

# SME Participation in ASEAN and East Asian Integration The Case of Cambodia

**Shandre M. Thangavelu, Sothea Oum and Samsen Neak**

*This study employs survey data of 201 firms to explore the impact of trade policy on small and medium size enterprises (SMEs) in Cambodia. The results show that more than half of the surveyed firms were aware of the ASEAN Economic Community (AEC) and larger firms tend to use FTAs more frequently than SMEs. The key reasons identified in the study for not using the FTAs were mainly due to a lack of knowledge and also due to the complexity on the submissions of the required FTA forms. The strong import linkages with ASEAN and East Asia (as compared to export linkages) suggest that Cambodian firms take advantage of sourcing for cheaper intermediate inputs from ASEAN and East Asian economies and then export the final products to the U.S. and EU markets through generalized system of preferences (GSP) and Everything But Arms (EBA) arrangements. The results of the survey indicate that the perception that the AEC has or would decrease their domestic and export sales as well as their profitability, and face more competition in local and foreign markets. On the other hand, they think the AEC has or would decrease import costs and enhance accessibility to intermediate inputs. The impacts are believed to occur through the reduction of import and export tariffs/duties, increase in custom procedures, standards and regulations, recognition of professional qualifications, improved investment processes, and better connectivity. The empirical results indicate that compared to non-users, the active FTA users appear to be larger firms, have higher labour productivity, and have experience with multiple export markets. They are also members of business associations and have higher skill intensity and technological capability. Firm size, higher labour productivity, access to business networks, active use of information and communications technology (ICT), having more experiences with multiple export markets, skilled human capital and technological capability are important factors for firms to use multiple FTAs and participate in regional integration.*

**Keywords:** Cambodia, SMEs, regional economic integration, ASEAN Economic Community.

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## 1. Introduction

Since the 1990s, the Cambodian economy has experienced rapid growth through its open and market-oriented policies to support trade and investment. The economy grew at the rate of 7 per cent per annum from 1994 to 2013, one of the fastest growing economies in ASEAN and Asia. This is partly because of its low initial base due to being ravaged by tremendous political conflicts prior to 1993.

Although the Cambodian economy is predominantly an agrarian one, it is structurally shifting towards manufacturing and services. As seen in Table 1, the output share of the agrarian sector has fallen over the years to around 30 per cent of GDP in 2014 from 50 per cent in 1990s. By contrast, manufacturing has grown rapidly in recent years by about 15 per cent per annum and it accounted for 27 per cent of GDP in 2014 compared to 15 per cent in 1990. To some extent however, it is dominated by just one industry —

the garments and clothing industry, accounting for more than half of the manufacturing output and most of Cambodian exports. (ADB 2015)

Compared to neighbouring Thailand, there is an absence of large agricultural processing and home goods manufacturing that is typically observed in low-income economies. This is due to the proximity to large industrialized neighbours which can produce these goods more efficiently. Furthermore, the Cambodian economy is also dominated by a large services sector, namely tourism, restaurants and transport services.

The impact of economic liberalization of the 1990s as well as the granted Most Favoured Nation (MFN) and Generalized Scheme of Preferences (GSP) status is reflected in the high export and import shares of GDP for the Cambodian economy. The trade share of GDP jumped from 78 per cent in 1990 to 129 per cent in 2014, whereas foreign direct investment (FDI) increased from 4 to 10 per cent of GDP during the same period. Exports are narrowly concentrated in merchandise trade

TABLE 1  
Key Indicators of Cambodia's Economic Structure

|  | 1990 | 1995 | 2000 | 2005 | 2010 | 2014 |
|--|------|------|------|------|------|------|
| Real GDP growth rate (%)                       | 1.2  | 6.5  | 8.4  | 13.3 | 6.0  | 7.1  |
| Percentage share of GDP (%)                    |      |      |      |      |      |      |
| Agriculture                                    | 52.3 | 44.6 | 35.9 | 29.4 | 27.3 | 22.6 |
| Industry                                       | 15.0 | 15.1 | 21.8 | 26.8 | 26.5 | 30.7 |
| Mining   | 1.1  | 0.3  | 0.2  | 0.4  | 0.6  | 1.1  |
| Manufacturing                                  | 7.1  | 8.9  | 16.0 | 19.6 | 20.3 | 22.5 |
| Electricity, gas, and water                    | 0.2  | 0.4  | 0.4  | 0.5  | 0.6  | 0.6  |
| Construction                                   | 6.6  | 5.6  | 5.2  | 6.4  | 4.9  | 6.5  |
| Services                                       | 31.4 | 36.0 | 37.1 | 38.5 | 39.0 | 39.5 |
| Trade  | 11.0 | 15.8 | 14.4 | 13.0 | 13.9 | 14.2 |
| Transport & communications                     | 2.6  | 6.4  | 6.6  | 6.8  | 6.5  | 6.4  |
| Finance  | 6.5  | 6.7  | 7.3  | 8.7  | 7.7  | 8.6  |
| Public administration                          | 4.5  | 2.7  | 2.7  | 1.5  | 1.3  | 1.1  |
| Other industries                               | 6.7  | 4.3  | 6.1  | 8.5  | 9.7  | 9.2  |
| Less imputed bank service charges              |      | 0.8  | 1.1  | 1.0  | 1.4  | 1.6  |
| Taxes less subsidies on production and imports | 1.5  | 5.2  | 6.2  | 6.2  | 8.6  | 8.8  |
| Total  | 100  | 100  | 100  | 100  | 100  | 100  |

SOURCE: ADB Statistical Database System.

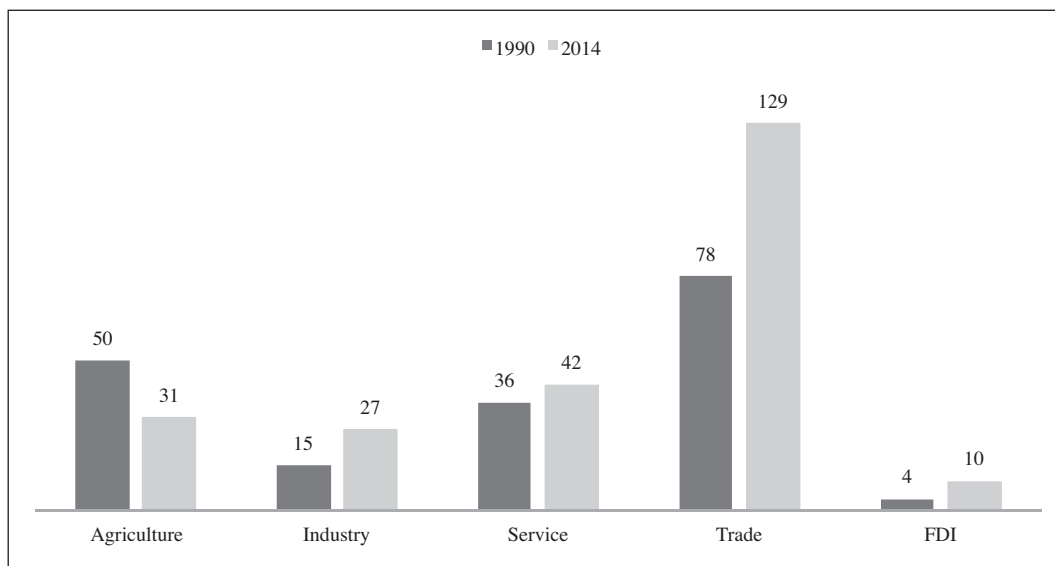
with 80 per cent of merchandise exports being garments. The other export commodities include timber, rubber, rice, fish and footwear (ADB 2015).

This makes Cambodia susceptible to both internal and global shocks. For example, the failure of rice crops due to adverse weather conditions can cause severe food shortage. In fact, the global slowdown has greatly decreased the demand for tourism and exports of garments, as these activities were highly dependent on the developed economies. The global financial crisis revealed the need for the Cambodian economy to structurally adjust to more competitive industries away from the traditional sectors such as garment manufacturing, tourism, and construction sectors. The need to diversify domestic industries, participate in global production value-chains, and increase the competitiveness of domestic industries in the export market is now becoming an important development strategy.

The new strategy for industrial development is to avoid the “lower/middle-income trap” by

developing human capital, technology, and infrastructure. Recognizing the role of private sector development, the government has given priority to strengthening governance and the capacity of public institutions in order to improve the efficiency of service delivery and investment climate in its latest “Rectangular Strategy Phase III”. The strategy aims to attract investment through reducing the cost of doing business, lowering barriers to entry, reviewing and reforming incentives, strengthening business confidence, improving the predictability of government decision-making and inter-agency coordination, as well as refining trade facilitation and cross border transport processes. The strategy also emphasizes the development of industry and small and medium enterprises (SMEs) through the promotion of innovation and technology, increasing access to finance, strengthening and expanding related support services, enhancing SMEs’ capacity to link with large enterprises and form a cluster, promoting entrepreneurship, productivity and specialization, as well as integration of SMEs into regional and global production networks.

FIGURE 1  
Characteristics of Cambodia’s Economy (% of GDP)



SOURCE: ADB Statistical Database System.

Increasingly, ASEAN and Asia are important for Cambodia to sustain economic growth, especially as a source of opportunities to attract investment and expand its export markets through industrial and trade linkages. However, little is known about the extent to which SMEs from Cambodia can actively participate and benefit from regional trade and investment liberalization. The purpose of this paper is to provide a basic understanding of the extent and nature of the participation of Cambodia's SMEs in economic integration in ASEAN and East Asia, as well as to identify enabling factors, obstacles, and policy recommendations to promote active participation by Cambodian SMEs in regional trade, production networks and investment activities.

The rest of the paper is organized as follows. Section 2 provides an overview of SMEs and development policy in Cambodia. Section 3 discusses the survey results and analyses the findings. Section 4 concludes the paper with some policy recommendations to promote active participation of SMEs in regional trade and production networks.

## 2. Characteristics of SMEs and Development Policy

The industrial sector in Cambodia is dominated by micro firms. As shown in Table 2, 97 per cent of the 505,134 firms in Cambodia are micro

firms, defined as firms which employ less than 10 workers. The share of medium-sized (defined as having 51–100 workers) and large firms (defined as having more than 100 workers) is pretty small, accounting for only 0.16 per cent and 0.15 per cent of total firms, respectively. However, in terms of job creation, large firms provided 27 per cent of jobs in the industrial sector while micro firms provided more than 58 per cent of total employment.

In terms of the distribution across industries, the majority of firms are concentrated in Trade, followed by Hotel & Restaurants, Food, Beverages & Tobacco, and Other Services. The Cambodian manufacturing industry remains weak as reflected by its simple structure, narrow base and low level of sophistication, lack of supporting industries, underdeveloped linkages between SMEs and large-scale enterprises as well as low productivity, while mostly concentrated in garment and food processing industries. Most production activities are family-based with a lack of entrepreneurship and inadequate use of technology, thus limiting their ability to compete in international markets.

To improve industrial development and use manufacturing as the main driver of the economy to achieve its long-term vision of reaching middle income status by 2030, the government formulated the Industrial Development Policy (IDP) 2015–2025. One of the policy's objectives

TABLE 2  
Characteristics of Industrial Sector in Cambodia

|                                 | <i>Micro</i><br>(1–10<br>workers) | <i>Small</i><br>(11–50<br>workers) | <i>Medium</i><br>(51–100<br>workers) | <i>Large</i><br>( >100<br>workers) |
|---------------------------------|-----------------------------------|------------------------------------|--------------------------------------|------------------------------------|
| Total number of enterprises     | 493,544                           | 10,009                             | 800                                  | 781                                |
| <i>Total share</i>              | 97.71%                            | 1.98%                              | 0.16%                                | 0.15%                              |
| Total labour force              | 975,980                           | 191,792                            | 53,879                               | 451,739                            |
| <i>Total share</i>              | 58.32%                            | 11.46%                             | 3.22%                                | 27.00%                             |
| Total production (US\$ million) | 5,800                             | 1,290                              | 735                                  | 4,570                              |
| <i>Total share</i>              | 46.79%                            | 10.41%                             | 5.93%                                | 36.87%                             |

SOURCE: Cambodia 2011 Economic Census.

TABLE 3  
Distribution of Firms by Size and Industry in Cambodia

|                                      | <i>Micro</i><br>(%) | <i>Small</i><br>(%) | <i>Medium</i><br>(%) | <i>Large</i><br>(%) | <i>Total</i> | <i>% of Total</i> |
|--------------------------------------|---------------------|---------------------|----------------------|---------------------|--------------|-------------------|
| Mining                               | 71.5                | 24.6                | 3.4                  | 0.6                 | 179          | 0.04              |
| Food, Beverages & Tobacco            | 98.9                | 1.0                 | 0.1                  | 0.1                 | 32,108       | 6.36              |
| Textiles, Wearing Apparel & Footwear | 97.2                | 1.2                 | 0.3                  | 1.4                 | 25,155       | 4.98              |
| Wood, Paper & Publishing             | 94.5                | 3.8                 | 0.7                  | 1.0                 | 2,274        | 0.45              |
| Rubber Manufacturing                 | 66.3                | 24.8                | 4.5                  | 4.5                 | 202          | 0.04              |
| Non-Metallic Manufacturing           | 85.8                | 13.1                | 0.9                  | 0.2                 | 2,826        | 0.56              |
| Basic Metal and Metal Products       | 97.9                | 1.9                 | 0.2                  | 0.0                 | 4,766        | 0.94              |
| Other manufacturing                  | 98.1                | 1.4                 | 0.3                  | 0.2                 | 4,085        | 0.81              |
| Electricity, Gas & Water             | 96.5                | 3.1                 | 0.2                  | 0.2                 | 5,068        | 1.00              |
| Construction                         | 77.1                | 19.1                | 2.1                  | 1.6                 | 188          | 0.04              |
| Trade                                | 99.6                | 0.4                 | 0.0                  | 0.0                 | 292,350      | 57.88             |
| Transport & Communications           | 94.7                | 4.2                 | 0.6                  | 0.5                 | 6,268        | 1.24              |
| Hotel & Restaurants                  | 97.0                | 2.8                 | 0.1                  | 0.1                 | 69,662       | 13.79             |
| Finance                              | 83.6                | 13.9                | 1.8                  | 0.8                 | 3,584        | 0.71              |
| Real Estate & Business               | 94.6                | 4.7                 | 0.3                  | 0.3                 | 7,100        | 1.41              |
| Public Administration                | 73.1                | 24.0                | 2.0                  | 0.9                 | 14,759       | 2.92              |
| Other services                       | 97.5                | 2.1                 | 0.2                  | 0.2                 | 34,560       | 6.84              |
| Total                                | 493,544             | 10,009              | 800                  | 781                 | 505,134      |                   |
| % of total                           | 97.71               | 1.98                | 0.16                 | 0.15                | 100          |                   |

SOURCE: Cambodia 2011 Economic Census.

is to promote manufacturing and agro-processing through attracting FDI and enhancing the capacity of SMEs for both export orientation and import substitution industries. The policy also aims to integrate Cambodia's manufacturing sector into regional and global production networks to benefit from economies of scale and industrial fragmentation.

One of the four pillars of the IDP focuses on developing and modernizing SMEs by way of expanding and strengthening the manufacturing base, modernizing and officially registering enterprises, promoting technology development and transfer, as well as strengthening industrial linkages between domestic and foreign enterprises specifically in the agro-industrial sector.

Apart from its long-term objectives, the Cambodian government has also developed immediate measures and actions to address key

constraints by 2018. This includes measures to: lower electricity prices by 5 per cent (from US\$0.172/kWh to US\$0.164/kWh); reduce transportation and logistics costs by developing and implementing a master plan for transport and logistics covering Poipet/Thailand-Phnom Penh-Sihanoukville-Bavet/Vietnam; increase the supply of skilled labour that meets market needs; and build a port city in Sihanoukville as a multi-purpose economic zone.

In addition to this broader policy framework, the government has also developed policies specifically to support SMEs in Cambodia. Cambodia's SME Promotion 2015 was developed by the Ministry of Industry and Handicrafts. It is the second SME promotion policy following the SME Development Framework 2005. The policy aims to address five key challenges of SMEs: (i) facilitation of SME's efficient and effective

business operation; (ii) creation of linkages to global market; (iii) providing technical assistance for promoting technology adoption, innovation & R&D, and work skills qualification development; (iv) technical assistance to access finance; and (v) assistance for human resource development.

The policy has set measures and actions with clear timeframes for implementation. There are thirteen action plans the government is expected to implement in the coming years. This includes: constraints regarding definitions; technology and skills upgrading; tax incentives; access to finance; clustering and linkages with FDI large Industries; female entrepreneurship; and others.

### 3. SME Participation in Regional Integration: Results of the Survey

#### 3.1 Sample Distribution

The study employs a questionnaire to understand the impact of trade policy on SMEs. The survey covers 201 firms and results are provided in Table 4. The sample consists of both micro (68), small (29), medium (12), and large enterprises (92). It also covers key industries in Cambodia: food, beverages and tobacco; textiles; as well as wearing apparel and footwear. The results show that there is a lack of medium-sized firms in Cambodia, which are quite crucial to create the backward and forward linkages in the economy with multinational companies. The medium-sized firms are also important for the economy

to effectively participate in the export market and regional and global production value-chains.

#### 3.2 Characteristics of the Surveyed SMEs

The sample characteristics of firms by size are given in Table 5. It is quite clear that SMEs are older and more likely to be domestically owned or family-based as compared to large firms. The average age of SMEs was more than eight years, and more than 80 per cent of the SMEs in the survey were domestically owned or run by family members.

Interestingly, SMEs reported a higher growth rate in sales and profit in 2014 than foreign firms. Foreign firms used more raw materials but paid less utilities and interest than SMEs. On average, SMEs employed more workers with a lower level of education than did large firms. While most SMEs sell a large proportion of their products domestically, larger SMEs tend to engage foreign markets.

#### 3.3 Awareness of the AEC

The survey also collected information on whether SMEs were aware of ASEAN and its activities (see Figure 2). On average, about 66 per cent of the surveyed firms were aware of the AEC and its activities. As expected, large firms were more aware of ASEAN and its activities. About 59 per cent of SMEs indicated that they were quite aware of ASEAN and its activities as compared with

TABLE 4  
Sample Distribution by Size and Industry

|                                      | <i>Micro</i> | <i>Small</i> | <i>Medium</i> | <i>Large</i> | <i>Total</i> | <i>(%)</i> |
|--------------------------------------|--------------|--------------|---------------|--------------|--------------|------------|
| Other manufacturing                  | 51           | 12           | 5             | 9            | 77           | 38         |
| Food, Beverages & Tobacco            | 10           | 17           | 4             | 4            | 35           | 17         |
| Textiles, Wearing Apparel & Footwear | 7            | 0            | 3             | 79           | 89           | 44         |
| All                                  | 68           | 29           | 12            | 92           | 201          |            |
|                                      | 33.8%        | 14.4%        | 6.0%          | 45.8%        |              |            |

SOURCE: ERIA-ISEAS Enterprise Survey 2015.

TABLE 5  
Characteristics of the Surveyed Enterprises

| Characteristics                   | All |        |          | SMEs |       |       | Large Firms |          |          |
|-----------------------------------|-----|--------|----------|------|-------|-------|-------------|----------|----------|
|                                   | N   | Mean   | S.D      | N    | Mean  | S.D   | N           | Mean     | S.D      |
| Age (year)                        | 196 | 8.34   | 5.79     | 107  | 9.16  | 6.51  | 89          | 7.35     | 4.64     |
| Employment (persons)              | 201 | 623.43 | 1,169.24 | 109  | 17.08 | 19.02 | 92          | 1,341.83 | 1,429.02 |
| <i>Ownership (%)</i>              |     |        |          |      |       |       |             |          |          |
| Foreign                           | 100 | 99.10  | 5.34     | 12   | 96.67 | 11.55 | 88          | 99.43    | 3.82     |
| Family-owned                      | 93  | 1.00   | 0.00     | 90   | 1.00  | 0.00  | 3           | 1.00     | 0.00     |
| Sale growth (%)                   | 178 | 19.26  | 56.45    | 101  | 20.41 | 51.15 | 77          | 17.76    | 63.04    |
| <i>Profit (% of sale)</i>         |     |        |          |      |       |       |             |          |          |
| 2013                              | 178 | 12.03  | 48.74    | 101  | 11.01 | 63.75 | 77          | 13.38    | 13.47    |
| 2014                              | 178 | 15.17  | 50.80    | 101  | 16.80 | 64.74 | 77          | 13.02    | 22.08    |
| <i>Cost Structure (%)</i>         |     |        |          |      |       |       |             |          |          |
| Raw materials                     | 195 | 49.37  | 24.87    | 108  | 41.62 | 25.80 | 87          | 59.00    | 19.94    |
| Intermediate                      | 193 | 12.37  | 19.57    | 106  | 19.53 | 22.04 | 87          | 3.65     | 11.03    |
| Utilities                         | 195 | 5.61   | 7.39     | 108  | 7.35  | 8.65  | 87          | 3.46     | 4.65     |
| Interest                          | 195 | 0.43   | 1.65     | 108  | 0.64  | 2.04  | 87          | 0.18     | 0.93     |
| Wage/Salary                       | 195 | 31.48  | 18.14    | 108  | 29.88 | 18.58 | 87          | 33.47    | 17.49    |
| <i>Employees by Education (%)</i> |     |        |          |      |       |       |             |          |          |
| a. No formal education            | 201 | 5.76   | 14.94    | 109  | 6.96  | 18.92 | 92          | 4.33     | 7.88     |
| b. Primary                        | 201 | 52.26  | 30.15    | 109  | 52.53 | 33.81 | 92          | 51.93    | 25.32    |
| c. Secondary school               | 201 | 32.73  | 27.32    | 109  | 32.43 | 31.37 | 92          | 33.09    | 21.73    |
| d. Vocational/Diploma             | 201 | 2.11   | 6.52     | 109  | 0.64  | 3.24  | 92          | 3.85     | 8.68     |
| e. University degree              | 201 | 6.88   | 14.60    | 109  | 6.84  | 19.20 | 92          | 6.93     | 5.55     |
| <i>Sale Destination (%)</i>       |     |        |          |      |       |       |             |          |          |
| Domestic                          | 101 | 95.09  | 16.70    | 15   | 86.00 | 26.94 | 86          | 96.68    | 13.84    |
| Export                            | 100 | 91.99  | 21.94    | 16   | 72.19 | 36.10 | 84          | 95.76    | 15.76    |

SOURCE: ERIA-ISEAS Enterprise Survey 2015.

75 per cent of the large firms, which is largely dominated by textiles, wearing apparel and footwear.

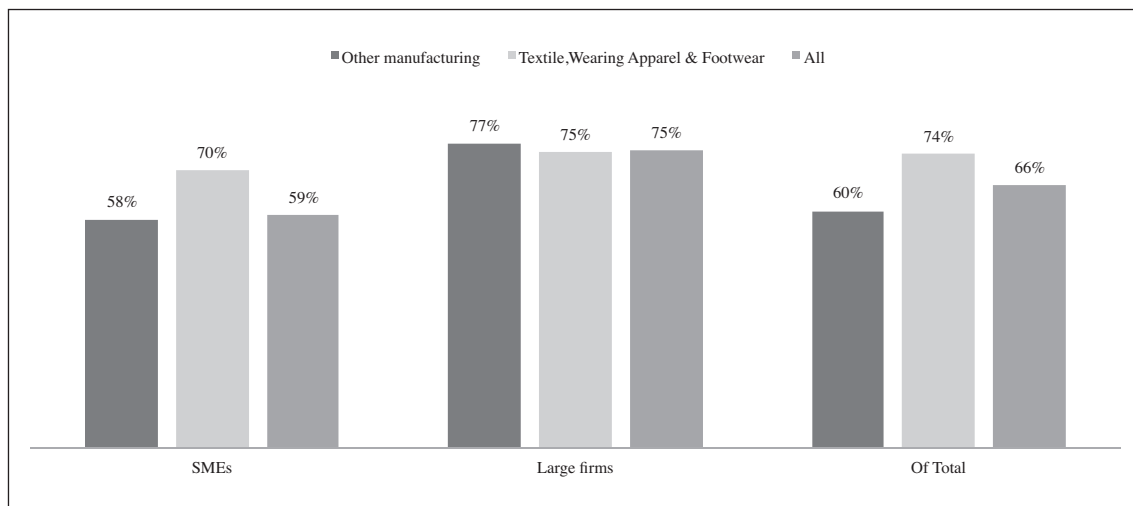
#### 3.4 Relations with Other Firms in ASEAN and East Asia

Figure 3 provides a breakdown of firms that have business relations and engage in trade by size and industry in ASEAN. While about half of large firms have business relations with firms

in other ASEAN economies, only 10 per cent of SMEs did so. Curiously, business relations were far more common in imports than exports. While large firms had stronger import linkages in both the textiles, wearing apparel & footwear and the other manufacturing sectors, the export linkage is weaker.

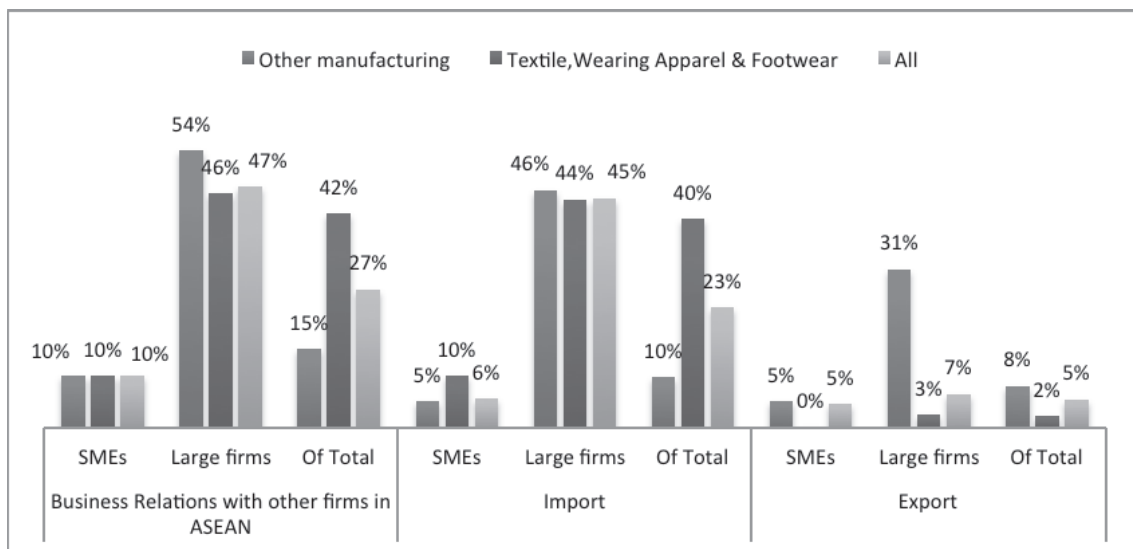
Figure 4 sheds light on the trade linkages of Cambodian firms with other firms when we expand the analysis to East Asia. Cambodian firms' import linkages with East Asia are stronger than with

FIGURE 2  
SME's Awareness of ASEAN



SOURCE: ERIA-ISEAS Enterprise Survey 2015.

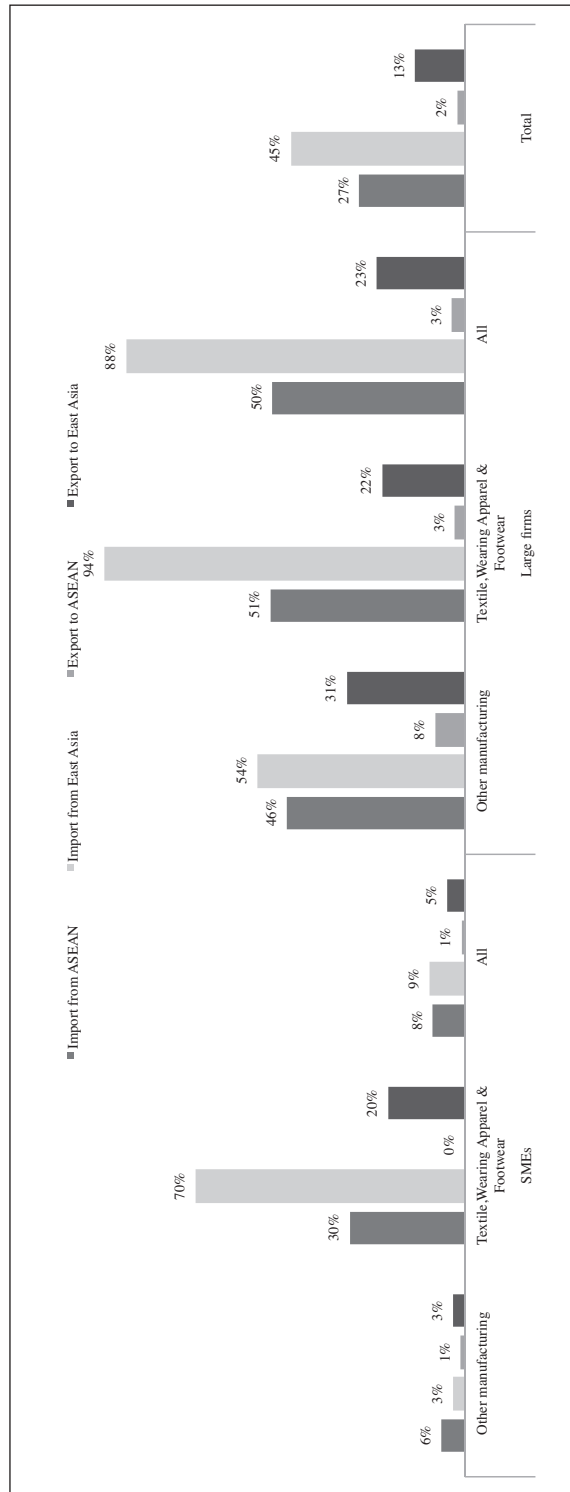
FIGURE 3  
Relations with Other Firms in ASEAN



SOURCE: ERIA-ISEAS Enterprise Survey 2015.



**FIGURE 4**  
**Import and Export Relations with ASEAN and East Asia**



SOURCE: ERIA-ISEAS Enterprise Survey 2015.

ASEAN countries across firm sizes and industries. The strong import linkages with ASEAN and East Asia (as compared to export linkages) imply that Cambodian firms take advantage of cheaper intermediate inputs through ASEAN and East Asian preferential trade agreements and then export final products to its traditional U.S. and EU markets through generalized system of preferences (GSP) and Everything But Arms (EBA) arrangements.

### 3.5 Impact of the AEC on SMEs

As for the perception of the impact of the ASEAN Economic Community (AEC), on average, firms believed that the AEC had or would decrease their domestic and export sales and profitability, and face more competition in local and foreign markets. On the positive side, they think the AEC would decrease import costs and enhance accessibility to intermediate inputs (Figure 5).

However, the perceived impacts are different between SMEs and large firms, and between firms in different industries. Large firms and those in the textiles, wearing apparel & footwear industry reported a perceived increase in their domestic and export sales, lower import costs, and greater access to intermediate inputs than SMEs and firms in other manufacturing industries. However, they share concerns about more competition in local and foreign markets.

The impact of the AEC on SMEs were also believed to occur through different channels, as shown by Figure 6. Most firms, irrespective of size and industry, reported that the impact had or would be the result of the reduction in import or export tariffs/duties, increase in custom procedures, standards and regulations, recognition of professional qualifications, investment process, and connectivity.

These results are consistent with other studies which suggest that while tariff barriers have been eliminated, there is an increasing use of non-tariff and technical measures as barriers to trade and investment in the region.

### 3.6 FTAs' Utilization by SMEs

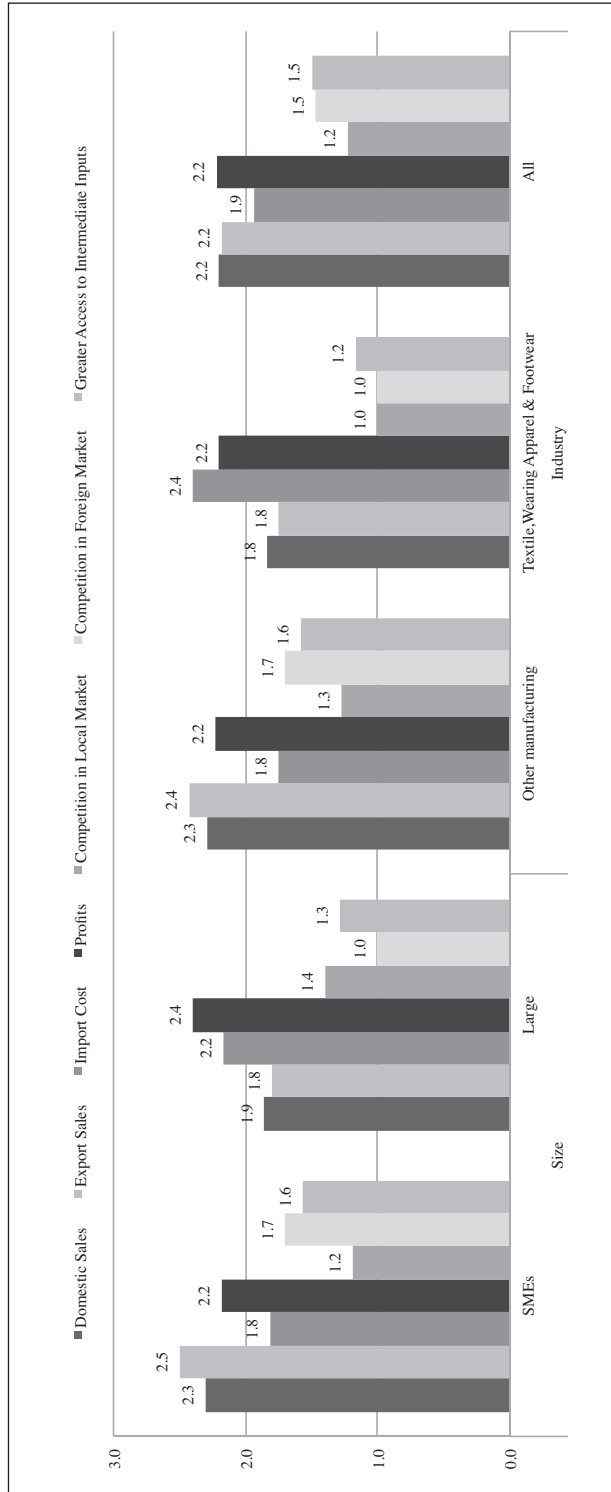
The utilization of FTAs and usage of custom forms by various FTAs are reported in Figure 7. Large firms tend to use FTAs more frequently (84 per cent) as compared to SMEs, which have less than 13 per cent utilization rate for regional FTAs. In particular, they tend to use GSP and MFN forms more frequently in terms of trade activities, which is consistent with the previous results on the access to U.S. and EU markets. We also observe that firms in the textiles, wearing apparel and footwear industry have a higher utilization rate of FTAs (over 88 per cent) as compared to other industries in the sample.

The survey also asks respondents for their reasons for not using the FTAs (Figure 8). Most firms report a lack of knowledge and not knowing how to use the forms as the key reasons for not using FTAs. Interestingly, some large firms reported that the trade value and tariff preference by FTAs were too small as well as difficulties in meeting the requirements of the Rules of Origin were critical factors for not using the FTAs. However, these were responses for only 10 per cent of the firms in the sample.

### 3.7 Characteristics of SMEs' Utilization of FTAs

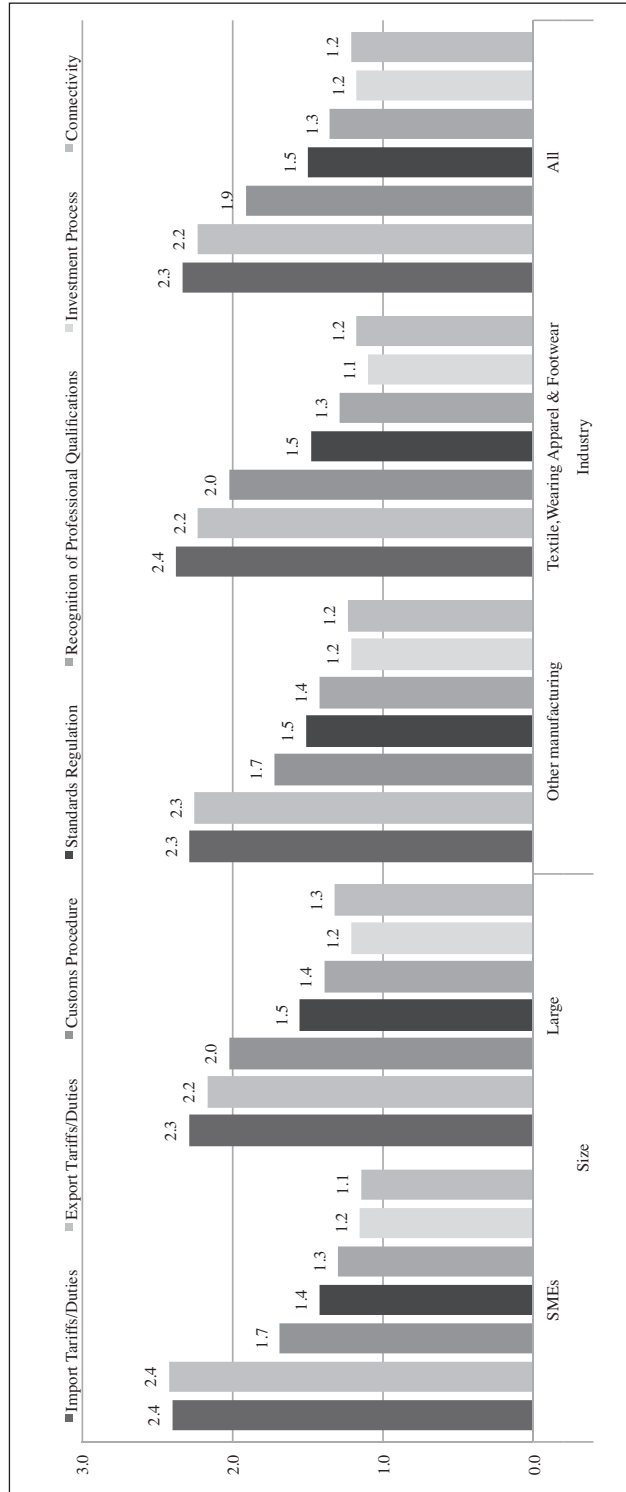
In identifying different characteristics of SMEs who utilized FTAs, we rely on existing literature that size, technological ability, experience in multiple foreign markets are important determinants of their participation in regional trade and investment (Hayakawa 2015; Wignaraja 2014; Prashantham 2008). The level of firms' productivity and technology capability (Guadalupe, Kuzmina and Thomas 2010; Intarakumnerd 2011) that influences their cross-border activities can be resource-based or capability-related. These include: access to skilled labour (Hall and Khan 2002; Dewar and Dutton 1986); utilization of information and communications technology (ICT) (Spiezia 2011; Machikita, Tsuji and Ueki 2010); and business networks (Abebe and Angriawan 2011); Lee et al. 2010).

**FIGURE 5**  
**Perception of Impact of the AEC on SMEs**  
 (Increase = 1, No change = 2, Decrease = 3)



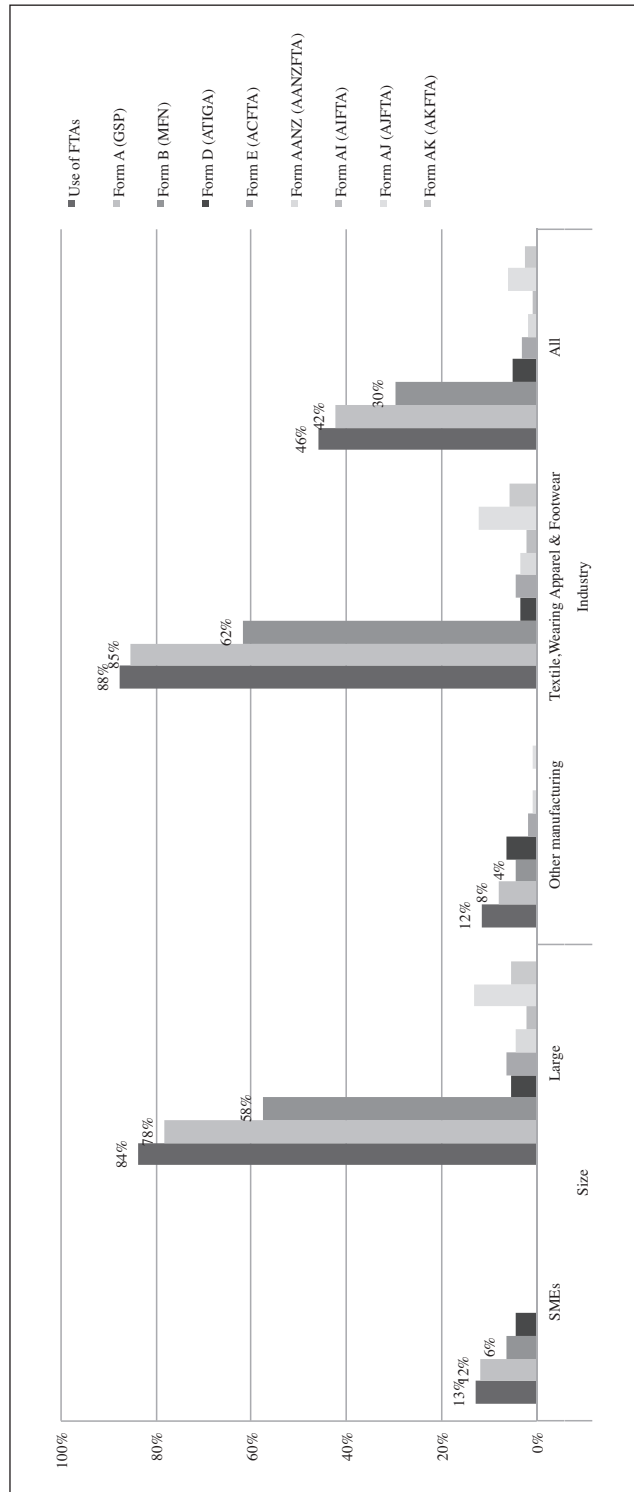
SOURCE: ERIA-ISEAS Enterprise Survey 2015.

**FIGURE 6**  
**Key Changes of AEC: Perceived Impact on SMEs**  
 (Increase = 1, No change = 2, Decrease = 3)



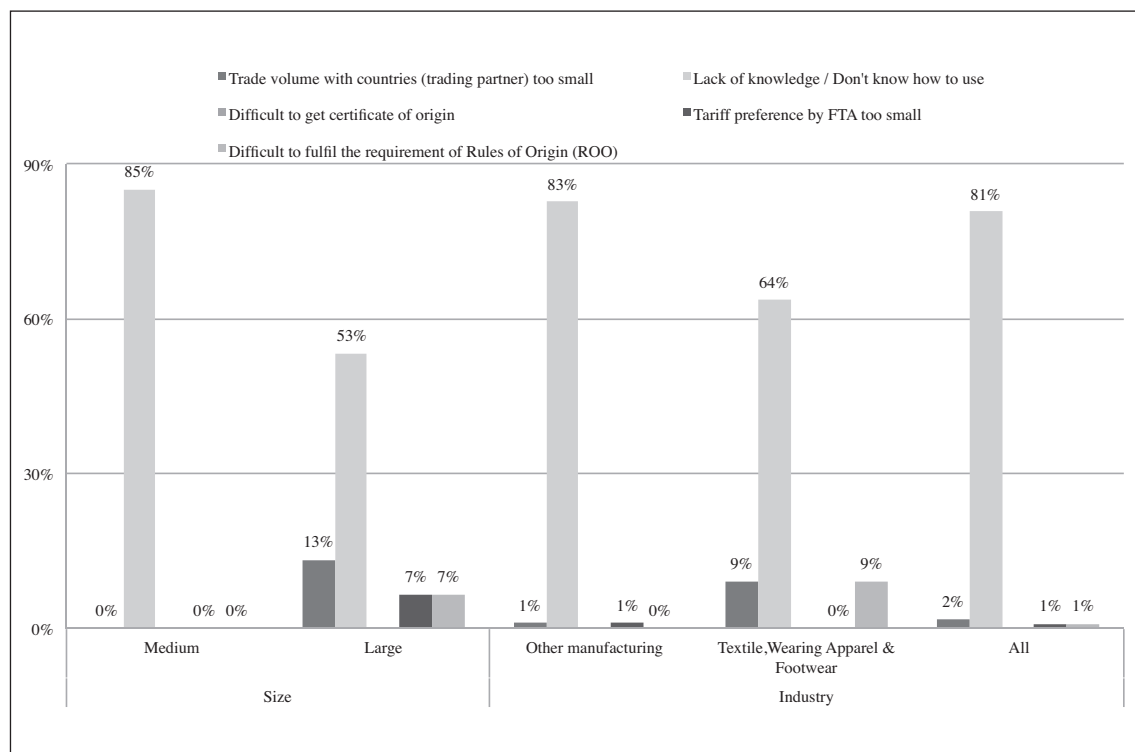
SOURCE: ERIA-ISEAS Enterprise Survey 2015.

FIGURE 7  
Use of FTAs and Custom Form by SMEs



SOURCE: ERIA-ISEAS Enterprise Survey 2015.

FIGURE 8  
Reasons for Not Using FTAs and Custom Form by SMEs



SOURCE: ERIA-ISEAS Enterprise Survey 2015.

The determinants of SME participation in ASEAN and East Asia through the utilization of FTAs can be examined by way of statistical regression. The statistical model in its general form is given as the following:

$$FTA_i = \alpha_i + \beta_i X_i + \varepsilon_i \quad (1)$$

where  $FTA_i$  is a discrete choice variable for each firm's utilization of FTAs;  $i$  represents firm  $i$ ;  $X_i$  is a set of explanatory variables that captures firm characteristic determinants; and  $\varepsilon_i$  is the error term. Estimations were also controlled by including dummy variables for industries. The industry dummy variables identify whether firms are in textile, wearing apparel and footwear or other manufacturing industries.

Firm size is proxied by the number of employees. The age of the firm is proxied by the number of years the plant has been in commercial production. Labour productivity is the ratio between total sales over number of employees. These variables are in logarithm form. For firm ownership, we assign value 1 for firms with more than 50 per cent of share owned by foreigners and 0 for local firms. Business network is given value 1 if the firm is a member of a business association and 0 if otherwise. The skill intensity variable is defined as the percentage of employees with tertiary or vocational education. The utilization of ICT is measured by the average number of ICT usage by type (i.e. email, website, online sale, online marketing, and online payment). Firms' technological capability is indexed by the average

number of business processes or organizational innovations, production process innovations, and product innovations. The last two variables are the total number of import and export markets for each firm.

Summary statistics are shown in Table 6. The summary statistics suggest that the mean values of FTA utilization and other variables are significantly lower for SMEs than that of large firms, with the exception of age and labour productivity.

In order to test the correlation between different firm characteristics with FTA utilization, we conduct two separate regressions. The first is a Probit Model to capture the different characteristics between firms that are FTA users and non-users. The second model is an Ordered Probit regression that distinguishes between firms which use multiple FTAs. The results are shown in Table 7.

Table 7 reports the results of estimation of equation (1). The table shows the final specifications that give the best results. The Wald test of overall significance in all specifications passes at the 1 per cent level. The table reports robust standard errors because of heteroscedastic variance.

Results from the regression indicate that compared to non-users, FTA-users appear to be larger, have higher labour productivity, and have experiences with multiple export markets, with robust results and statistical significance at the 1 per cent level. These findings are in accord with the literature. Being a member of a business association and having higher skill intensity is also statistically significant at the 5 per cent level. Higher technological capability is also statistically significant at the 10 per cent level. Age, foreign ownership, ICT, and experiences with multiple import markets are not significant factors of firm's FTA utilization.

Similarly, multiple FTA-users are larger in size, have higher labour productivity, are members of business associations, actively use ICT, and have more experience with multiple export markets at a robust and statistically significant level of 1 per cent. Skill intensity and technological capability are statistically significant at the 5 per cent level. Being younger is also statistically significant at the 10 per cent level. Foreign ownership and experiences with multiple import markets are not significant.

TABLE 6  
Summary Statistics of Variables

| Variables                           | SMEs |      |     |       | Large Firms |      |     |      |
|-------------------------------------|------|------|-----|-------|-------------|------|-----|------|
|                                     | Mean | Std. | Min | Max   | Mean        | Std. | Min | Max  |
| (1) FTA Utilization                 | 0.1  | 0.3  | 0.0 | 1.0   | 0.8         | 0.4  | 0.0 | 1.0  |
| (2) Multiple Utilization of FTAs    | 0.5  | 1.1  | 0.0 | 4.0   | 2.7         | 1.3  | 0.0 | 8.0  |
| (3) Age                             | 1.9  | 0.8  | 0.0 | 3.4   | 1.8         | 0.7  | 0.0 | 3.1  |
| (4) Size                            | 2.4  | 0.9  | 0.5 | 4.5   | 6.7         | 1.0  | 4.6 | 8.9  |
| (5) Foreign ownership               | 0.3  | 0.5  | 0.0 | 1.0   | 1.0         | 0.2  | 0.0 | 1.0  |
| (6) Member of Business Association  | 0.2  | 0.4  | 0.0 | 1.0   | 0.9         | 0.3  | 0.0 | 1.0  |
| (7) Labour Productivity             | 9.5  | 1.7  | 6.8 | 16.0  | 9.1         | 1.0  | 6.3 | 13.5 |
| (8) Skill intensity                 | 7.5  | 20.6 | 0.0 | 100.0 | 10.8        | 11.0 | 0.1 | 90.0 |
| (9) ICT Utilization Index           | 0.1  | 0.2  | 0.0 | 1.0   | 0.2         | 0.1  | 0.0 | 0.8  |
| (10) Technological Capability Index | 0.4  | 0.4  | 0.0 | 1.0   | 0.5         | 0.3  | 0.0 | 1.0  |
| (11) Multiple Export Markets        | 0.2  | 0.6  | 0.0 | 4.0   | 1.3         | 0.7  | 0.0 | 4.0  |
| (12) Multiple Import Markets        | 0.2  | 0.5  | 0.0 | 2.0   | 1.8         | 0.9  | 0.0 | 4.0  |

TABLE 7  
Characteristics of SMEs' Utilization of FTAs

| <i>Independent Variable</i>              | <i>Dependent Variable</i> |                                     |
|--|---------------------------|-------------------------------------|
|  | <i>FTA Utilization</i>    | <i>Multiple Utilization of FTAs</i> |
| Age                                      | -0.218<br>(0.229)         | -0.328*<br>(0.189)                  |
| Size                                     | 0.573***<br>(0.0953)      | 0.399***<br>(0.0917)                |
| Foreign ownership                        | -0.174<br>(0.391)         | -0.659<br>(0.542)                   |
| Dummy variable for garment sector        | 1.038***<br>(0.309)       | 1.002***<br>(0.260)                 |
| Member of Business Association (Network) | 0.761**<br>(0.331)        | 1.185***<br>(0.320)                 |
| Labour Productivity                      | 0.506***<br>(0.107)       | 0.388***<br>(0.0935)                |
| Skill intensity                          | 1.735**<br>(0.833)        | 3.024**<br>(1.202)                  |
| ICT Utilization Index                    | 0.538<br>(0.399)          | 1.165***<br>(0.366)                 |
| Technological Capability Index           | 0.0130*<br>(0.00699)      | 0.0147**<br>(0.00577)               |
| Multiple Export Markets                  | 2.240***<br>(0.410)       | 0.456***<br>(0.175)                 |
| Multiple Import Markets                  | 0.0375<br>(0.297)         | 0.00588<br>(0.194)                  |
| Observations                             | 180                       | 154                                 |

NOTES: 1. Robust z statistics in parentheses

2. \*\*\*significant at 1 per cent; \*\*significant at 5 per cent; \*significant at 10 per cent.

#### 4. Summary and Policy Recommendations

It is important to develop a strong SME sector in Cambodia. SMEs will play an important role and conduit in creating linkages to multinational companies and their technology.

The results from the questionnaire survey show that, on average, more than half of the surveyed firms were aware of the AEC and that larger firms tend to use FTAs more frequently as compared to SMEs. The key reasons for not using FTAs were a lack of knowledge and not knowing how to complete the forms. The strong import linkages with ASEAN and East Asia (as compared to

export linkages) suggests that Cambodian firms take advantage of sourcing cheaper intermediate inputs from ASEAN and East Asia and then export the final products to U.S. and EU markets through GSP and EBA arrangements. The surveyed firms hold the perception that the AEC has or would decrease their domestic and export sales as well as their profitability, and they would face more competition in local and foreign markets. On the other hand, they think the AEC has or would decrease import costs and enhance accessibility to intermediate inputs. The impacts are believed to occur through: the reduction of import and export tariffs/duties; increase in custom procedures;



standards and regulations; recognition of professional qualifications; improved investment process; and greater connectivity. The empirical results indicate that compared to non-users, the active FTA users appear to be larger, have higher labour productivity, and have experience with multiple export markets. They are also members of business associations, and have higher skill intensity and technological capability. Firm size, higher labour productivity, access to business networks, active use of ICT, having more experiences with multiple export markets, skilled human capital and technological capability are important factors for firms to use multiple FTAs and participate in regional integration.

The results suggest that the government should provide support for export promotion through access to high value information on international market trends. This could include information on: product features; prices; buyers; distributors; relevant standards and specifications; international best practices; preferential treatments by existing FTAs; and related legal requirements and procedures. The government can: organize more export exhibitions that provide matching services; apply ICT platforms for SMEs; provide trade finance; strengthen business associations; as well as provide advisory and capacity-building services to SMEs to comply with technical standards of export markets.

There is also a need to improve the educational attainment of the workforce as the average educational attainment is currently at the primary level. Raising the average educational level of the workforce will be critical for greater access and participation in the regional production value-chain. In this respect, the government needs to improve the quality of education and also the training and re-tooling of the workers in the labour force. The key challenges are: (1) Improving the educational attainment of new labour market entrants by ensuring universal quality primary education as well as to significantly increase the share of people with quality secondary and higher education; (2) Increasing the productivity of the existing under-educated and unskilled labour force through new continuous learning paths;

(3) Breaking the vicious cycle of systematic under-investment in education and skills building; and (4) Reducing the large skills gap and mismatches in the context of economic diversification by building the institutions to manage structural transformations, ensuring the linkage between the education system and industrial policy goals, as well as pursuing an industrial policy that actively focuses on upgrading the skills of domestic workers. The training of the workforce in terms of Technical Vocational Education and Training could be progressive and accumulative throughout the career path of the workers. The certification of the various training programmes at the national level is vital for the recognition of the training certificates and to signal to the private sector the competence of the workforce. Thus, proper quality assurance, accreditation and recognition systems need to be introduced. An endorsement by the private sector and businesses would increase the returns for training and further motivate workers to acquire more skills and training. A Public-Private Partnership framework could also play an important role in endorsing the formal and informal training framework that includes public and private educational institutes. Part-time studies should also be considered to ensure compatibility with work. To support the transition towards industry and manufacturing, more technical skills — such as basic science, technology, engineering and mathematics — should be built at the early stages of education. A different technical pathway in secondary school could help build these skills in order to create a more skills-based workforce that meets the needs of the industry at the early stages of development. It could be built on the successful example of National Technical High Schools and Machinery Technical High Schools in Korea in the 1960s.

There is a strong need for an industrial policy that will align the industrial transition with skills development and productivity growth in the Cambodian economy. Upgrading of skills and the absorptive capacity could be effectively strengthened by requiring MNCs to hire a certain share of local workers for middle and upper management positions. The current

industrial strategy of very liberal economic policies and pushing to higher end industries might create intensified skill mismatches and shortages. The government should also invest in the “absorptive capacity” of the economy such as key infrastructure, science parks, ports,

telecommunication infra-structure, airports, and roads that connect urban and rural sectors. The provision of infrastructure is an important component of an innovation system that supports the amalgamation of key local and foreign industries.

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