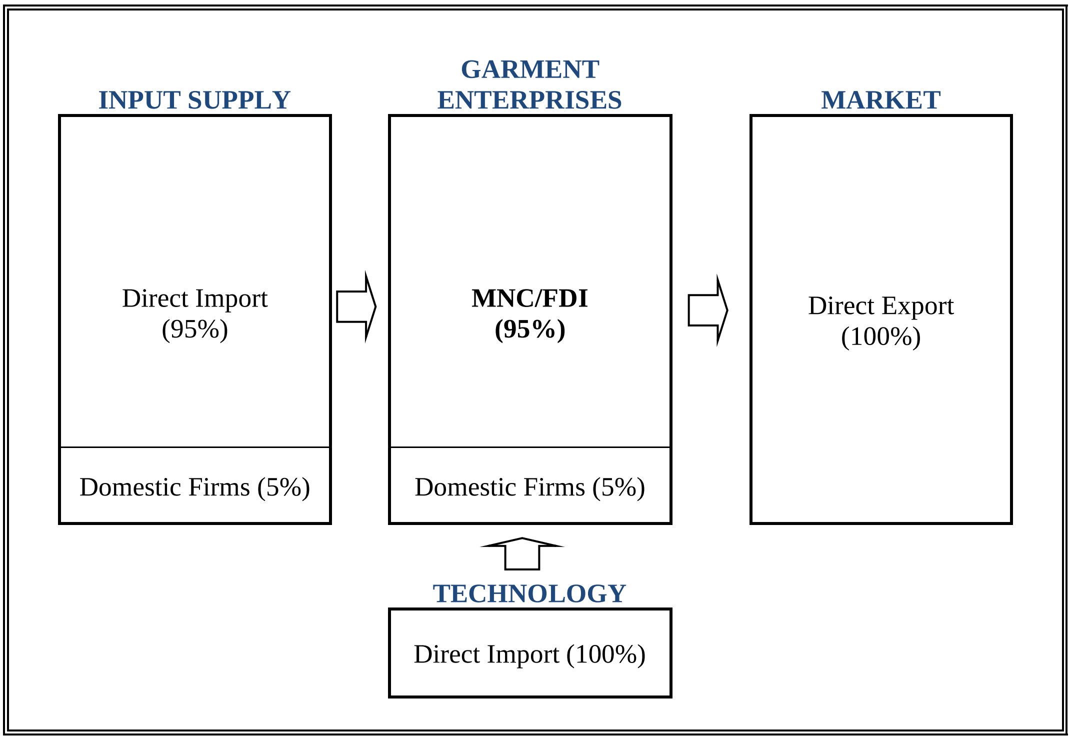
**Figure 4**: Garment manufacturing process and functions




*Source:* Cancún, M. (2003). Business for development: implications for export strategy-makers

After 20 years, the garment industry has still not developed substantial linkages to the host economy. The industry operates almost like an enclave, except for the provision of employment to an abundant unskilled labour force. As illustrated in **Figure 5**, nearly all factory projects are wholly foreign-owned and almost 100% of raw materials and intermediate inputs are imported. All of the outputs are final products for export markets. Moreover, most of the managerial and technical staff are non-Cambodian. For example, a branch of JUKI Singapore Pte. Ltd. in Cambodia supplies industrial sewing machines to around 250 garment factories, and usually works with technical staff who are mostly Chinese.

**Figure 5**: Linkages in Cambodia's garment industry




*Source*: Authors, based on Enterprise Mapping Survey (by CEA/CPS, 2012/13)

### 2.2.1. Horizontal Linkages

The role of domestic investment is minimal in the apparel making industry. FDI is responsible for around 95% of the industry. This is mainly because there is no history of domestic garment manufacturing in Cambodia. Garment factories only came into existence during early 1990s when Cambodia re-entered the market economic system and welcomed foreign investors, after two decades of civil war.

In an attempt to attract a large number of foreign investors to help provide employment to the large pool of unskilled labour, Cambodia adopted a liberal investment law in 1994. The law allowed foreigners to hold up to a 100% share of investment and provided generous tax holidays to most FDI projects. This allowed foreign investors to work without local partners and it is the main reason why there is such a low participation of domestic investment in the sector. In cases where Cambodians share the investment; the portion is not significant. As a result, there is a little scope for technology transfer through co-investment as it is usually foreign counterparts that control all technical and managerial aspects.

Foreign firms do not consider other firms as their competitors. Because there are no significant domestic players in the sector, it is not a surprise that the respondents (CEOs and managers of foreign owned garment factories) could not identify any domestic firms as competitors. More interestingly, garment factories do not even consider other foreign-owned garment factories as their competitors. This is because garment factories in Cambodia are generally subsidiaries that only perform the CMT production component for their headquarters.

According to the survey, competition only happens at the headquarters level or among subsidiaries. In the former case, there is a competition among headquarters of various different companies in order to get purchase orders from the retailers. After that, the competition among subsidiaries of the same parent companies (headquarters) located in different countries follows in order to get as much market share as possible. Cost-effectiveness matters and is a major explanation for the competition between subsidiaries in order to get sub-contracting from the parent companies (headquarters). Due to its low efficiency relative to peers in the region, orders that Cambodia’s apparel industry receives are described as an overflow from other countries in the region.

Significant representation of Cambodian-owned factories in the sector started to emerge during the second half of the 2000s. A small number of Cambodians have entered the industry as business ventures. As a result, Cambodian-owned factories have recently increased from none to about 5% of approximately 600 factories. Nonetheless, Cambodian factory owners, from their experience, are not optimistic about further expansion of Cambodian representation in the sector because they find the current environment very challenging and some are even likely to close in a foreseeable future if there is no assistance or intervention from concerned institutions. **Box 1** provides a case in point.

**Box 1**: Inter Hopewell Garment Co., Ltd.

Inter Hopewell Garment Co., Ltd. is a 100% Cambodian owned garment factory that was established in 2005. The owner did not have garment related experience before starting the business although she had experience in running other types of businesses. She hires technical experts who are usually Chinese and Taiwanese. Currently, there are 10 of them.

The business experienced healthy progress in the early years. Initially, the factory was operated as a Cut and Make. Later in 2006, the company expanded and were able to source fabrics and other materials directly. The company set up a representative/sales office in Hong Kong and market destinations include the US (50%), the EU (30%), and other countries (20%). The relationship with buyers has entailed technology transfer through the provision of specification and training for technicians. A buyer that is responsible for such technology transfer is MANGO in Europe.

Inter Hopewell Garment Co., Ltd. has faced unfavourable business operations in the last few years. The number of workers was about 2,000 when it started in 2005, but dropped to just around 1,100 in 2011, and only 560 in 2013. The company faces wage competition from factories owned by foreign-investors and there seems to be a shortage of labour supply in the market. The HR Manager finds the attitude of workers also part of the constraint: they want to earn higher pay without working harder.

*Source*: Enterprise Mapping Survey (by CEA/CPS, 2012/13)

Nonetheless, there are some interesting stories of spillovers and competition cases to learn from. APSARA GARMENT Co., Ltd. is a garment factory that is owned by two Cambodian brothers, whose majority share is 60%. It is an apparel-making factory that has emerged out of a local tailor shop.

Since its establishment, APSARA GARMENT Co., Ltd. has never felt any competitive pressure from MNCs/FDIs. The firm also claims to have never directly adopted production techniques/processes by observing or copying from other foreign-invested factories. However, the owners assert that learning in the sector does not just come from MNCs/FDIs; the firm manages to learn from firms in other countries. The spillovers mostly came from the buyers; in this particular case, a Japanese buyer.

Non-Japanese FDI firms usually try to prevent spillovers by not allowing other firms to access their production facilities. In the case of APSARA GARMENT Co., Ltd., its owner previously worked as an administrative assistant to the General Manager of a Singaporean company where he learned about the industry. However, the knowledge and skills that have enabled him to run the business were mostly acquired from his affiliation with the Garment Industrial Productivity Centre, where he worked as a trainer of the industrial engineers and technical managers through USAID-funded projects. **Box 2** provides further insights.

**Box 2**: APSARA Garment Co., Ltd.

Mr. Khov Chhay, who is the Managing Director and owner of APSARA Garment Co., Ltd., left his full-time job, a USAID-funded project at the Garment Industrial Productivity Centre, and started his own-account tailor shop of 10-20 sewing machines in 2008. The business was financed by his own equity and with support from his family. His shop supplied uniforms and other promotional apparels to the local market. The business was later expanded to around 50 sewing machines and provided sub-contracting services to bigger garment factories on an ad-hoc basis. With retained profit and bank financing, the business capacity expanded to around 300 sewing machines in 2009. It started to make connections and began to cooperate as a sub-contractor of foreign-invested companies from China and later Taiwan. In 2010, a Japanese firm, who was searching for a local partner, spent nearly two years studying the cooperation possibilities.

An agreement between the Japanese firm (buyer) and APSARA Garment Co., Ltd. was reached in late 2011 for a 7-year cooperation, in which APSARA Garment Co., Ltd. was required to upgrade its facility and technology. As a buyer, the Japanese company is obliged to supply all raw materials and intermediate inputs and offer the transfer of technology as stipulated in the agreement. All the procurement and the technology upgrade costs were the responsibility of the Japanese firm, but APSARA Garment is obliged to gradually pay back those costs.

Successful cooperation with the Japanese company has paved the way for the APSARA GARMENT Co., Ltd. to recently create business relationships with more partners from Thailand and other countries. The firm’s equipment and technology are procured from a Japanese company and are rated above the average of factories in Cambodia. The size of the operation has expanded from about 300 workers in 2011 to 450 in 2012 and 720 in 2013. The factory is now running at full capacity and is planning to launch a new branch in 2014.

*Source*: Enterprise Mapping Survey (by CEA/CPS, 2012/13)

## Competition in the Labour Market

None of the foreign-owned companies surveyed reported any competition with other domestic or foreign firms in hiring skilled and unskilled workers. However, competition has become an issue for domestic firms. Cambodian-owned factories, including Cambodian sub-contractors, have encountered difficulties in recruiting both skilled and unskilled workers. These domestic firms report that foreign firms are the main source of this competition.

Outbound migration of labour also creates a tough challenge for domestic firms. In addition to the competition for labour from foreign firms in the garment industry, domestic firms in the food industry have reported a more difficult situation in recruiting workers because many people prefer migrating to work in other countries.

Seasonal labour demand from agriculture remains a source of distraction for the industry. Many Cambodian workers tend to quit their jobs during the farming seasons (growing and harvest times) which further increases labour demand at these times. According to the Garment Manufacturer's Association in Cambodia (GMAC), around 20% of garment workers quit their jobs and go back home during the growing and harvest seasons (Dyna and Savuth, 2013).

A recent analysis by Dyna and Savuth (2013) confirms the above description of the labour market in Cambodia. They find that Cambodia's labour market reached rural Lewis Turning Point[2] in 2011, which means some rural areas in Cambodia already faced labour shortages. It is evident that real wages in rural areas have increased since then. Labour shortages are not yet apparent nationally, but the trend in rural areas signals that Cambodia, once a country of labour abundance, is on the verge of experiencing labour shortages.

## Technology Transfers and Domestic Capacity

Through personal interviews, none of the FDI factories in our sample could think of any of its former employees who left their jobs and set up their own enterprises that are either suppliers, competitors, or buyers of their products. While these firms are not representative of all firms in the industry, GMAC confirms that very few, if any, have done so.

According to the Cambodian factory owners, Cambodia has actually learned and accumulated some know-how in apparel making after the 15- to 20-year presence of foreign-invested factories. There are now more Cambodians holding technical and managerial positions in various factories. According to a survey of 164 garment firms in Cambodia (cited in Goto, K. 2010), 30% of top managers were from mainland China, 21% from Taiwan, 15% from Hong Kong, and only 8% of top managers were

[2] The point when the supply of surplus labour from rural areas, for employment in cities, is exhausted. It is named after Caribbean economist William Arthur Lewis, who proposed the idea in 1954. … All countries witness the Lewis turning point in the course of their transition from agrarian to industrial economies. The movement of labour towards cities comes to a halt when, as a result of the continued drainage of labour from rural areas, wages in rural areas rise above those in the cities. https://www.thehindu.com/opinion/op-ed/what-is-lewis-turning-point-in-economics/article19104801.ece

from Cambodia. From a sample survey of 300 garment workers which include some technical and managerial workers[3], 6-8% of workers hope their knowledge and skills from their current jobs would help them find jobs in similar factories in other countries such as Korea, Malaysia, and Thailand (Ouch et al, 2011). This may imply that some technical and managerial staff are performing their jobs well and thus expect that it will provide them with opportunities to work overseas with other subsidiaries. Moreover, around 14-15% of the surveyed workers reported that they are likely to use their knowledge and skills to run their own businesses such as tailor shops.

Technology transfers are observed despite limited through different means. The cases of Mr. Khov Chhay of APSARA Garment Co., Ltd. (**Box 2**), Ms. Chot Bopha of First Fit Co., Ltd. (**Box 6**), and Mr. Bora of Liya Embroidery (**Box 7**) are among the rare examples of spillovers in the form of technology transfers from foreign-owned to domestic firms in Cambodia's garment industry. Mr. Chhay had acquired most of his skills from a USAID-funded project on garment productivity improvement and has further benefited from a direct relationship with its current Japanese buyer. Ms. Bopha learned the know-how mostly from her eight years of experience as a unit manager in a Korean garment factory. Mr. Bora accumulated his skills through working with a Japanese firm supplying embroidery machines for garment factories.

The views expressed by Cambodian entrepreneurs suggest that the emergence of Cambodian-owned factories in the industry was nearly impossible for a number of reasons. First, the co-existence of both the skills and the capital necessary to start a business is a challenge: those who have learned the know-how do not have access to finance while those who have the finance do not have the know-how or are not interested in the business because there are other opportunities to earn easier money. Second, the support and facilitation from the government to grow and nurture local entrepreneurs is largely absent. For example, the government does not have programmes that provide trainings or seed funds for young entrepreneurs. Third, is the low level of access to, and high cost of, finance: a Cambodian businesswoman reported that on top of high loan interest rate, her USD 70,000 worth house (collateral) could only back her for a USD 20,000 bank loan. Fourth, there is no access to the international market. All marketing, sales, and distribution are controlled by headquarters of foreign invested garment factories.

Nonetheless, these case studies suggest that there is room for Cambodia to harness more from its garment industry if the above challenges are addressed. Moreover, the opportunity for Cambodians to take more important roles in various technical and managerial positions is significant. According to Goto (2010), approximately 5,000 Chinese garment technicians and supervisors were dispatched to garment factories in Cambodia through Chinese human resource agencies. If Cambodians are properly trained, they would be able to substitute these imported human resources leading to higher value-added contributions by Cambodian workers and greater opportunities for spillovers, potentially leading to the establishment of more Cambodian-owned factories.

[3] Includes quality control workers, quality control inspectors, final inspectors, mechanics, quality assurance assistants, and office staff.

### 2.2.2. Vertical Linkages

**Forward Linkages**

In Cambodia, forward linkages, or linkages to the downstream sector, are virtually absent. This is because the industry is primarily export-oriented. As reflected in the responses from the interviewed FDI firms, no firms reported that their choice of locating their businesses in Cambodia was motivated by the fact that the host country has an increasing potential customer base for their products. Tax incentives, cheap labour, and duty and quota exemption for export markets such as the US and the EU (that are responsible for 75% of the total exports from the sector) were the main reasons provided.

**Backward Linkages**

The story for backward linkages is very similar to that of the forward linkages. The upstream sector in Cambodia is almost non-existent for a number of reasons. There are no raw materials or other domestically-produced intermediate products. Factories simply import all of the raw materials and most of the intermediate goods that they require are mostly available from China, Hong Kong, and Taiwan. Based on the survey, the cost of raw materials and intermediate goods are reported to be around 55% of the FOB (Free on Board) cost. Links to domestic production are estimated to be around 5% of the total cost.

A survey by JETRO (2013) on the activities of Japanese manufacturing companies operating in Asia and Oceania found linkages between FDI and the domestic economy to be exceptionally weak in Cambodia, where only 2.2% of raw materials and spare parts could be procured locally, compared with 18% in Laos, 24% in Bangladesh, 28% in Vietnam, 43% in Indonesia, and 53% in Thailand.

**Challenges for Backward Linkages**

Investors consider the high cost of doing business in Cambodia as a major factor responsible for influencing the low level of linkages to the host economy. The costs of electricity, transport, and informal fees make businesses less competitive. As a senior manager of a foreign owned factory reacted, "*how is it possible to create linkages to the domestic economy when the price of domestic goods is not cheaper than the imported ones?*" On top of its high cost, the supply of electricity is not reliable – its quality is unstable and blackouts are frequent at times. As a remedy to back up the electricity cuts, both FDI and domestic firms have to have a generator, which further raises their costs of operations.

**Box 3**: Corrupt Practices Undermine the Presence of High Standard Companies

| |
|---|
| A representative office of a western company finds it challenging to do business in Cambodia. High standard companies find it difficult to avoid corrupt practices. This is why there are just a few US- or EU-based companies with a presence in Cambodia. The road system is really bad, and the power supply suffers from shortages and instability<br><br>*Source*: Enterprise Mapping Survey (by CEA/CPS, 2012/13) |

Exemption from cross-border tax on the import of raw materials, intermediate goods, and equipment adds a further layer to competition between imported inputs and those that are domestically produced. The duty free facilitates the inflow of imported goods. As a senior manager put it: "*how likely are linkages to domestic production if FDI can import everything with tax-exemption?*" As illustrated in **Box 4**, the size of tax expenditure for the imported goods is very significant.

**Box 4**: Tax Expenditure

| |
|---|
| Under the 2003 Law on the Amendment to the Law on Investment, all domestic or foreign investment projects that are granted Qualified Investment Projects (QIPs) are entitled to 100% exemption from import duties on production equipment, construction materials, raw materials, intermediate goods, and production input accessories. An estimate by the World Bank (2011) reveals that exemptions on customs duties cost Cambodia around 4% of GDP per annum in the form of revenue loss while the overall size of tax expenditure due to provision of tax incentives to the private sector accounts for 6-7% of GDP per annum. |

Reducing such exemptions would provide the domestic sector with some scope to grow and expand. However, at least during the early stages of such a policy, domestically-produced goods used as intermediate inputs would likely be more expensive than the previously imported ones, and would therefore push up the cost of inputs and reduces the attractiveness of Cambodia as a place for foreign investors.

Another obstacle for local businesses is the tax burden. Domestic firms are subject to all kinds of tax, while large foreign firms are not. Hence, most domestic firms stay informal in nature, which means they are unregistered. Therefore, they are not exempt from tax for their purchase of imported machinery/equipment as well as other intermediate materials. In the event that domestic firms are formally registered, they are further constrained by the formal tax regime, which includes 10% VAT, 1% turnover tax, salary tax up to 20% and 20% profit tax. In some instances, VAT is to refunded, but in practice it takes years to claim this tax credit back. All of these instances make domestic products and services more expensive and thus less competitive than imports.

The scale of the market is another major factor. The small size of the Cambodian market is a barrier for backward linkages to occur. While the overall demand, for example, of textile or threads is rather sizeable, there are a number of varieties within this. All factories do not necessarily demand the same type of fabrics or threads. The demand for particular varieties is therefore too small for a domestic sector to emerge.

Responses from across the interviews indicate that the type of raw materials, intermediate goods, and accessories are not generally decided by the factory or even the headquarters, but instead by the buyers. Such instance makes the varieties demanded less predictable.

**Evidence of Some Linkages**

There is some backward linkage between firms reported. These include the supply of some intermediate inputs such as rubber bands, garment labels, carton boxes, poly bags, and hangers. Linkages also exist in the form of sub-contracting services such as CMT, embroidery, laundry, washing, dying, and printing. However, the suppliers of FDI firms are generally also foreign-owned enterprises and, for quality control reasons, the selection of these suppliers is usually agreed by the buyers. This makes it less likely that domestic firms will be able to supply these goods and services.

Linkages to the supply of carton boxes have existed since the start of the garment industry and seem significant (see **Figure 6**). These linkages are likely explained by a number of reasons: i) the choice of carton box supplier is not strictly determined by garment buyers as in the case of raw materials, intermediate goods, and accessories; ii) carton boxes are difficult to import due to their bulky nature; iii) a relatively low level of technology investment is required to produce these boxes; and iv) inputs/raw materials can be found locally.

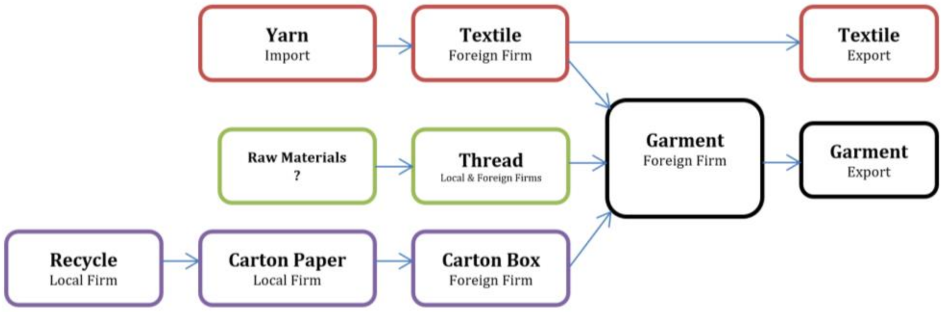
However, as indicated above, in our survey a link was found between foreign-owned garment factories and foreign-invested carton box manufacturers. Interestingly, the link to domestic firms is observed in the second tier, where local firms supply carton papers to FDI firms who further transform those carton papers into carton boxes to supply the garment factories.

Supply in the form of sub-contracting services is the most apparent backward linkage. It is estimated that the number of sub-contractors of apparel making and embroidery is between 100 and 200 enterprises, but most of them are run by Chinese entrepreneurs. The few Cambodian sub-contractors number somewhere between 15 and 30.

**Newly Emerging Linkages**

An increasing number of garment factories are creating more linkages to the domestic production. According to key informants in the survey, there are more than 10 companies (British, Chinese, Korean, Vietnamese, and Cambodian) supplying varieties of threads to the garment factories. Some provide the supplies through imports; others set up production facilities domestically. For example, COATS is a UK-based firm operating in over 70 countries around the world to supply industrial threads and textile crafts. In Cambodia, it has operated a representative office for the past 10 years and is now supplying medium-low quality threads to around 100 garment factories. Its products are usually purchased by buyers like Adidas and Nike. COATS competes with more than 10 firms in Cambodia.

**Figure 6**: Linkage chains in the garment industry




*Source*: Authors, based on Enterprise Mapping Survey (by CEA/CPS, 2012/13)

A backward linkage is emerging. It links the garment factories to the textile industry. According to the survey, a few textile companies has set up their production base in order to supply fabrics to the garment factories. That trend seems motivated by the increasing number of the garment factories. However, the linkage is more between FDI and FDI rather than between FDI and local enterprises. This is because foreign investors wholly own these few textile companies. TOP SPORTS TEXTILE LIMITED in **Box 5** below is an example of newly set up textile factory.

**Box 5**: A Newly Emerged Textile Industry

An example of a recent FDI case in the textile sector is TOP SPORTS TEXTILE LIMITED. It is located in a Special Economic Zone in Bavet, a strategic site for its production facility because it is located between customers in Phnom Penh and easy access to the export market through a proxy seaport in Ho Chi Minh City. The company imports all of its raw materials, intermediate goods, and accessories: roughly respectively one third each from Pakistan, China, and Vietnam. Interestingly, only 30% of its outputs are exported. The remaining 70% are supplied to several foreign-invested garment factories in Phnom Penh such as Suntex, JIT, and Akeentex.

*Source*: Enterprise Mapping Survey (by CEA/CPS, 2012/13)

### Some Evidence of Spillovers

Despite high restriction from foreign companies, the technology spillover is not completely non-existent. There are some locally owned factories that have benefited from technology transfers because of their direct relationship with buyers. APSARA GARMENT Co., Ltd. in **Box 1** and INTER HOPEWELL GARMENT CO., Ltd. in **Box 2** are examples of the phenomenon.

Spillovers to the local economy through employment and deliberate skills transfers is rarely reported. None of the domestic firm owners were employed or trained by FDI firms in order to perform what they do, and none of the interviewed FDI firms could think of any employees who left the job and became suppliers, customers, or competitors, of their factories. Where cases of this nature exist, it is not Cambodian employees who do so, but mostly Chinese employees who left the job and set up firms to provide sub-contracting services. According to the survey, respondents who are familiar with the garment sub-contracting industry estimate that the number of sub-contractors of apparel making and embroidery ranged from 100 to 200 enterprises, around 15-30 of which are Cambodian owned. The rest are mostly Chinese.

There are some cases of positive spillovers to the local firms that has resulted in some backward linkages. Such spillovers are only observed among Japanese and Korean firms.[4] The survey found that a few Cambodian employees have left garment factories and later run businesses to support big garment factories in the form of sub-contracting service of CMT and embroidery.

One example from the survey is First Fit Co., Ltd. It is a local garment factory that was just recently established and successfully provides sub-contracting services for the CMT and packaging for both woven and knitted apparels to three Taiwanese garment factories. As a sub-contractor, the factory purchases all of the supplies of raw materials, intermediate inputs, and accessories from the clients. The 31-year-old female owner reports that she has learned all of the knowledge and skills necessary to run her own business today from a Korean factory where she worked for eight years (**Box 6** provides more details).

A second example is Liya Embroidery (see **Box 7**), another local firm that was established in 1999 and provides embroidery services to a few foreign-invested garment factories. The owner is now in his 30s and was previously a mechanic for 10 years with a Singaporean factory in Phnom Penh, where he learned the mechanics and production process. Despite many years of experience, the business is now under threat of competition from Chinese counterparts.

**Box 6:** First Fit Co., Ltd. (a sub-contractor of apparel making)

First Fit Co., Ltd. is owned and run by a 31-year-old single woman, Ms. Chot Bopha, who was a former resident of Site II Camp at the border with Thailand. She started working in the garment factory in 1999, soon after finishing her grade-12 education. She previously worked with three garment factories (Chinese, Taiwanese, and Korean). Her first job was a needle warehouse keeper, earning USD 35 per month. Then she worked in export processing, earning USD 70 per month. Later, she worked in the administration office, earning USD 120 per month. Before starting her own business venture, she was a line production manager of about 1,500 workers for a Korean factory, GAWON, for eight years and this was where she learned all the knowledge and skills necessary for her own account business today.

First Fit Co., Ltd. began operations in April 2013. The start-up capital was USD 110,000 from the owner financed from her savings and borrowings from friends, relatives, and a bank. In terms of market access, she received assistance from her foster brother who helps her connect with garment factories. The factory's current monthly production capacity is about 750,000

[4] An interesting observation from the survey is that local manufacturers believe that Japanese and Korean firms behave differently to other FDI firms. They are keen to transfer technology when they work with their local business partners.

pieces for the woven apparels and 150,000 pieces for the knitted ones. It employs 210 workers who are paid on a piece-rate basis. One worker earns approximately USD 120 per month or about USD 170 on average if they take over-time work. The piece-rate system allows First Fit Co., Ltd. to attract highly performing workers from FDI factories and pay them better.

The young owner has great confidence in running the business, as she trusts her talent, skills, and experience. She is confident that her production techniques and processes are competitive and could yield a 40% higher output than the competitors in the case where machinery are comparable. Although she bears higher costs, for instance, by having to pay higher wages, she could still enjoy a net efficiency gain of about 30% more than usual factories thanks to her direct supervision on a daily basis. As a sub-contractor, the factory receives all raw materials and intermediate inputs from the clients, performs the CMT and packaging jobs, and also earns service fees.

*Source*: Enterprise Mapping Survey (by CEA/CPS, 2012/13)

As indicated above, Cambodian sub-contractors face tough competition with their foreign counterparts due to the lack of a level playing field. Cambodia-owned firms are generally informal (unregistered) and thus are disadvantaged in terms of having no access to concessions such as tax-exemption for imports of their machineries, equipment, and raw materials. On the other hand, the sub-contractors that are owned by the Chinese dominate the market and often receive favouritism (Chinese assist Chinese) from principal garment factories owned by the Chinese. Anecdotal evidence suggests that the principal Chinese factories import their tax-exempted machinery; then sell those machines to other Chinese sub-contracting firms. This makes the Chinese sub-contractors more competitive than the Cambodian counterparts. Also, the Cambodian firms face competition for labour from foreign-owned firms as the latter generally can afford to pay higher wages.

**Box 7**: Liya Embroidery (a sub-contract of embroidery service)

Mr. Bora, the owner of Liya Embroidery, was previously a soldier, a military policeman, a security guard, and a driver for a Malaysian and a Japanese, before beginning his technical career. When he was a driver for the Japanese, who was managing a Japanese company supplying embroidery machines to garment factories in Cambodia, he was interested in mechanics and the company agreed to switch his job. With exposure to garment manufacturing, he observed the way the business worked and tried to do a cost-benefit analysis and prepare a business plan of his own. In 2001, he managed to run his own embroidery business with just two machines, with finance from his savings, the sale of his apartment in Phnom Penh, and supplier’s credit from the embroidery machine supplier that he worked with. While running his own account business, he also continued his job with the company until 2008 when he resigned from the management position. His business expanded to 12 machines and later 22 in 2006, working as sub-contractor for 3-4 garment factories.

Although the business story has been a success, it has been stagnant in recent years and he is a bit pessimistic that the Chinese-owned enterprises might drive Cambodian firms out if the government does not enforce a level playing field.

*Source*: Enterprise Mapping Survey (by CEA/CPS, 2012/13)

### 2.2.3. Supply of Technology

Cambodia has no production base of equipment/machinery that could supply garment manufacturing, as well as other industries. From the interviews, both local and foreign-invested garment factories generally procure their equipment/technology through imports. The overseas headquarters of the foreign investment projects in Cambodia generally manage the purchase and import of equipment/machinery for their subsidiaries. The headquarters work directly with the suppliers. Some factories import directly by themselves, but this is rarely the case.

Competition among foreign suppliers of equipment/machinery has increased and seems very vibrant. As part of the survey, a discussion was held with JUKI Singapore, a supplier of industrial sewing machines, who set up a representative office in Cambodia in 2000 and was turned into a branch office in November 2012. JUKI currently supplies sewing machines to around 250 garment factories in Cambodia. It faces competition from other companies, which include three Japanese companies, a few Korean companies, six Taiwanese companies, and around 50 Chinese firms. High quality JUKI machineries do not sell well in the market due to its relatively higher price. One JUKI sewing machine could generally buy three Chinese ones. Therefore, only 20% of JUKI machineries is imported from Japan; the rest 80% comes from its factories in China. Although the use of high-quality JUKI machineries is more cost-effective in producing textiles, it is difficult to sell this kind of machinery in Cambodia. One of the reasons cited is that the technical people, who are mostly Chinese, do not have the skills necessary to operate the machines. This somehow suggests Cambodia's garment factories are still producing low-end quality products and that there is room for the sector to move to the production of higher-end products if properly managed.

Cambodia has experienced considerable improvement in labour productivity, despite the application of such low-tech machinery. Cambodia's labour productivity increased from nearly US$ 3,800 in 2003 to nearly US$ 6,000 in 2009 while the capital value per worker remained almost unchanged, around US$ 2,800-2,900 per annum (Asuyama et al, 2010). Of note, the labour productivity in Bangladesh and Kenya actually declined over the same period.

### 2.2.4. Scope for Spillovers and Linkages

Based on the discussion above, it is clear that FDI in the garment industry has not resulted in significant linkages with the domestic economy. It appears that both horizontal and forward linkages are absent. There are some backward linkages, but mostly with other FDI firms. The relationship between FDI firms and the domestic economy remains weak. Nonetheless, there is scope for Cambodia to improve technology transfers from, and more linkages with, FDI firms. Below are several areas for consideration:

1. Targeting amid diversifying export markets. As the research has shown, Japanese investors and buyers are mostly responsible for the technology transfers. Such behaviour was explained by the fact that the Japanese value

quality as the top priority and thus seek long-term investment and business relationships with local partners. Cambodia would therefore benefit from acquiring technology transfers as well as improving linkages with the domestic economy if it seeks more Japanese investors and buyers in the garment and other sectors. Bilateral trade links with Japan should be enhanced and maintained so that the Cambodian economy becomes more connected to and integrated with the Japanese market and economy.

2. Moving up the value chain to a higher-end product market should facilitate more spillovers and thus greater linkages. This is because higher value added products are relatively more complex in terms of design and product specification, and therefore require high quality control. Cambodian-made apparels have so far been largely supplying the low-end US market, which requires a lower degree of quality assurance, and thus has resulted in little scope for technology transfer. Thus, Cambodia has the potential to move to a higher-end value product in order to facilitate more and faster technology transfer. However, that move has to be supported by a better skilled labour force to operate more sophisticated equipment/machinery.

3. Investing more efficiently and effectively in human capital. While general education will prepare the labour force in the longer-term, the skills development of the current labour force will address the short- and medium-term solutions. This is not only well connected to the desire to move to the higher-end market, but will also address the past skills shortage. On the other hand, the extent of spillovers is closely related to the domestic capacity to absorb advanced technology. In other words, positive spillovers from FDI are becoming more obvious when the domestic economy possesses higher absorptive capacity (Borensztein et al 1998, and Barrios and Strobl 2002, cited in Cuyvers et al 2008). Cambodia’s net enrolment rate for lower secondary schools is only 37.8% for 2012/13 (Naron, 2014). The completion rate is very low and the student’s performance outcomes are poor.

4. Improving cost efficiency and the business environment in order to enhance competitiveness and attract responsible investors for high-end markets. To move up the value chain and stay relevant in a globalized world, Cambodia must tackle the impediments to its economic development in the fastest possible manner. Priority areas may include promoting transparency and the rule of law, delivering efficient and effective government services, and reducing the costs of electricity, transport, finance, and informal fees. When all of these elements are addressed, Cambodia will see a more vibrant participation of local firms in the business value chains; at the same time, it can absorb sound investors for a more interlinked investment and business activities.

5. Promoting domestic production and competitiveness through reducing the cost of capital goods. Current policy instruments allow qualified investment projects (approved by the CDC) to get a 100% exemption on the import duties of their production equipment. Given the fact that machines are capital goods that Cambodia has to import, since there are no domestically-produced substitutes, the government should consider applying such relief across the

board, rather than just for those qualified investment projects. This would mean that all producers, including the local firms, will benefit from lower costs of production.

6. Eliminating VAT on capital goods that are clearly not for consumption. As a means to lower the production cost, the government allows the producers to claim back the VAT (that was paid for their capital goods) in the form of a tax credit. However, businesses have to deal with the bureaucratic procedure in order to reclaim the tax credit. In practice, businesses report that this process can take them around two years. Because machinery, for instance, is not for final consumption, it would be helpful for the business environment if the government considered eliminating the imposition of VAT on capital goods so that businesses/producers could minimize the unnecessary transaction costs and therefore allow them to have more working capital.

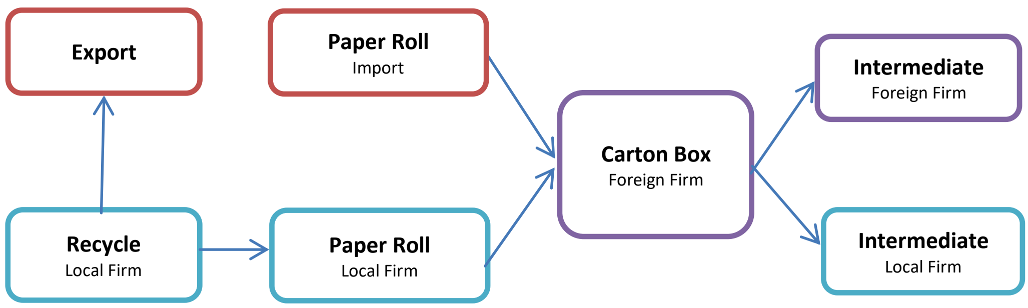
7. Innovative policies for assisting and nurturing local businesses. It was reported that the government lacks policy direction and assistance to groom local businesses, especially small and medium enterprises in the garment industry. Local businesses report many problems ranging from an unlevel playing field with international investors, to access to and cost of finance. There are lessons to be learned from the experience of promoting rice export in Cambodia and from more advanced economies in the region who have successfully managed their industrialization process. Based on our discussion with the business practitioners during the survey, the following are some measures that the government shall support:

    - Establishing seed funds for business ventures. Such funds can be provided on a competitive basis by inviting business proposals from young entrepreneurs. As an alternative or in addition to seed funds, the credit guarantee scheme could also be an option for local entrepreneurs in the sector to innovate their business ideas and plans.
    - While seeking to reduce the overall cost of and barriers of access to finance in the long run, the government should create an earmarked financing scheme for domestic enterprises in the garment sector.
    - Provision of an incentive scheme to reduce overall business costs, for instance, exemption on tax payments and subsidies for electricity costs.
    - The government should introduce specific policies and plans for technology transfer from foreign companies. Measures might include improving Cambodian participation in foreign firms and the provision of training scholarships or internship programmes in the garment factories.
    - Gradual phase-out of tax incentives for foreign investment or imports of inputs such as construction materials or accessories that could potentially be substituted by local production.

## 2.3. Carton Box Industry

The carton box industry has its own interesting characteristics, which are distinct from other industries. Its distinct feature lies on the fact that carton boxes have a physical barrier for imports due to their bulkiness. This makes the transport cost per unit high and thus virtually non-tradable in large volumes. It is too costly for the producers to use imports; and conversely, domestic production cannot competitively be exported. Consequently, domestic market demand for carton boxes has to be supplied by domestic production. As such, sizeable demand from the domestic market has stimulated the presence of carton box manufacturers in Cambodia. **Figure 7** below illustrates the chain of linkages in the carton box industry.

**Figure 7**: Linkage chains of carton box industry




*Source*: Authors, based on Enterprise Mapping Survey (by CEA/CPS, 2012/13)

### Horizontal Linkages

The market of carton box supply is very competitive due to its relatively huge demand from multiple industries. As a result, there are many players in the market. There are 60-70 manufacturers of carton boxes in Cambodia. They face fierce competition from one another, but the competitive pressure is largely among FDI firms. Foreign firms do not think of any Cambodian-owned firms as their competitors although there are a few of them. This suggests that the presence and influence of locally-owned manufacturers is not significant in the eyes of foreign firms.

### Forward Linkages

Due to its low tradability nature, carton box manufacturers are forward linked with downstream manufacturers along the production chain. Carton boxes are primarily intermediate goods for many industries, which include the garment, beverage, and bakery products. Of note, major clients of carton boxes are foreign-invested companies. For instance, Ojitex Harta Packaging (Sihanoukville) Ltd. supplies many clients inside and outside the special economic zone, but none of them are local enterprises.

### Backward Linkages

Manufacturers of carton boxes have a demand for paperboard and paper-rolls in the form of semi-final products as inputs for the production of carton boxes. This has created some backward linkages although the paperboard and paper-rolls are largely imported. It was estimated that there are more than 10 Cambodian-owned factories supplying the paper rolls. There is no presence of foreign firms in that supply chain (Asia Carton Ptc. Ltd in **Box 8** is an example of such kind of domestic manufacturer). These manufacturers of paper-rolls have created further demand for inputs in the form of recycled paper. That input is currently supplied by 20-30 informal enterprises, who buy recycled papers from smaller collectors in Phnom Penh and in other provinces. In Cambodia, there are not yet any manufacturers that produce paper-rolls from locally produced wood.

**Box 8**: Asia Carton Ptc. Ltd (a domestic carton box manufacturer)

Asia Carton Ptc. Ltd. is a Cambodian owned firm producing paper-rolls to supply some foreign manufacturers of carton boxes in Phnom Penh. The company was established in 2001 and has once changed the ownership. The factory is currently running at its full production capacity of 400-500 tons per month. Its products are mostly semi-final goods for foreign-invested companies to further process into final goods (carton boxes). Only around 2-5% are sales to small-scale informal businesses. About 90% of the sales are concentrated in Phnom Penh.

*Source*: Enterprise Mapping Survey (by CEA/CPS, 2012/13)

### Technology Transfer

Competition encourages Cambodian firms to learn and improve their production processes and techniques. In the case of Asia Carton Ptc. Ltd., the improvement of its products benefited from specification and feedback provided by the buyers, but technology transfer mostly comes from a company which works in the same industry in Vietnam, which supplies its used machinery to Asia Carton Ptc. Ltd. A common means for such technology transfer is through sending technicians for training in Vietnam or inviting a Vietnamese technician to train the company's technicians in Cambodia.

### Challenges

Cambodian firms report that they are facing a squeeze of competition. Demand for recycled papers (one of their inputs) from buyers/traders in neighbouring Vietnam and Thailand exhausts the domestic supply and drives the price up. Consequently, Cambodian firms have to rely on more expensive imports of paper-rolls as substitutes for the recycled papers. All these have placed more pressure for Cambodian-owned factories who are already disadvantaged in technological and managerial skills in relation to their foreign counterparts. Against this background, the Cambodian firms report that their survival strategy for the near future would be to seek joint-venture partners, for example, from Japan or Korea, so that they could have access to high technology and secure themselves from the threat of competition.

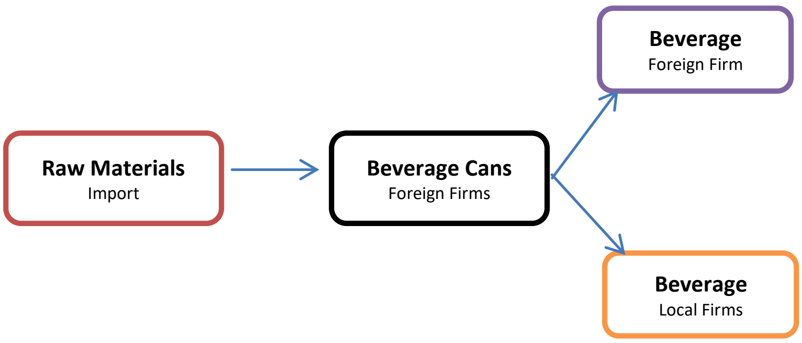
## 2.4. Beverage Can Industry

The story of linkages in the beverage can industry is interesting because the presence of foreign manufacturing firms was motivated by the increasing customer base for its products. When the market demand was not sizable, beverage cans were generally supplied through imports. The industry is linked with other industries by supplying can bodies and can lids as intermediate goods for both foreign and local factories (although more foreign than local) in the beverage manufacturing industry in Cambodia.

### Horizontal Linkages

There are no other competitors in the production of beverage cans because the market size is small and can be fully supplied by just one company. Competition from imports is not possible either because the price of the locally produced cans is competitive. On the other hand, imports are constrained by transport costs due to the bulkiness of the cans. While the company looks like a monopoly, in reality it does not have such market power. The monopolistic power does not prevail because the market is a contestable one, which means the market is subject to capture by potential competitors in the short to medium term. Such a threat from potential competitors has forced the company to be strategic and build long-term relationships with its clients by offering competitive prices. **Figure 8** below indicates the chains of linkages of the beverage can manufacturer.

**Figure 8**: Linkage chains of beverage can industry




*Source*: Authors, based on Enterprise Mapping Survey (by CEA/CPS, 2012/13)

### Forward Linkages

CROWN Beverage Cans Company does not export any of its produce. Its major clients in the domestic markets are brewery companies and soft drink companies such as Coca Cola. The production facility is located in Phnom Penh and this choice of location was largely driven by proximity to its customers whose production facilities are concentrated in the capital and the nearby areas. Due to the physical barriers associated with transporting the cans, the company has recently set up another production facility in Sihanoukville in 2013 in response to higher market demand there.

**Box 9**: CROWN Beverage Cans (Cambodia) Limited

CROWN Beverage Cans (Cambodia) Limited is a subsidiary of CROWN Asia Pacific Holding Private Limited (Singapore), which is listed in the New York Stock Exchange. It previously supplied cans to its customers in Cambodia through imports, but the increasing customer base induced the company to set up its production facility in 2007. Currently, it runs at full capacity, manufacturing about 1,300,000,000 cans per annum and employing 60 white collar workers and 175 blue collar workers – a total of 235 workers.

*Source*: Enterprise Mapping Survey (by CEA/CPS, 2012/13)

### Backward Linkages

The lack of availability of the right inputs domestically means that the company imports all of its raw materials and intermediate goods from countries such as South Korea, Japan, South Africa, and Australia. As such, backward linkages are not at all possible.

### Technology and Spillovers

By its nature, the beverage can has become quite standard. Therefore, it does not require frequent updates or developments. As evidence, the company has not made any changes to its product specification for improvement in the past two years, but the company introduced a more technologically advanced production line in 2011 in order to respond to the market demand. All its machinery and equipment are imported from the US and the UK, but the company will shift its order to the import of a US- and UK-brands from China in the future.

With regard to product development, the company has its own R&D function at headquarters. Its product is internationally recognized by the Global Food Safety Initiative. Therefore, the flow of technology spillovers from customers is not common, but still the company constantly seeks and takes into account feedback from its clients, for instance, with regard to machinery set-up and food safety.

## 2.5. Bakery Industry

ABC Bakery (Asia Bakery and Confectionery Pte. Ltd.) is the main firm in this bakery value chain. ABC Bakery is registered as a joint venture of 51% Cambodian and 49% Vietnamese ownership shares. However, in practice, the company is more like a branch or subsidiary of the mother company in Vietnam (named Asia Bakery and Confectionery Ent.), which is owned by the same shareholders. All production technology and most inputs are reliant on the transfer and supply from the mother company. More importantly, both shareholders are in-laws (the Vietnamese owner was actually Cambodian but migrated to Vietnam during wartime and got citizenship there). The Cambodian owner used to work with ABC Bakery Vietnam for five years (2002-07) before setting up ABC Bakery Cambodia. ABC Bakery is therefore more of a foreign firm than a local one.

The company was established in 2007 and currently has five locations in Phnom Penh. Each branch has their own machinery, but the Phnom Penh headquarters supplies them intermediate goods, which account for about 70% of their production.

**Horizontal Linkages**

There are many local bakery shops in Phnom Penh, but ABC Bakery does not see them as competitors because it does not sell its products to the mass market as the others do. Instead, it finds a franchise of a South Korean bakery, which now has two locations in Phnom Penh, is more relevant as a competitor, but does not pose any threat or pressure on their business.

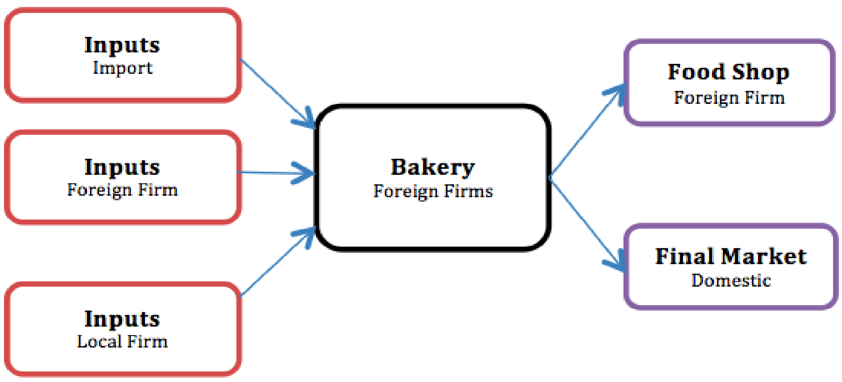
Although the company has operated for several years and expanded over time, it currently works at only 30% of its potential capacity. This means the firm has significant spare capacity to absorb more market demand in the future as well as to respond to ad hoc demand shocks. So far, the company has dealt well with such demand shocks. For example, it managed an order for thousands of sets of bakery goods to supply a special national event.

**Forward Linkages**

An interesting fact in relation to bakery products is they are perishable and non-tradable goods. Firms are bound by domestic demand and enjoy the privilege of no interference or competition from imports. This means that all the bakery products are linked to the domestic market.

In the case of ABC Bakery, its products are contracted to three major firms: KFC, Burger King, and BBQ Chicken (for the supply of burger parts and dinner rolls). Creating this link was not difficult for ABC Bakery here because its mother company already had business relationships with these brands as well as with other international brands in Vietnam.

**Figure 9**: Linkage chains of bakery industry




*Source*: Authors, based on Enterprise Mapping Survey (by CEA/CPS, 2012/13)

**Backward Linkages**

The supply of inputs (raw materials and intermediates) is mostly from Vietnam (about 70%) and Thailand (about 2-3%). The rest 27% are supplied domestically from local markets and a couple of local companies (KC Food for dried pork, and Pattei 310 for processed meat) and a foreign invested company (CP for eggs).

All packages and major inputs are supplied by ABC Vietnam. Given the large proportion of inputs supplied from Vietnam, the overall price of bakery outputs in Phnom Penh is 10-15% higher than that in Vietnam. Also, because most of the inputs are imported, ABC Bakery is not concerned about the opening of the border through ASEAN integration in 2015. This is partly because bakery goods are non-tradable and thus competition from imports is not threatening. In contrast, the free border will lower the import cost of its inputs, making its business even more competitive.

**Technology and Spillovers**

ABC Bakery Cambodia owes its technology transfers to the parent company in Vietnam, which is quite advanced and competitive globally. The founder and owner of ABC Vietnam is very well-known in the industry in Vietnam as well as abroad. He sits on the board committee of the bakery association in Europe that holds a bakery exhibition and contest every four years. Such access to an international network has allowed ABC Bakery to continually learn more about the industry.

In addition, ABC Bakery Cambodia has also learned from players in the industry from other countries through its membership in the Chinese Bakery Association, whose headquarters is in Manila, the Philippines. This association comprises bakery enterprises from 11 countries including China, Korea, Japan, and most of the ASEAN countries. The General Meeting of the association is held every two years while the venue rotates from one country to another in line with the chairmanship of the association. The General Meeting allows members to share information, discuss issues, and learn from each other, including through site visits. The annual meeting also allows suppliers of bakery businesses, including suppliers of machineries, to gather and display their new products.

ABC Bakery continues to gain new knowledge from its clients due to the fact that business partnerships with branded companies requires quality standards that entail some technology transfer, for instance, through access to recipes and advice. Currently, a foreign company has requested the installation of an additional production facility to meet the requirement for Muslim food, but ABC Bakery could not respond to such a request yet because it requires significant additional investment while the market demand for such food is not yet large enough.

On the backward chain, ABC Bakery has placed requirement on its suppliers, especially local firms, for hygiene, humidity, and taste related criteria. Supply from local firms is limited to only dried pork and processed meat.

**Challenges**

ABC Bakery has huge production capacity that could respond to increasing market demand over time, as well as ad hoc demand shocks. Moreover, it is very confident that its production technology could be internationally competitive. Nevertheless, it reports the following as major hindrances for its operations in Cambodia:

- Labour shortage: it has been increasingly difficult to recruit workers as the outflow of migrant workers to foreign countries has been on the rise.
- High cost of electricity: this makes up about 10% of the operational costs.
- The company bears transportation and import costs of most raw materials which have to be imported.

## 2.6. Rice Milling Industry

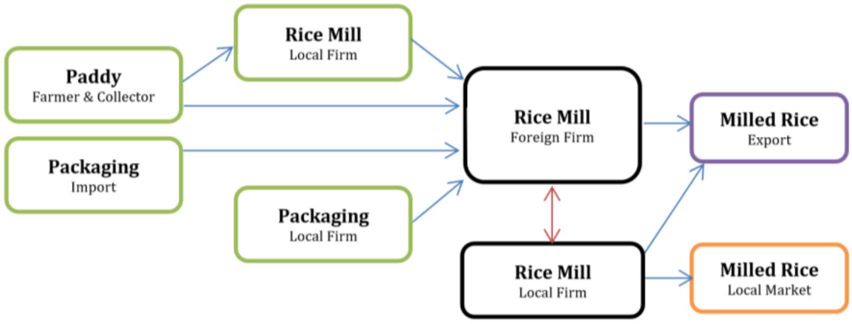
Although the history of Cambodia's rice exports traces back to the year 2000, the amount was minimal and the export was by just one company. The surplus of paddy rice has since become more abundant. The surplus was approximately 3.5 million tons out of 7.6 million tons of total production in 2009 (Ngo and Chan, 2011). Such a considerable surplus attracted the interest of the private sector, both foreign and domestic investors, and the government who began to consider this untapped potential in recent years.

Cambodia later obtained a trade preference status from the EU for rice imports from Cambodia. The government took the further step of promoting the export of milled rice by introducing a policy initiative in 2010 called "Policy Paper on the Promotion of Paddy Production and Rice Export" (RGC, 2010). The export of milled rice has substantially increased in recent years. In 2013, the export figure for milled rice registered about 380,000 tons, almost double that of 2012. This exponential increase is extraordinary if compared to the 2009 export figure of just 15,500 tons.

**Horizontal Linkages**

Rice exports have presented many opportunities and have attracted both foreign and domestic investment. The presence of many players has made market competition more vibrant. The inflow of FDI into the rice milling industry was observed during late 2000s. For instance, a French-funded Golden Rice (Cambodia) Co., Ltd. started its operation and the export of high-quality rice in 2009. More foreign investments have since then been made, contributing to more competition and linkage as illustrated in **Figure 10** below.

**Figure 10**: Linkage chains of rice milling industry




*Source*: Authors, based on Enterprise Mapping Survey (by CEA/CPS, 2012/13)

The participation of FDIs has spurred competition for local firms. Large existing local firms started to upgrade their milling facilities through the import of modern machinery as well as other supporting facilities, such as drier silos, in order for their rice products to meet export quality requirement. Meanwhile, there have also been some new domestic players entering the industry by installing new milling facilities that target the export market.

Existing large firms have shifted their target markets from the local market to a focus on exports, while new large firms tend to place their attention on the export market right from the beginning. For example, Khmer Food Co., Ltd., an existing firm who used to supply 100% of its product for the local market, has seen its sales for export increase from just 20% of its total sales in 2009 to 40% in 2010, 50% in 2011, and 70% in 2013. Nicoline Investment Co., Ltd., a newly established rice mill in 2010, exports 100% of its production. Baitong (Kampuchea) Plc., which was officially established in 2008, but has had long experience in rice processing, exports 80% of its production.

This suggests that local firms have quickly adapted themselves to respond to the changing context, to new demands from the international market and competition from FDI. Such relatively fast transformation of the local firms can be explained by: i) the fact that local firms have had their own learning curve in the sector; ii) accumulated capital and easier access to finance; and iii) favourable policies from the government.

### Forward Linkages

On a downstream value chain, foreign invested rice mills do not create any forward linkages with local manufacturing firms. This is because the foreign-owned firms are primarily established to serve the international market through direct export. Moreover, the foreign firms target their rice products for end consumers, rather than as intermediate goods for other manufacturing firms.

## Backward Linkages to the Supply of Inputs

Unlike the forward chain, the foreign rice mills have created linkages in the backward chain for the supply of paddy rice, milled rice, and packaging.

The foreign firms secure the supply of their inputs through two modes: i) a direct purchase of paddy rice from farmers and/or paddy collectors as middlemen, and ii) purchase of milled rice from local rice mills for reprocessing. The second mode is clearly a link between FDI and a domestic manufacturing firm. Such a linkage is accompanied by a minimal spillover, for example, through tips on humidity control that has an impact on the quality of rice.

Spillovers could be undermined by non-existence of long-term business relationships. Overall, foreign-invested company do not have a contractual relationship with local firms for the purchase of milled rice. That could be a factor hampering technology transfer from FDI. Such business relationships are not healthy. The export companies and traders, including those from neighbouring Thailand, have high demand for milled rice. Such high demand gives incentives for local millers to respond to the best bid/offer, rather than to engage in a more rigid contractual arrangement.

Significant spillovers of technology from FDI have not been possible because the technology is mainly embedded in the machinery. This means a local firm has to replace their machinery if they want to produce the required products for the buyers. Ying & Yang Rice Head Quarterz, a French investment company which works with the local millers is a case in point. The company could not just buy milled rice from the local firms and export them for the high-end market in Europe. It is also not possible for the company to just train local suppliers for the required specification of milled rice because those requirements can only be met if modern technology is used, and generally the local counterparts could not afford such an investment. So, Ying & Yang Rice Head Quarterz installed its own facilities to reprocess milled rice for export.

As for  the site of the production facilities, the export companies with milling capacity tend to choose locations that are close to input suppliers. For instance, Golden Rice (Cambodia) Co., Ltd. is located just outside Phnom Penh, which is close to the rice production base in several provinces such as Takeo, Kandal, Kampong Speu, Kampong Chhnang, and Pursat. Baitong (Kampuchea) Plc. is in Battambang province, which is also close to base in Battambang and Banteay Meanchey provinces. However, Ying & Yang Rice Head Quarterz, which mainly reprocesses milled rice for export, is based in Sihanoukville, which is adjacent to the seaport.

## Backward Linkages to the Supply of Intermediate Goods

The rice sector has huge demand for sacks for packaging, but the demand has not created many links with the local producers. It is estimated that the rice sector alone needs tens of millions of sacks per annum, with significant demand also coming from other sectors such as cement production. This market size is very large, but it has so far been supplied by imports, particularly from Vietnam for low-quality sacks and Thailand for higher quality ones.

Golden Rice (Cambodia) Co., Ltd. imports nearly all of its packaging sacks, but recently it has placed some orders for the supply of packaging sacks from a local factory, Karong Khmer Factory (see **Box 10**), whose production facility is located on the outskirts of Phnom Penh. The relationship between Golden Rice and Karong Khmer Factory was only established when the government implemented a more effective cross-border tax measures that made the import process a bit slower. Now, the business relationship continues but the order volume is relatively small.

**Box 10**: Karong Khmer Factory (a domestic manufacturer of packaging bags)

Karong Khmer Factory is a Cambodian-owned company that recently entered the market mid-2013, although the construction of the factory began in 2012. The factory has a production capacity of nearly 1 million sacks per month, but actual production was very low in 2013. It has improved during early 2014. With the current level of production, the factory employs 30 workers, 20 of them are full time. About 80% of the inputs are imported from Thailand and Vietnam. The domestic supply of inputs account for only 20%. This 20% comes particularly from recycled materials supplied by informal businesses.

*Source*: Enterprise Mapping Survey (by CEA/CPS, 2012/13)

As a new entrant in the sack-cloth industry, Karong Khmer Factory is continuously exploring and learning to improve its production technology. Although the company must respond to the requirement/specification from the Golden Rice Company as well as other clients, the business owners find the company has not learned much through this relationship. Major sources that are responsible for the technological learning of the company are: i) suppliers of machinery; ii) suppliers of inputs (polymer) from PTT (Thailand), especially with regard to production techniques; and iii) self-study through personal observation and research in the industry and through Google search.

There are currently three domestic factories producing packaging sacks in Cambodia: two in Phnom Penh and one in Skun, Kampong Cham province. There is also a Korean factory in Kong Pisey district, Kampong Speu (National Road #3), but it is not really a competitor of the above three Cambodian-owned factories. That is because the factory produces only 1-ton capacity sacks.

Given a sizeable market demand for packaging sacks in the country, the source of competition is not really among these few Cambodian owned factories, but from imports, especially low-quality sacks from Vietnam. For example, a typical sack costing $0.13 in Cambodia costs only $0.11 if imported from Vietnam. The competitiveness of low-quality sacks from Vietnam is explained by three major reasons: i) Vietnam has a large base of recycle materials as inputs for such low-quality products; ii) the much lower cost of electricity in Vietnam, especially during the night shift; and iii) a freer border for traded goods. Of policy relevance, domestic firms report that they would request the government to consider offering subsidies for night-time electricity costs for businesses.

## 2.7. Rubber Processing Industry

Rubber is the main industrial crop in Cambodia and is primarily processed for exports. As of 2011, rubber plantations covered a total area of approximately 213,000 hectares. Around 51,000 hectares are state-owned plantations while smallholder farmers work on about 96,000 hectares (MAFF, 2012). The remaining 66,000 hectares are plantations that have been developed by private companies who received economic land concessions from the government on a total area of 377,000 hectares. This means that less than 20% of the land concession for rubber plantations has been developed, suggesting that there is significant scope for expansion of rubber plantations in Cambodia in the future.

Although rubber is quite a significant crop, in the past the whole industry was almost entirely dominated by state-owned enterprises which managed both the plantations and processing, as well as the export market. The participation of domestic private enterprises and foreign investors was almost non-existent. Foreign investment has only recently the gained a presence in the industry through the government's generous policy[5] to offer large-scale land concessions to investors for agro-industrial development. In more recent years, the government privatized its state-owned enterprises, which allowed for the participation of domestic private investors. As such, the linkage within the rubber processing industry could be simply illustrated in **Figure 11** below.

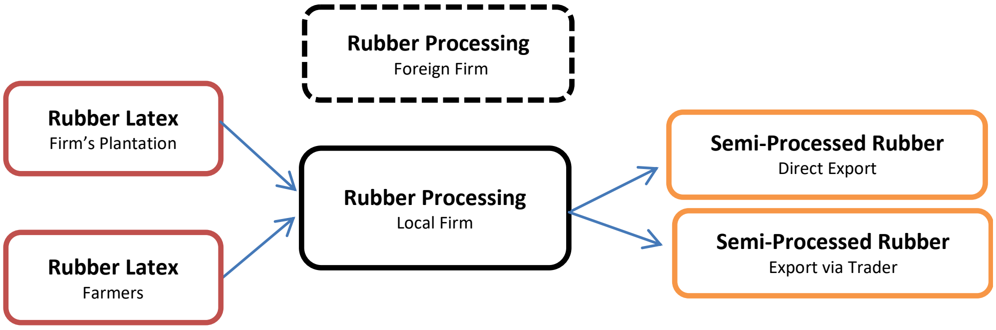
**Horizontal Linkages**

Despite the presence of some foreign investment in the rubber industry, none operate rubber processing factories yet because their plantations are still immature for latex yield. Therefore, they are not yet operational competitors for the domestic firms. So, there is no scope for linkages with the local economy. The whole rubber processing industry is currently in the hands of domestic firms. Among 22 factories with over 10 employees, 17 are located in Kampong Cham province, where rubber plantation is concentrated. Many of these factories are small-sized processing factories who just began operating after 2011, driven by the prospect of an increasing latex harvest in the coming years.

So far, domestic firms have faced no competition from foreign firms. Moreover, competition among domestic firms is quite loose. This is because the number of players in the industry is quite limited. Big companies are just among those nine state-run enterprises that were privatized. Processing factories are almost wholly reliant on the input of latex from their own plantations. For example, 95% of Sopheak Nika Company's demand of latex is supplied by its own plantation.

[5] Sub-decree on economic land concession in 2005

**Figure 11**: Linkage chains of rubber processing industry




*Source*: Authors, based on Enterprise Mapping Survey (by CEA/CPS, 2012/13)

Given the absence of FDI in the industry, none of the local firms are reported to have faced competitive pressure that would encourage the enhancement of their production techniques/processes. At the same time, they have not had a chance to learn from any foreign counterparts. Big companies generally possess both technical and managerial know-how from their experience with the state-owned enterprises. Privatization has allowed senior managers in the large state-owned enterprises to become major shareholders in new private companies. For example, Sopheak Nika Company was privatized in 2009, but the factory has been in operation since 1979 as a state-owned enterprise. Medium-sized firms such as Long Sreng Company secured a long-term lease from a state-owned factory in 2007, but the owners have managed the rubber processing since 1996.

Newly established firms are usually small in size and take the form of a greenfield investment. They tend to face more difficulties with production techniques. For instance, Khun Meng Company began operations in 2011 with little experience in rubber processing.

## Forward Linkages

As well as a lack of backward linkages, domestic firms in rubber processing do not have any forward linkages with manufacturing firms in Cambodia. All of the outputs take the form of primary processed goods for manufacturing industries outside Cambodia. All these primary processed goods are exported either directly or through local traders. Major destinations for exports include China, Vietnam, Malaysia, and Singapore. Large factories tend to engage in direct export while small factories export through traders who have a wide marketing network.

Forward linkages to manufacturing firms inside Cambodia could not be examined and may be due to the fact that rubber production exports are not yet sizable enough to count. For example, Cambodia harvested just more than 50,000 tons of dried rubber in 2011. This production came from 45,000 hectares, which was just around 20% of the total planted area. The other 80% of the planted area is made up of immature plantations only recently developed, especially those in the economic land concession areas. If all plantations were fully developed and tapped, there are still no signs that forward linkages would be created in the domestic market, because newly invested foreign companies indicate that their factories will primarily process latex for exports.

**Backward Linkages**

The existing domestic firms have had no backward linkages with other manufacturing firms. The sector could evolve in the future so that small local firms can supply their latex or primary processed rubber to foreign firms when the market size expands. Currently, large firms tend to secure the supply of latex from their own plantations while micro and small companies have to purchase a significant share of inputs from smallholder farmers. For instance, Sopheak Nika Company, who is responsible for 45% share of the total rubber export from Cambodia, gets 95% of their latex input from its own plantation. A small factory such as Khun Meng Company has to purchase 50% of its latex from households within the same district. According to the Ministry of Agriculture, Forestry and Fisheries (MAFF), plantations of smallholder farmers currently represents about 45% of the nationwide rubber plantation area of 213,000 hectares (MAFF, 2012).

Because raw latex can dry out quickly , firms must locate their processing facilities right in the plantation or as close as possible to the smallholder farmers. A large company with more than one plantation in different locations may need to have more than one processing facility while the headquarters can manage the marketing and other service functions for all factories.

# III. Conclusion

Cambodia serves as an interesting case of a post-conflict country very open to foreign investments, and thus benefiting from this direct investment. Starting from a very low base of industrial development, Cambodia offered generous tax incentives to attract foreign investment with the purpose of creating employment for the abundant unskilled labour. Coupled with favourable market access provided by the US, the EU, and other developed countries, the foreign investment has largely concentrated in the garment industry, which is limited to mostly CMT. As a result, the garment industry has flourished and currently employs approximately 600,000 workers. As the single largest industry in the country, the garment industry registered exports worth US$5 billion in 2013, a jump from just US$40 million in 1995 and US$1 billion in 2000.

Despite its important role over the past 20 years, the garment industry has had little impact on the host economy in terms of linkages with local enterprises. The horizontal linkages are virtually absent. There is some participation of local firms in apparel production, but they are not seen as competitors by the foreign counterparts. The linkage to local firms in the upstream sector (forward linkage) is almost non-existent as all of the garment outputs are produced for the export markets. There are some backward linkages to the downstream sector, but these are very limited in scope for local firms. Almost all the raw materials are imported. Linkages can be observed in the supply of some intermediate inputs such as rubber bands, garment labels, carton boxes, poly bags, and hangers. Linkages also exist in the form of sub-contracting services such as CMT, embroidery, laundry, washing, dying, and printing. However, these suppliers are generally foreign-owned enterprises. The participation of domestic firms is very minimal.

The current policy regime favours MNC/FDI firms in terms of tax exemption and incentives. Local enterprises in the garment industry, which are smaller in size and less advanced in terms of experience and technology, face remarkable challenges. There has been no specific policy support to facilitate technology transfer for the local firms and workforce. Some technology spillover has been observed, but it is very limited and mainly confined to a few individuals. These few talented Cambodians have managed to learn from the FDI business operation and set up their own business ventures without support. Being on their own, these local entrepreneurs have faced countless hurdles in their business operations, including competing with their foreign counterparts on a very unlevel playing field.

Had measures to support the domestic industry been in place, spillover from FDI to local enterprises in the garment industry could have been faster and more significant. Access to capital is a major obstacle for local investors and there is a scope for development of policy measures in this area. More significantly, perhaps, the source of investors matters. Korean and Japanese investors tend to encourage skills and technology transfer and therefore would be a better target for policies supporting those seeking to invest in Cambodia. If the industry moves up the value chain, it will stand a better chance of creating linkages with the local economy, but it must be well supported by the availability of skilled workers. Other measures include a targeted skill development strategy, reducing the cost of doing business (in particular the cost of electricity and informal fees), and removing the tax on imports of capital goods.

While the garment and textile industry is by far the single largest in the country, Cambodia has started to see some emerging manufacturing subsectors such as carton box and beverage can production, bakery product production, rice milling, and rubber processing. These industries are still small and have very short value chains. As such, they do not offer significant opportunity for linkages.

The supply of carton boxes is very competitive, but the competition is only among 60-70 FDI firms. A few Cambodian-owned firms have no influence in the market. The industry primarily supplies carton boxes as intermediate goods for the downstream industries such as garment, beverage, and bakery products. Manufacturers are forward linked with other manufacturers along the production chain. As for backward linkages, the industry requires the supply of paperboard and paper-rolls as intermediate inputs. Some of the paper-rolls are supplied by Cambodian owned factories. The majority of the inputs are imported.

The can industry is very limited by the size of the domestic market, which is fully supplied by just one company. There is no competition from domestic firms or even other FDI companies. Competition from imports is not possible either because the price of the locally produced cans is more competitive than the imports that are constrained by transport costs because of the bulkiness of cans. For the same reason, the beverage cans cannot be exported either. Forward linkages are mainly with major brewery and soft drink companies (local and foreign) in the domestic markets. The required inputs are not available in the domestic market; the industry therefore imports all its raw materials and intermediate goods.

By its non-tradable nature, bakery firms are bound by domestic demand and enjoy the privilege of no interference or competition from imports. This allows the bakery industry to be confined to just the domestic market and therefore create more linkages. However, the linkage remains strongly connected with foreign firms in the downstream sector, while the supply linkage is largely dependent on direct imports.

Rice export opportunities have attracted foreign investment. The presence of foreign firms has made market competition more vibrant. The participation of FDI has spurred competition for local firms. Large existing local firms started to upgrade their milling facilities through the import of modern machinery as well as other supporting facilities, such as drier silos, in order for their rice products to meet the export quality requirements. As one way to meet its export requirements, foreign firms procure the milled rice from domestic rice mills for reprocessing and export. Such linkage encourages only a minimal spillover, for instance, through advice on how to control humidity can have an impact on the rice quality.

The presence of foreign investment has been mainly found in the rubber plantations, where the rubber trees are still mostly immature. While foreign investors have not yet operated any processing facilities, they are seen as direct competitors for the domestic firms. None of the local firms are reported to have faced competitive pressure that would encourage the enhancement of their production techniques/processes yet. It is expected that foreign firms will install their processing facilities when their rubber plantations become mature. Nonetheless, it is not likely that this processing industry will create any forward linkages domestically. As indicated, foreign firms expect to export all of these primary processed goods.

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## Centre for Policy Studies

### WHO WE ARE

The Centre for Policy Studies (CPS) is an independent, non-partisan, not-for-profit and autonomous think tank to serve the public interest of Cambodia.

### OUR VISION

With adherence to the principles of market economy and liberal democracy, Cambodia will continue to maintain peace and stability, undertake gradual transformation, promote equitable and inclusive development, and uphold the rule of law so that she will have a well-educated citizenry and achieve an advanced country status by 2050.

### OUR MISSION

CPS conducts policy- and action-oriented research to inform policymaking and enable successful policy implementation for inclusive and sustainable development in Cambodia.

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