



SME Input-Output Table: Analysis and Impact

SME Corporation Malaysia
(An Agency under Ministry of Entrepreneur Development)

SME Corporation Malaysia

Level 6, SME 1, Block B
Platinum Sentral, Jalan Stesen Sentral 2
Kuala Lumpur Sentral, 50470 Kuala Lumpur

or visit <http://www.smecorp.gov.my>

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Foreword

by YB Minister of Entrepreneur Development



The Government is committed to develop and empower SMEs by providing a conducive ecosystem for SMEs to thrive and prosper. Representing 98.5% of total business establishments in Malaysia, SMEs are indeed an important economic growth driver as the country aspires to become a developed and inclusive nation. The Government through SME Corp. Malaysia, an agency under Ministry of Entrepreneur Development (MED), has been supporting SMEs with various programmes and incentives designed to transform SMEs into competitive and dynamic global players that will enhance the SME contribution to the economy. In 2017, SME contribution to the overall GDP stood at 37.1%. With the re-establishment of MED, all SME and entrepreneurship development programmes and initiatives will be more coordinated, structured and focused to spur the growth of SMEs with the aim to achieve the SME contribution target of 41% to overall GDP by 2020 as stated in the SME Masterplan (2012 - 2020).

As the Secretariat to the National Entrepreneurship and SME Development Council (NESDC), SME Corp. Malaysia is tasked to support MED in the formulation of policies and strategies to facilitate the overall development of SMEs across all economic sectors besides overseeing the implementation of various decisions made by the Council. While there is a continuous need to coordinate and streamline the various policies and programmes for SME development, the Government also needs to align SMEs to the megatrends and digitalisation which will transform the way of doing business in the future. Policy challenges for SMEs in retrospect of these emerging and future trends, need to be analysed thoroughly to ensure not only the policies are up-to-date with the emerging trends, but also able to target specific key significant economic sectors and industries to be promoted and assisted.

In lieu of this, SME Corp. Malaysia in collaboration with Universiti Putra Malaysia (UPM) undertook a study entitled '**SME Input-Output Table: Analysis and Impact**' with the aim to develop and analyse the SME Input-Output Table for SMEs in Malaysia. One of the remarkable outcomes of the Study was the development of SME Input-Output (SME-IO) Table, which is an extension of Malaysia Input-Output Tables 2010 published by Department of Statistics, Malaysia to provide a better perspective of SME structure and relationship to the whole economy. With the rich dataset in the SME-IO, we are now able to analyse the linkages between SMEs and large firms as well as determine key SME industries that have the potential to drive the economy.

One of the key findings from the analysis showed that there is a weak linkage between SMEs and large firms in terms of supply and production. The findings and the availability of the SME-IO Table to the public will allow those interested to study the structure of the economy and provide the tools necessary to evaluate each industry, including their relationships and impact among them. With the mandate given to MED in developing entrepreneurship and SMEs, I hope we can utilise the findings to streamline and formulate targeted policies, programmes and initiatives to support SME development, particularly in the formulation of the National Entrepreneurship Policy, SME Masterplan 2.0 as well as the 12th Malaysia Plan beyond 2020.

**YB DATUK SERI MOHD REDZUAN
MD YUSOF
Minister of Entrepreneur Development**



Acknowledgement

by CEO of SME Corp. Malaysia

This report is the product of thoughts, work and insights of Economics and Policy Division of SME Corp. Malaysia, with invaluable help and guidance received from the whole organisation. This report would have not been possible without commitment and assistance from various organisations.

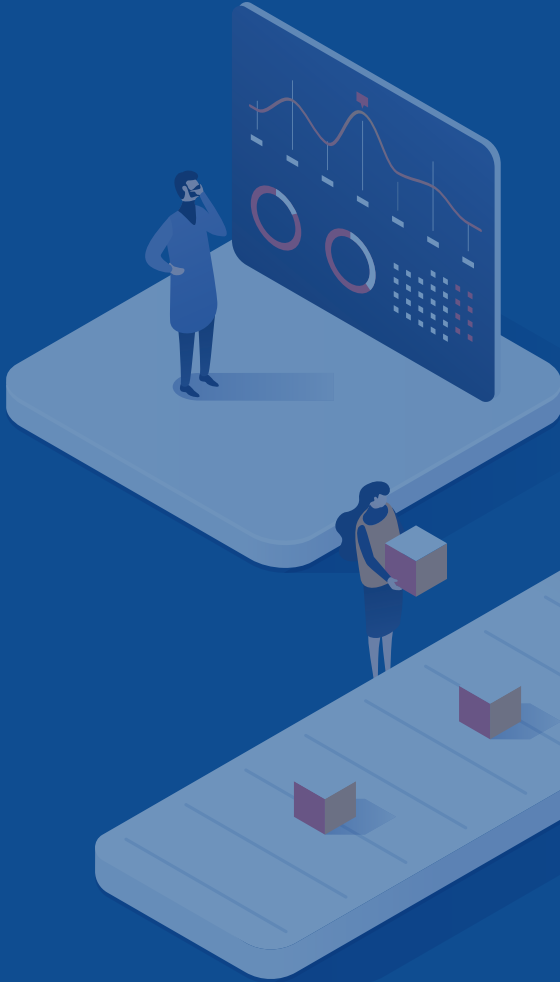
First and foremost, special gratitude and appreciation goes to Department of Statistics, Malaysia (DOSM) for providing micro data extracted from Economic Census 2011 and Malaysia Input-Output Tables 2010. We are grateful for the full cooperation and contributions given by officers from various departments in DOSM in fulfilling the data scope and equipping us with the right knowledge on input-output through various trainings and seminars.

As an outcome of a collective effort between Government agency and educational institution, we greatly appreciate the close collaboration and continuous support from Institute of Agricultural and Food Policy Studies of Universiti Putra Malaysia. Their extensive advice and reviews were exceptional throughout the analysis process in developing the SME Input-Output Table.

We would also like to take this opportunity to thank various organisations and individuals who have directly or indirectly provided comments, valuable thoughts and feedback in facilitating us throughout the study period.

Lastly, being an agency under Ministry of Entrepreneur Development, SME Corp. Malaysia would like to express our sincere gratitude to the Ministry for their full support in ensuring the success of the publication.

NOOR AZMI MAT SAID
Chief Executive Officer
SME Corp. Malaysia

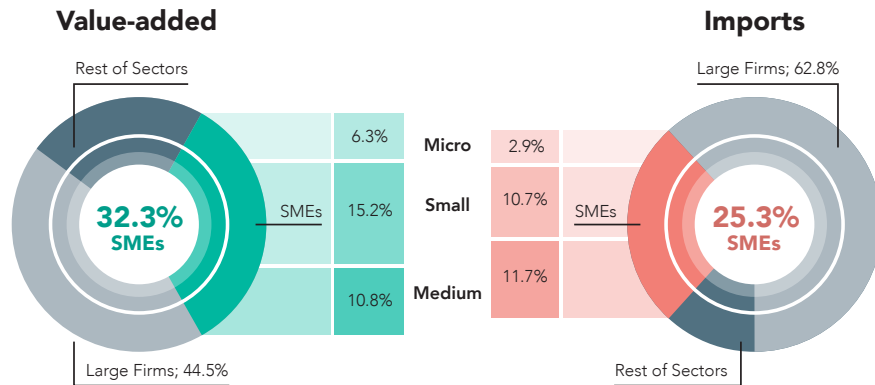


Executive Summary



Executive Summary on SME Input-Output: Analysis and Impact

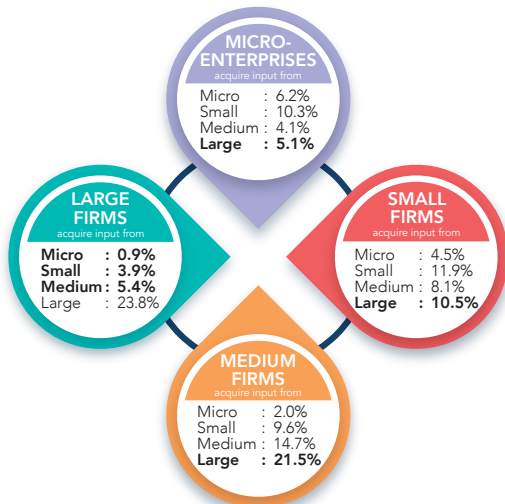
SMEs contributed about one-third to total value-added created in the economy and about one-fourth to total imports



SMEs are more domestically integrated as compared to large firms

	Large firms	SMEs	
Intermediate input 	38.2% of output produced were used as intermediate input	48.5% of output produced were used as intermediate input	The larger amount of output being consumed as intermediate input, the more domestically integrated it is with other production sectors
Export intensity 	Export 42.6% of their total output	Export 26.4% of their total output	Output particularly from large firms were often targeted for export market

In acquiring inputs, SMEs are highly dependent on large firms but large firms do not rely heavily on SMEs, thus suggesting weak linkage



Top-ranked SME industries with the biggest potential to drive the economy

- Rubber Production (agriculture)**
 VAM = 0.90
 BWL = 1.07
- Private Services**
 VAM = 0.89
 BWL = 1.07
- Private Education**
 VAM = 0.89
 BWL = 1.22
- Grain Mills (manufacturing)**
 VAM = 0.82
 BWL = 1.13
- Oils & Fats (manufacturing)**
 VAM = 0.81
 BWL = 1.24

Chapter 1

Introduction



Chapter 1

Introduction

Overview of SMEs in Malaysia

Small and medium enterprises (SMEs) which include microenterprises have emerged as a highly vibrant and dynamic driver for the country's economic growth. Based on Economic Census 2016: Profile of SMEs conducted by Department of Statistics, Malaysia, there were a total of 907,065 SMEs in 2015, representing 98.5% of total establishments in Malaysia. SMEs were highly concentrated in the services sector, which accounted for 89.2% (809,126 SMEs) with distributive (wholesale & retail) trade sub-sector including repair of motor vehicles & motorcycles accounted for the largest

share, at 51.2% of total SMEs in services sector. Meanwhile, about 5.3% of SMEs (47,698) were involved in the manufacturing sector, followed by 4.3% (39,158) in the construction sector, 1.1% (10,218) in the agriculture sector and the remaining 0.1% (865) in the mining & quarrying sector. In terms of size, majority of SMEs were microenterprises, constituting 76.5% of total SMEs in Malaysia. Meanwhile, small-sized SMEs formed 21.2% of the total SME establishments and the balance 2.3% were medium-sized SMEs.

Background of SME Input-Output Analysis

SMEs are not only the backbone of the economy but also major source of employment and job opportunities. In 2017, SMEs employed about two-third (66.0%) of total employment in Malaysia generated mainly by the services sector, particularly in the distributive trade, food & beverages and professional scientific & technical sub-sectors. Nevertheless, the contribution of SMEs to overall Gross Domestic Product (GDP) are relatively low compared to other countries as SMEs contributed 37.1% in 2017. For instance, the contribution of SMEs to each ASEAN member states' GDP ranges between 30% to 53%, while about 20% to 50% in most APEC economies. At present, SMEs in Malaysia lag behind the large firms in terms of labour productivity. Labour productivity of SMEs as measured by real value-added per worker was at RM63,167 in 2017, about one-third of the large firms (RM208,361). This productivity gap between SMEs and large firms has remained at 3.3 times since 2016 as most of SMEs adopted simple technologies and were involved in low value-added activities. Thus, recognising the significant contribution of SMEs, the SME Input-Output (SME-IO) Table has been developed based on the Malaysia

Input-Output Tables 2010 to accelerate the growth of SMEs and to take SME development to the next level.

Despite the increase in share, the economic contribution of SMEs is still low as compared to the large firms. The right policy interventions are needed to empower SMEs, at the same time spur sustainable and equitable economic growth across the board. One of the area that can further boost performance of SMEs is through supply chain perspective. Based on the First Quarter of 2017 (1Q 2017) SME Survey conducted by SME Corp. Malaysia, findings indicated that only 10.4% of SMEs supplied to large foreign firms or multinational corporations (MNCs) in Malaysia, which were mainly among the medium-sized SMEs and those in the manufacturing sector.

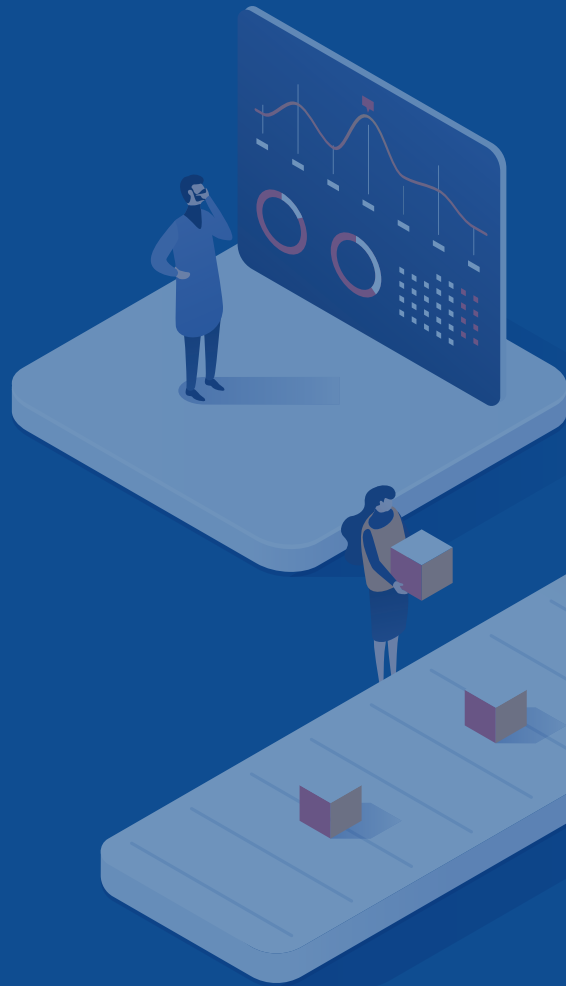
Recognising that there may be some challenges in the existing supply chain of industries among SMEs and large firms, SME Corp. Malaysia has embarked on a study on Input-Output Table for SMEs, subsequently making SME Corp. Malaysia as the pioneer in such study by segregating input-output

table according to various size of firms. SME-IO Table is able to describe the flows of SMEs and large firms' products and services sold (supply) and bought (demand) in an economy. Thus, it reflects the relationship between producers and consumers as well as the inter-industry interactions or inter-relationships i.e. industries use products or services of other industries to produce their own products or deliver their own services.

The commission of the Study is marked with the signing of Memorandum of Understanding (MoU) in August 2017 which served as a smart research partnership programme between Government agency and educational institution. The Study is being commissioned and conducted by SME Corp. Malaysia, in collaboration with a team of researchers from Institute of Agricultural and Food Policy Studies of Universiti Putra Malaysia (UPM), led by Dr. Mohd Yusof Saari.



This report was prepared by Economics and Policy Division of SME Corp. Malaysia and Institute of Agricultural and Food Policy Studies, Universiti Putra Malaysia: Dr. Mohd Yusof Saari, Chakrin Utit and Dr. Muhammad Daaniyall Abd. Rahman.



Chapter 2

Development of SME Input-Output Table



Chapter 2

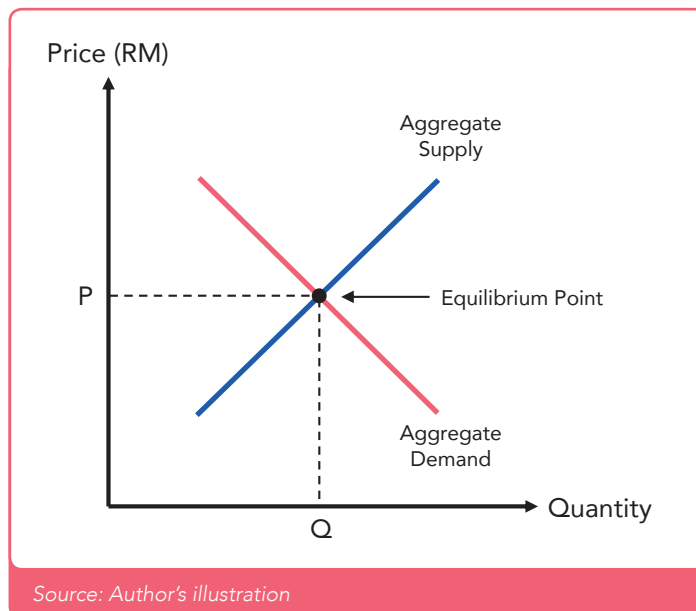
Development of SME Input-Output Table

In order to grasp the development process of the SME Input-Output (SME-IO) Table, it is important to understand the origin of an input-output table, specifically the concept of macroeconomic equilibrium. Then, it is followed by understanding the development process for both Malaysia Input-Output Tables and SME Input-Output Table and finally the application of both Tables.

Macroeconomic Equilibrium

Macroeconomic equilibrium refers to a state of an economy, of which the quantity of aggregate demand equals the quantity of aggregate supply as shown in Chart 2.1. At equilibrium point, the economy operates at its maximum efficiency level as the amount of products and services supplied are exactly the same as the amount demanded. However, this point is only achievable in theory as the demand and supply level in the real market are constantly changing.

Chart 2.1: Macroeconomic Equilibrium



Since the input-output table is developed based on this principle, validity of the equation is further calculated in Table 2.1, while the information used for the calculations are directly obtained from Table 2.2.

Table 2.1: Demand and Supply Relationship based on Input-Output Table 2010 (RM billion)

Demand	RM billion	Supply	RM billion
Private Consumption	387.14	Agriculture	75.74
Government Consumption	106.55	Mining & Quarrying	88.94
Gross Fixed Capital Formation	182.58	Manufacturing	182.94
Change in Inventory	13.83	Construction	27.82
Exports	744.03	Services	429.72
(Less) Imported Commodities	581.99	Total Taxes on Products	32.61
(Less) Direct Purchases Abroad by Residents	26.73	(Less) Subsidies on Products	12.36
Total Demand at Basic Price¹	825.41	Total Supply at Basic Price	825.41

Note: GDP by production and expenditure approaches are measured at purchaser's price².
 Figures may not necessarily add up due to rounding.

¹ Basic price is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any tax payable, and plus any subsidy receivable, on that unit as a consequence of its production or sale; it excludes any transport charges invoiced separately by the producer. (Source: Department of Statistics, Malaysia)

² Purchaser's price is the amount paid by the purchaser, excluding any VAT or similar tax deductible by the purchaser, in order to take delivery of a unit of a good or service at the time and place required by the purchaser. The purchaser's price of a good includes any transport charges paid separately by the purchaser to take delivery at the required time and place. (Source: Department of Statistics, Malaysia)

Source: Author's calculations

Development of an Input-Output Table

The development process of an input-output table in Malaysia is spearheaded by Department of Statistics, Malaysia (DOSM). In detail, the development process involves four stages.

i. Data collection

Data are collected from various sources for both supply and demand sides of the economy. It includes data from economic census, tax data, Government accounts, household income & expenditure surveys and trade data. These data are then restructured to precisely represent the industry production account and demand.

ii. Commodity analysis and reconciliation

With the restructured data, analysis and reconciliation process are carried out. As the commodity accounts are valued in both purchaser's and producer's³ prices, the accounts are then revalued into basic prices by removing the margins and indirect taxes from the data.

iii. Compilation of supply and use table

Once the second step is completed, the accounts are compiled into supply and use table. Supply table details the sources of input in the economy, while use table describes its usage.

iv. Symmetry input-output table

In the final stage, both supply and use table are combined under a single framework to form the symmetry input-output table.

³ Producer's price is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any VAT, or similar deductible tax, invoiced to the purchaser; it excludes any transport charges invoiced separately by the producer. (Source: Department of Statistics, Malaysia)

In general, an input-output table provides a complete picture of flows of goods and services sold (supply) and bought (demand) in an economy for a given year. Specifically, it is used to illustrate the interdependencies of production sectors and the relationship

between producers and consumers. Table 2.2 presents the simplified structure of input-output table in 2010. The table is simplified into five key sectors, namely agriculture, mining & quarrying, manufacturing, construction and services.

Using manufacturing sector as an example, the table can be explained as the following:

- Horizontally, across the row of manufacturing sector, the figures show how much output produced by manufacturing sector is consumed by all five economic sectors and final demand components i.e. private consumption, government consumption, investment (including gross fixed capital formation and change in inventory) and exports.
- Of RM896.2 billion of total output produced by manufacturing sector, a total of RM307.0 billion is consumed by all five economic sectors including manufacturing sector through intermediate demand, while another RM589.2 billion are consumed by final demand components.
- Vertically, along the column of manufacturing sector, the figures show the amount of input required by manufacturing sector from all five economic sectors including manufacturing sector and primary input components for the production process.
- In order to produce the manufacturing output, the sector needs a total of RM896.2 billion of input, whereby RM433.1 billion is required from all five economic sectors, RM278.1 billion from imports, RM5.0 billion of taxes paid to the Government, RM3.0 billion of subsidies received from the Government and RM182.9 billion of value-added created.



Table 2.2: Simplified Structure of Malaysia Input-Output Tables 2010 (RM billion)

Malaysia Input-Output Table 2010 (RM billion)	Intermediate Demand					TOTAL INTERMEDIATE DEMAND	Final Demand					TOTAL OUTPUT
	Agriculture	Mining & Quarrying	Manufacturing	Construction	Services		Private Consumption	Government Consumption	Gross Fixed Capital Formation	Change in Inventory	Exports	
Agriculture	7.8	-	73.9	0.0	6.1	87.8	19.6	-	3.4	0.4	12.6	123.9
Mining & Quarrying	0.0	0.9	60.2	2.2	0.8	64.3	0.1	-	-	(0.4)	43.2	107.2
Manufacturing	14.1	5.3	180.6	28.5	78.6	307.0	84.3	-	20.3	7.7	477.0	896.2
Construction	0.8	0.8	3.7	6.5	8.2	20.0	6.8	-	58.7	-	5.3	90.8
Services	14.4	5.0	114.7	10.0	239.1	383.2	245.7	101.4	17.2	2.2	106.5	856.1
TOTAL INTERMEDIATE INPUT	37.0	12.1	433.1	47.2	332.8	862.2	356.6	101.4	99.6	9.9	644.5	2,074.2
Direct Purchases Abroad by Residents	-	-	-	-	-	-	26.7	-	-	-	-	26.7
Domestic Purchases by Non-Residents	-	-	-	-	-	-	(58.4)	-	-	-	58.4	-
Imported Commodities	11.2	6.3	278.1	15.8	91.6	403.1	56.1	5.2	78.1	4.0	35.7	582.0
Taxes on Products	0.9	0.2	5.0	0.4	6.2	12.8	9.4	0.0	4.9	-	5.5	32.6
Subsidies on Products	1.0	0.4	3.0	0.4	4.3	9.1	3.3	-	-	-	-	12.4
Value-added	75.7	88.9	182.9	27.8	429.7	805.2	387.1	106.5	182.6	13.8	744.0	2,703.2
TOTAL INPUT	123.9	107.2	896.2	90.8	856.1	2,074.2	387.1	106.5	182.6	13.8	744.0	2,703.2

Note: Figures may not necessarily add up due to rounding

Source: Malaysia Input-Output Tables 2010, Department of Statistics, Malaysia

The analysis using an input-output table is fundamentally a demand-driven analysis. Through this analysis, the level of output produced by an economy is determined by the changes or shocks from the demand components. Thus, it indicates that the demand components are the exogenous variables which is determined by the forces outside the model. Unlike the demand components, supply-side components, namely imports, indirect tax and

value-added are determined endogenously. These components are affected directly by the changes in the level of output induced by the changes in final demand.

To explain further on the structure of an input-output table, the formal properties for the simplified structure of an input-output table are shown in Table 2.3.

Table 2.3: Formal Properties for Simplified Structure of Input-Output Table

	Intermediate demand							Final demand				Total output
	S1	S2	S3	.	.	.	Sn	c	g	i	e	
Sector 1 (S1)	Z (intermediate demand required among production sectors)							f (final demand)				x (total output)
Sector 2 (S2)												
Sector 3 (S3)												
.												
Sector n (Sn)												
m	V (primary input components)											
t												
s												
v												
Total input	x' (total input)											

Source: Author's illustration

Based on Table 2.3, the structure of an input-output table can be separated into three quadrants, namely matrix **Z**, vector of **f** and **V**. The matrix **Z** denotes the interaction among the production sectors in acquiring the input used for production activities. Meanwhile, the vector of **f** represents the final demand components which include private consumption (**c**), government consumption (**g**), investment (**i**) and export (**e**). The investment component can be further separated into gross fixed capital formation and change in inventory. Finally the vector **V** represents the primary input components which are the

sectoral imported commodities (**m**), taxes on products (**t**), subsidies on products (**s**) and value-added (**v**).

Since input-output table is the extension from the national account, the vector of **f** can be used to represent the demand side of the economy and the matrix **Z** on the supply side. Through the interaction between demand and supply, the total output, **x** will be produced as the final result. In this case, the total output, **x** always equal to total input **x'**, showing that the economy is at the equilibrium point.

Extension of Malaysia Input-Output Tables into SME Input-Output Table

Structure of SME Input-Output Table

In Malaysia Input-Output Tables 2010 published by DOSM, there are 124 industries included in the Table. Nevertheless, the industries are not separated between SMEs and large firms. For this reason, the structure of Malaysia Input-Output Tables 2010 as shown in Table 2.2 and 2.3 needs to be extended and expanded into size of business as depicted in Table 2.4 and 2.5.

The classification of business size is based on the new SME definition which took effect on 1 January 2014 (refer to Chart 2.2).

Chart 2.2: New SME Definition

MANUFACTURING		SERVICES AND OTHER SECTORS
Sales turnover: RM15 mil ≤ RM50 mil OR Employees: From 75 to ≤ 200		Sales turnover: RM3 mil ≤ RM20 mil OR Employees: From 30 to ≤ 75
Sales turnover: RM300,000 < RM15 mil OR Employees: From 5 to < 75		Sales turnover: RM300,000 < RM3 mil OR Employees: From 5 to < 30
Sales turnover: < RM300,000 OR Employees: < 5		Sales turnover: < RM300,000 OR Employees: < 5

Table 2.4 and 2.5 illustrate the inter-links of intermediate demand within and between microenterprises, small, medium and large firms. Similarly, final demand, imported commodities, taxes on products, subsidies on products and value-added components are also disaggregated into microenterprises, small, medium and large firms. The industries that are unable to be disaggregated are classified as Rest of Sectors (RoS). The inter-connection can be shown in the following accounting identities:

For intermediate demand:

$$\mathbf{Z} = \mathbf{Z}^{Mi} + \mathbf{Z}^S + \mathbf{Z}^{Md} + \mathbf{Z}^L + \mathbf{Z}^R$$

For imported commodities:

$$\mathbf{m} = \mathbf{m}^{Mi} + \mathbf{m}^S + \mathbf{m}^{Md} + \mathbf{m}^L + \mathbf{m}^R$$

For taxes on products:

$$\mathbf{t} = \mathbf{t}^{Mi} + \mathbf{t}^S + \mathbf{t}^{Md} + \mathbf{t}^L + \mathbf{t}^R$$

For subsidies on products:

$$\mathbf{s} = \mathbf{s}^{Mi} + \mathbf{s}^S + \mathbf{s}^{Md} + \mathbf{s}^L + \mathbf{s}^R$$

For value-added:

$$\mathbf{v} = \mathbf{v}^{Mi} + \mathbf{v}^S + \mathbf{v}^{Md} + \mathbf{v}^L + \mathbf{v}^R$$

For output:

$$\mathbf{x} = \mathbf{x}^{Mi} + \mathbf{x}^S + \mathbf{x}^{Md} + \mathbf{x}^L + \mathbf{x}^R$$

Table 2.4: Formal Properties of the Extended Simplified Structure of SME Input-Output Table

	Intermediate demand					Final demand (f)	Total output (x)
	Micro (Mi)	Small (S)	Medium (Md)	Large (L)	Rest of Sectors (RoS)		
Micro (Mi)	(Z^{MiMi})	(Z^{MiS})	(Z^{MiMd})	(Z^{MiL})	(Z^{MiR})	(f^{Mi})	(x^{Mi})
Small (S)	(Z^{SMi})	(Z^{SS})	(Z^{SMd})	(Z^{SL})	(Z^{SR})	(f^S)	(x^S)
Medium (Md)	(Z^{MdMi})	(Z^{MdS})	(Z^{MdMd})	(Z^{MdL})	(Z^{MdR})	(f^{Md})	(x^{Md})
Large (L)	(Z^{LMi})	(Z^{LS})	(Z^{LMd})	(Z^{LL})	(Z^{LR})	(f^L)	(x^L)
Rest of Sectors (RoS)	(Z^{RMi})	(Z^{RS})	(Z^{RMd})	(Z^{RL})	(Z^{RR})	(f^R)	(x^R)
Imported commodities (m)	(m^{Mi})	(m^S)	(m^{Md})	(m^L)	(m^R)		
Taxes on products (t)	(t^{Mi})	(t^S)	(t^{Md})	(t^L)	(t^R)		
Subsidies on products (s)	(s^{Mi})	(s^S)	(s^{Md})	(s^L)	(s^R)		
Value-added (v)	(v^{Mi})	(v^S)	(v^{Md})	(v^L)	(v^R)		
Total input (x')	(x'^{Mi})	(x'^S)	(x'^{Md})	(x'^L)	(x'^R)		

Source: Author's illustration

Table 2.5: Simplified Structure of SME Input-Output Table 2010

SME INPUT-OUTPUT TABLE 2010 (RM '000)		Industry	Industry	Size	Industry	INTERMEDIATE DEMAND		TOTAL INTERMEDIATE DEMAND							FINAL DEMAND					TOTAL OUTPUT
						Micro	Small	Medium	Large	Rest of Sectors		Private Consumption	Government Consumption	Gross Fixed Capital Formation	Change in Inventory	Exports	TOTAL FINAL DEMAND	TOTAL OUTPUT		
Industry	Size																			
Crops	1	1																		
Rubber	2	2																		
Private Education	92	92																		
Private Health	93	93																		
Crops	1	1																		
Rubber	2	2																		
Private Education	92	92																		
Private Health	93	93																		
Crops	1	1																		
Rubber	2	2																		
Private Education	92	92																		
Private Health	93	93																		
Crops	1	1																		
Rubber	2	2																		
Private Education	92	92																		
Private Health	93	93																		
Confectionery	1	1																		
Other Food Processing	2	2																		
Public Education	32	32																		
Public Health	33	33																		
TOTAL INTERMEDIATE INPUT																				
Imported Commodities																				
Taxes on Products																				
Subsidies on Products																				
Value-added																				
Compensation of Employees																				
Operating Surplus																				
TOTAL INPUT																				

Source: Author's illustration

Data Sources and Processing

There are two main datasets utilised for the development of SME-IO Table. The list of the datasets used and their description are given as the following:

i. Malaysia Input-Output Tables 2010

Data from Malaysia Input-Output Tables which was obtained from DOSM is used as the control total in the disaggregation process. This is to ensure that the summation of the disaggregated values for microenterprises, small, medium and large firms yields the control total for each of output, final demand and primary input components.

ii. Micro Data of Economic Census 2011

The micro data obtained from DOSM contained the details for the indicators such as output, revenue, expenditure, salary & wages and number of establishments. The data obtained are also categorised into microenterprises, small, medium and large firms. The dataset provides the basis for the disaggregation process in SME-IO Table.

Before proceeding with the estimation process, the available micro data from the Economic Census are cleaned to determine the number of industries that are available for the disaggregation process. Based on the data cleaning process, the number of industries that can be disaggregated into microenterprise, small, medium and large size are 93 industries. The number of industries available for the disaggregation under each sector are given as the following:



In spite of the richness of the data, it is important to note that the number of industries in SME-IO Table (93 industries) is lesser than those in the Malaysia Input-Output Tables (124 industries) as some industries were unable to be disaggregated. There were two types of industries that fall under this limitation. First, industries that have less number of players in the domestic market such as Telecommunications and Rubber Gloves. Second, industries that are operated by the Government such as Public Administration and Defense & Public Order. The main reason behind this limitation is the confidentiality policy that prevented DOSM from releasing the related micro data, thus the sectors are classified as Rest of Sectors (RoS). Detailed information on the comparison of industries under the Malaysia Input-Output Tables and SME-IO Table is listed in Appendix 1.

Data Estimation

The development process of SME-IO Table involved several steps. The process starts with the outer layer of the input-output table and facilitated by the micro data that are cleaned through the data processing stage. Below are the steps for the data estimation:

i. Total output

- The estimation of output for microenterprises, small, medium and large firms are done by using the output information available in the micro data of Economic Census 2011.
- The micro data provides the output weightage of microenterprises, small, medium and large firms for each industry.
- This information is then applied for the disaggregation process by multiplying the sectoral output from the Malaysia Input-Output Tables with the micro data weightage.
- For large firms, the output is estimated based on the differences between the output from the Malaysia Input-Output Tables and the estimated output for microenterprises, small and medium firms.

ii. **Final demand components**

- Data that is needed to estimate output consumed by final demand components i.e. exports, gross fixed capital formation, change in inventory and private consumption for SMEs are not available.
- Therefore, it is assumed that consumption of final demand components on SMEs output is derived based on the total output share of microenterprises, small, medium and large firms to the total national output.
- This assumption implies that the output deliveries into final demand components are influenced by size of firms. This assumption is supported by the study of Pagano (2003) as he found a positive and robust relationship between the level of output and the firms' sizes.
- The output share is used to estimate exports, gross fixed capital formation and private consumption. For the change in inventory, this component is residually estimated from the total final demand.

iii. **Primary input components**

- The estimation of primary input components involves the estimation for imported commodities, taxes on products, subsidies on products and value-added including compensation of employees as well as operating surplus.
- Procedures for the estimation of value-added are similar to the estimation of output. The control total for broad SMEs are taken directly from the Malaysia Input-Output Tables. Then, the individual industries within the broad sectors are estimated by taking share of value-added that obtained from the micro data of Economic Census 2011.
- For imported commodities, taxes on products and subsidies on products, the output weightage is used for the estimation. This implies that the import requirement, tax paid and subsidy received by microenterprises, small and medium firms are determined by the output sizes.

- Meanwhile, for compensation of employees and operating surplus which are the sub-components of value-added, the value-added weightage from the micro data is used.

iv. **Total intermediate demand and intermediate input**

- The final components estimated are the total intermediate demand and intermediate input for each microenterprise, small, medium and large firm.
- These components are estimated residually. The total intermediate demand is residually estimated by taking differences between the total output and total final demand. The differences between total input and total primary input give the total intermediate input.

v. **Intermediate matrix**

- The intermediate matrix that shows the flows of input and output between the economic sectors are estimated using the RAS method (also known as 'biproportional' matrix balance technique) following Miller and Blair (2009).
- Before this method can be applied, the initial estimate of the intermediate matrix must be derived. The intermediate matrix cannot be applied from the Malaysia Input-Output Tables because it formed only one matrix whereas in SME-IO Table, the intermediate matrix has 25 sub-matrices (refer to Table 2.4 and 2.5).
- To get the initial estimates, it is important to decompose microenterprises, small, medium, and large firms using the share of total intermediate demand and intermediate input. The similar procedures are applied for the disaggregation of intermediate input into each business size.
- Using the initial estimates for the intermediate matrix and provided control total for the intermediate demand and intermediate input, the 25 sub-matrices are adjusted by using RAS method.

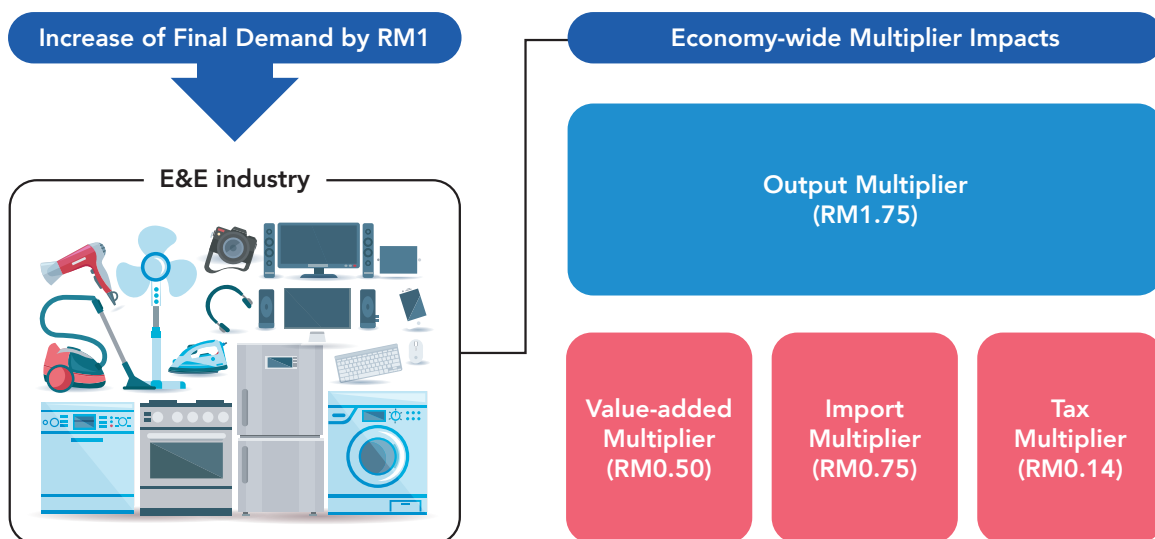
Applications of SME Input-Output Table

Input-output analysis is commonly used by policymakers to assess two important information, namely the various multiplier impacts and linkages effects i.e. backward and forward linkages. Multiplier impacts describe the economy-wide impact of a certain investment, injection or shocks on economic indicators such as on value-added, output, imports and income. In input-output analysis, growth in output for an industry is determined by the growth in final demand of the industry. For example, the output multiplier measures

the impact on total output that are potentially generated by each additional Ringgit of the final demand for a particular industry.

Chart 2.3 presents the hypothetical example for electrical & electronics (E&E) industry. As a result of an increase of final demand by RM1.00, the industry will generate a total output multiplier in the economy of RM1.75, comprising value-added multiplier (RM0.50), import multiplier (RM0.75) and tax multiplier (RM0.14).

Chart 2.3: Economy-wide Multiplier Impacts in E&E Industry

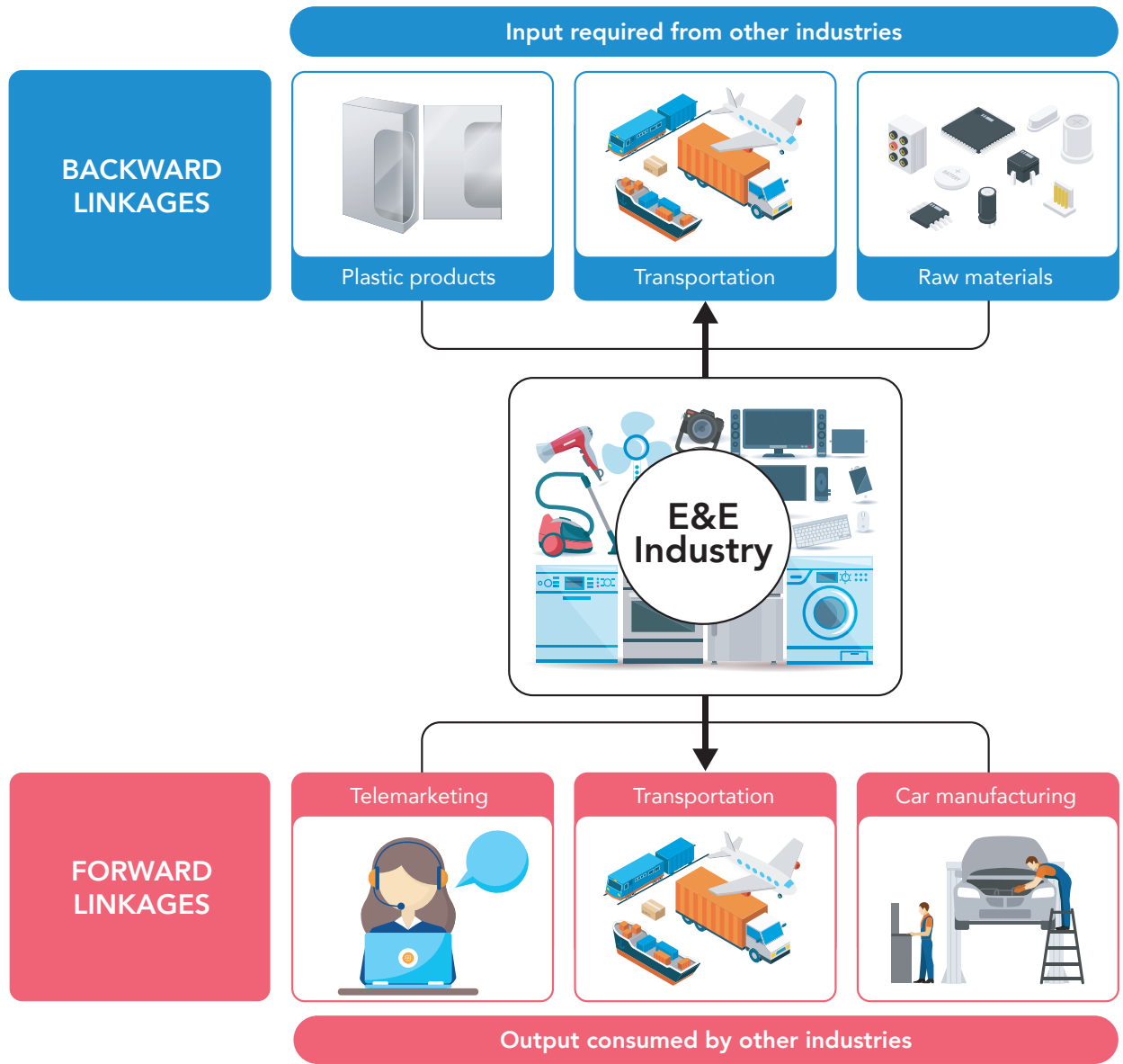


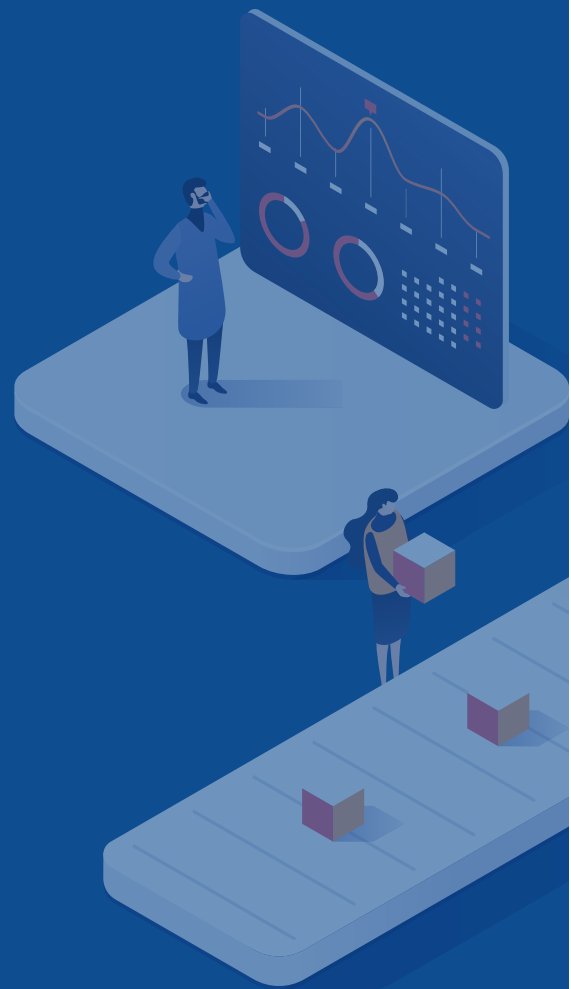
Although multiplier impacts have always become the main tool choice for justifying the importance of an industry for growth promotion, it is commonly used along with the information from the linkages analysis. Specifically, analysis on linkages measures the extent to which the growth of the industries that associated with high multipliers could also bring benefits to other industries. An industry may have high multipliers, but it does not affirm that the industry is actively sending impulses to other industries. Consequently, the existence of high multipliers, without further information, does not imply that the particular industry can be considered as a driver of the economy. It might be cases where growth in an industry

only benefits its own peers rather than pulling and supporting growth of other industries.

Chart 2.4 presents the hypothetical example of the linkages effects driven by E&E industry. In this example, backward linkages present the dependency of E&E industry in obtaining intermediate input from other industries. For forward linkages, it indicates the consumption level of other industries on the output produced by E&E industry. Based on both backward and forward linkages, the increase in the demand of output from E&E industry will result in the increase capability of the industry to pull and push the growth of the industries along it value and supply chain.

Chart 2.4: Linkages Effects of E&E Industry





Chapter 3

Analysis on SME Input-Output Table



Chapter 3

Analysis on SME Input-Output Table

A broad framework in assessing the interdependence of various industries in acquiring and purchasing inputs is being laid out through SME Input-Output Table. This chapter features the key findings of the analysis, describing in detail the relationship between microenterprises, small, medium and large firms. The findings of the analysis are outlined as the following:

- i. Contribution of SMEs to value-added, output and imports;
- ii. Input requirement by SMEs and large firms;
- iii. Output production by SMEs and large firms;
- iv. Potential key industries of SMEs; and
- v. Industries with high import intensity.

Contribution of SMEs to Value-added, Output and Imports

Based on the SME Input-Output analysis, findings showed that SMEs contributed about one-third (32.3%) to total value-added created in the economy and 31.9% to total output (refer to Table 3.1). Meanwhile, large firms accounted for a bigger portion of 44.5% to total value-added and about 48.0% to total output. Focusing on the value-added contribution, it is interesting to note that among SMEs, the small-sized firms have higher value-added contribution (15.2%) as compared to microenterprises (6.3%) and medium-sized firms (10.8%).

In terms of imports, detailed findings showed that the dependency rate on imports increases along the size of the firms with most of the imports in the economy were contributed by large firms. Of total imports, it can be seen clearly that large firms relied heavily on imports (62.8%) in producing their products and services as compared to SMEs. SMEs contributed about one-fourth (25.3%) to total imports, of which microenterprises, small and medium-sized SMEs imported 2.9%, 10.7% and 11.7% respectively.

Table 3.1: Contribution to Value-added, Output and Imports by Business Size

Business Size	Value-added		Output		Imports	
	RM billion	%	RM billion	%	RM billion	%
SMEs	260.1	32.3	662.5	31.9	102.1	25.3
• Micro	50.7	6.3	96.7	4.7	11.7	2.9
• Small	122.1	15.2	278.5	13.4	43.2	10.7
• Medium	87.3	10.8	287.3	13.9	47.2	11.7
Large firms	358.2	44.5	995.3	48.0	253.0	62.8
Rest of Sectors	186.8	23.2	416.4	20.1	48.0	11.9
Total	805.2	100.0	2,074.2	100.0	403.1	100.0

Note: Figures may not necessarily add up due to rounding

Looking at the contribution to value-added, output and imports across industries and business size, it is shown that microenterprises and small-sized SMEs in retail trade industry has the highest contribution (refer to Table 3.2). This finding signifies that retail trade remains the biggest contributor to SMEs in the economy.

Table 3.2: Top Three Industries with Highest Contribution to Value-added, Output and Imports

Indicator	Size	Industries	RM billion	%
Value-added	Micro	• Retail trade	13.5	26.6
		• Restaurants	6.6	13.0
		• Professional services	4.6	9.1
	Small	• Retail trade	19.8	16.2
		• Professional services	13.7	11.2
		• Other specialised wholesale	6.4	5.3
	Medium	• Oil palm production (agriculture)	11.1	12.7
		• Professional services	5.6	6.4
		• Retail trade	4.2	4.8
	Large firms	• Crude oil & natural gas extraction	81.9	22.9
		• Oil palm production (agriculture)	29.3	8.2
		• Television and radio receivers & transmitters (manufacturing)	25.1	7.0
Output	Micro	• Retail trade	23.0	23.8
		• Restaurants	16.0	16.5
		• Professional services	7.2	7.5
	Small	• Retail trade	34.9	12.5
		• Professional services	21.7	7.8
		• Oils & fats (manufacturing)	16.6	6.0
	Medium	• Oils & fats (manufacturing)	64.8	22.6
		• Oil palm production (agriculture)	14.7	5.1
		• Professional services	9.5	3.3
	Large firms	• Petroleum refinery	99.3	10.0
		• Crude oil and natural gas extraction	97.4	9.8
		• Semi-conductor devices, electronic valves, tubes & printed circuit boards (manufacturing)	92.1	9.3
Imports	Micro	• Retail trade	2.7	23.4
		• Restaurants	1.7	14.5
		• Land transport	0.5	4.5
	Small	• Retail trade	4.2	9.7
		• Paints & varnishes & other chemicals product	2.2	5.2
		• Plastics products	1.9	4.3
	Medium	• Paints & varnishes & other chemicals product	2.9	6.0
		• Oils & fats (manufacturing)	2.8	6.0
		• Insulated wires & cables	2.7	5.8
	Large firms	• Semi-conductor devices, electronic valves, tubes & printed circuit boards (manufacturing)	52.2	20.6
		• Television and radio receivers & transmitters (manufacturing)	32.0	12.6
		• Domestic appliances & office, accounting & computing machinery (manufacturing)	24.1	9.5

Note: Figures may not necessarily add up due to rounding

Input Requirement by SMEs and Large Firms

Given that the SMEs contributed lower value-added and output to the economy as compared to large firms, further analysis is done to analyse the relationship between SMEs and large firms by observing the flow of input and output in the production process. In a production process, there are three types of inputs being required, namely intermediate input, primary input (factors of production) and imported input (refer to Table 3.3).

For example, Table 3.3 showed that out of total inputs required by microenterprises (RM96.7 billion) to produce products and

deliver their services, RM6.0 billion (6.2%) of inputs were obtained from its own cluster of microenterprises, RM10.0 billion (10.3%) from small-sized SMEs, RM4.0 billion (4.1%) from medium-sized SMEs, RM4.9 billion (5.1%) from large firms and RM9.2 billion (9.5%) from the rest of sectors. Meanwhile, in terms of primary input, microenterprises purchased imported input of RM11.7 billion (12.1%) to produce their products and services. They also paid RM0.8 billion (0.9%) of taxes to the Government, received subsidy amounted to RM0.6 billion (0.6%) and created RM50.7 billion (52.4%) of value-added to the economy.

Table 3.3: Input Requirement by SMEs and Large Firms

Business Size		SMEs		MICRO		SMALL		MEDIUM		LARGE FIRMS			
		RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%		
INTERMEDIATE INPUT	Micro	163.6	24.7	6.0	6.2	12.4	4.5	5.9	2.0	8.8	0.9		
	Small			10.0	10.3	33.1	11.9	27.5	9.6	38.8	3.9		
	Medium			4.0	4.1	22.5	8.1	42.2	14.7	53.6	5.4		
	Large firms			95.9	14.5	4.9	5.1	29.3	10.5	61.7	21.5	237.1	23.8
	Rest of sectors			40.0	6.0	9.2	9.5	15.6	5.6	15.3	5.3	43.8	4.4
PRIMARY INPUT	Imported commodities	102.1	15.4	11.7	12.1	43.2	15.5	47.2	16.4	253.0	25.4		
	Taxes on products	4.9	0.7	0.8	0.9	2.3	0.8	1.8	0.6	6.2	0.6		
	Subsidies on products	4.0	0.6	0.6	0.6	1.9	0.7	1.5	0.5	4.3	0.4		
	Value-added	260.1	39.3	50.7	52.4	122.1	43.8	87.3	30.4	358.2	36.0		
	• Compensation of employees	79.1	11.9	16.0	16.6	37.3	13.4	25.8	9.0	86.9	8.7		
	• Operating surplus	180.9	27.3	34.6	35.8	84.7	30.4	61.6	21.4	271.4	27.3		
	TOTAL INPUT	662.5	100.0	96.7	100.0	278.5	100.0	287.3	100.0	995.3	100.0		

Note: Figures may not necessarily add up due to rounding

Findings highlighted that there was a weak linkage between SMEs and large firms in terms of supply and production. SMEs were dependent on large firms in acquiring inputs, but large firms do not rely heavily on SMEs. It can be seen that microenterprises, small and medium firms purchased 5.1%, 10.5% and 21.5% of their total inputs, respectively from large firms for their production process. However, large firms bought much lesser inputs from microenterprises (0.9%), small (3.9%) and medium (5.4%) as they were highly dependent on suppliers within their own cluster of large firms (23.8%) as well as imported input (25.4%).

Moreover, large firms were more import intensive as they imported about one-fourth (25.4%) of its total inputs which indicated

the loose connection or interaction with SMEs. Higher dependency on imports will significantly reduce value-added creation as imports are considered as source of leakage in the economy. This is clearly depicted in Table 3.3 whereby large firms have lower degree of value-added intensity per Ringgit of output produced in the economy, which was only RM0.36 for large firms as compared to RM0.39 for SMEs. With lower value-added creation, profits gained by businesses and salaries received by employees might be reduced.

To further explore the input requirement of SMEs and large firms by key economic sector, Table 3.4 to Table 3.8 illustrated the related information.

Table 3.4: Input Requirement by SMEs and Large Firms in Services Sector

Business Size	Micro Services		Micro Other Sectors		Small Services		Small Other Sectors		Medium Services		Medium Other Sectors		Large Services		Large Other Sectors		Rest of Sectors	
	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%
Micro Services	4.8	5.7	1.0	7.9	6.5	3.9	4.9	4.3	1.8	2.2	2.7	1.3	2.0	1.0	4.7	0.6	9.1	2.2
Micro Other Sectors	0.1	0.2	0.0	0.4	0.4	0.2	0.6	0.6	0.2	0.3	1.1	0.5	0.3	0.2	1.8	0.2	0.9	0.2
Small Services	7.5	9.0	1.6	12.1	14.4	8.7	10.0	8.8	5.0	6.1	7.4	3.6	5.6	2.9	12.1	1.5	19.4	4.7
Small Other Sectors	0.6	0.7	0.2	1.7	2.9	1.7	5.9	5.2	2.0	2.4	13.1	6.4	2.6	1.4	18.5	2.3	6.5	1.6
Medium Services	2.5	3.0	0.5	3.7	6.3	3.8	3.9	3.4	3.2	3.9	4.1	2.0	4.7	2.4	7.7	1.0	12.5	3.0
Medium Other Sectors	0.7	0.8	0.3	2.1	3.6	2.2	8.7	7.7	3.5	4.3	31.3	15.3	4.8	2.5	36.4	4.5	8.4	2.0
Large Services	3.2	3.8	0.7	5.1	7.5	4.5	5.2	4.6	4.6	5.6	5.4	2.6	20.3	10.6	22.6	2.8	26.7	6.4
Large Other Sectors	0.7	0.8	0.4	3.0	4.7	2.8	11.9	10.5	5.7	6.9	46.0	22.5	28.1	14.6	166.1	20.7	20.8	5.0
Rest of Sectors	8.7	10.4	0.4	3.4	12.5	7.6	3.1	2.8	6.9	8.3	8.4	4.1	10.0	5.2	33.7	4.2	76.3	18.3
Imported Commodities	9.0	10.7	2.8	21.2	18.2	11.0	24.9	22.0	9.5	11.6	37.6	18.4	28.8	15.0	224.2	27.9	48.0	11.5
Taxes on Products	0.8	0.9	0.1	0.6	1.6	1.0	0.7	0.6	0.8	1.0	1.0	0.5	1.8	0.9	4.4	0.6	1.6	0.4
Subsidies on Products	0.5	0.6	0.1	0.6	1.1	0.7	0.8	0.7	0.5	0.6	1.0	0.5	1.9	1.0	2.4	0.3	0.7	0.2
Value-added	45.5	54.4	5.1	39.5	87.6	53.1	34.4	30.3	39.6	48.1	47.8	23.3	85.2	44.3	273.1	34.0	186.8	44.9
- Compensation of Employees	14.5	17.4	1.5	11.7	27.5	16.6	9.8	8.7	12.2	14.8	13.5	6.6	25.8	13.4	61.1	7.6	94.4	22.7
- Operating Surplus	31.0	37.1	3.6	27.9	60.2	36.4	24.6	21.7	27.4	33.2	34.2	16.7	59.4	30.9	212.0	26.4	92.5	22.2
Total Input	83.7	100.0	13.0	100.0	165.1	100.0	113.4	100.0	82.3	100.0	205.0	100.0	192.3	100.0	802.9	100.0	416.4	100.0

Note: Other sectors refer to manufacturing, construction, agriculture and mining & quarrying sectors. Figures may not necessarily add up due to rounding.

Table 3.5: Input Requirement by SMEs and Large Firms in Manufacturing Sector

Business Size	Micro Manufacturing		Micro Other Sectors		Small Manufacturing		Small Other Sectors		Medium Manufacturing		Medium Other Sectors		Large Manufacturing		Large Other Sectors		Rest of Sectors	
	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%
Micro Manufacturing	0.0	0.2	0.0	0.0	0.3	0.3	0.3	0.1	0.5	0.3	0.3	0.2	0.8	0.2	0.4	0.1	0.6	0.1
Micro Other Sectors	0.7	8.8	5.3	5.9	4.3	4.9	7.6	4.0	2.5	1.6	2.5	1.9	4.2	0.8	3.3	0.7	9.5	2.3
Small Manufacturing	0.1	1.3	0.3	0.3	3.8	4.4	2.8	1.5	8.8	5.6	3.0	2.3	11.0	2.0	5.1	1.2	4.8	1.2
Small Other Sectors	1.0	13.8	8.6	9.6	9.2	10.6	17.2	9.0	8.4	5.4	7.3	5.6	13.3	2.4	9.5	2.2	21.1	5.1
Medium Manufacturing	0.1	1.4	0.3	0.4	5.4	6.2	3.8	2.0	21.9	14.0	4.9	3.7	18.9	3.4	8.6	2.0	5.3	1.3
Medium Other Sectors	0.4	5.2	3.2	3.6	5.2	6.0	8.0	4.2	9.9	6.4	5.5	4.2	16.5	2.9	9.6	2.2	15.5	3.7
Large Manufacturing	0.1	1.9	0.4	0.5	6.5	7.5	4.9	2.6	22.7	14.5	7.8	6.0	53.4	9.5	47.0	10.8	13.0	3.1
Large Other Sectors	0.6	7.7	3.8	4.3	8.4	9.6	9.5	5.0	22.6	14.5	8.5	6.5	99.7	17.7	37.1	8.5	34.5	8.3
Rest of Sectors	0.1	1.2	9.1	10.2	2.0	2.3	13.6	7.1	5.3	3.4	10.0	7.6	17.4	3.1	26.4	6.1	76.3	18.3
Imported Commodities	2.1	27.8	9.6	10.8	21.7	24.9	21.5	11.2	32.0	20.5	15.2	11.6	200.4	35.7	52.6	12.1	48.0	11.5
Taxes on Products	0.0	0.6	0.8	0.9	0.5	0.6	1.8	0.9	0.7	0.5	1.1	0.8	3.3	0.6	2.9	0.7	1.6	0.4
Subsidies on Products	0.0	0.4	0.6	0.6	0.6	0.7	1.3	0.7	0.6	0.4	0.9	0.7	1.2	0.2	3.1	0.7	0.7	0.2
Value-added	2.3	30.4	48.4	54.2	20.2	23.3	101.8	53.2	21.7	13.9	65.6	50.2	123.7	22.0	234.6	54.1	186.8	44.9
- Compensation of Employees	0.7	9.8	15.3	17.2	6.3	7.2	31.0	16.2	6.9	4.4	18.9	14.4	33.7	6.0	53.2	12.3	94.4	22.7
- Operating Surplus	1.5	20.7	33.1	37.1	14.0	16.0	70.8	37.0	14.8	9.5	46.8	35.7	90.0	16.0	181.4	41.8	92.5	22.2
Total Input	7.4	100.0	89.3	100.0	87.1	100.0	191.5	100.0	156.5	100.0	130.8	100.0	561.5	100.0	433.7	100.0	416.4	100.0

Note: Other sectors refer to services, construction, agriculture and mining & quarrying sectors.
 Figures may not necessarily add up due to rounding.

Table 3.6: Input Requirement by SMEs and Large Firms in Construction Sector

Business Size	Micro Construction		Micro Other Sectors		Small Construction		Small Other Sectors		Medium Construction		Medium Other Sectors		Large Construction		Large Other Sectors		Rest of Sectors	
	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%
Micro Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.0
Micro Other Sectors	0.1	9.3	5.9	6.2	0.3	5.6	12.1	4.4	0.3	2.1	5.6	2.0	0.7	1.0	7.8	0.8	10.0	2.4
Small Construction	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.1	0.0	0.4	0.5	0.6	0.1	0.5	0.1
Small Other Sectors	0.2	15.9	9.8	10.2	0.9	14.6	32.2	11.8	1.2	9.5	26.2	9.5	3.3	4.7	34.6	3.7	25.4	6.1
Medium Construction	0.0	0.1	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.5	0.2	0.1	0.8	1.2	1.1	0.1	1.0	0.2
Medium Other Sectors	0.1	5.8	3.9	4.1	0.6	9.4	21.9	8.0	1.2	9.7	40.7	14.8	3.8	5.4	47.8	5.2	19.8	4.8
Large Construction	0.0	0.6	0.0	0.0	0.1	1.3	0.2	0.1	0.4	2.9	0.6	0.2	5.0	7.0	3.5	0.4	5.0	1.2
Large Other Sectors	0.1	8.0	4.8	5.0	0.8	13.5	28.2	10.3	2.0	16.1	58.7	21.4	12.9	18.2	215.7	23.3	42.6	10.2
Imported Commodities	0.0	2.7	9.1	9.6	0.3	4.5	15.3	5.6	1.1	8.4	14.2	5.2	10.4	14.7	33.3	3.6	76.3	18.3
Taxes on Products	0.2	19.9	11.5	12.0	1.1	19.2	42.0	15.4	2.4	18.6	44.8	16.3	12.1	17.0	240.9	26.1	48.0	11.5
Subsidies on Products	0.0	0.4	0.8	0.9	0.0	0.4	2.3	0.8	0.1	0.4	1.7	0.6	0.3	0.4	5.9	0.6	1.6	0.4
Subsidy	0.0	0.4	0.6	0.6	0.0	0.4	1.9	0.7	0.0	0.4	1.5	0.5	0.3	0.4	4.0	0.4	0.7	0.2
Value-added	0.4	37.6	50.2	52.6	1.9	31.5	120.2	44.1	4.0	31.7	83.3	30.3	21.5	30.2	336.8	36.4	186.8	44.9
- Compensation of Employees	0.3	26.7	15.7	16.5	1.3	22.4	36.0	13.2	2.9	22.5	22.9	8.3	15.1	21.2	71.8	7.8	94.4	22.7
- Operating Surplus	0.1	10.9	34.5	36.1	0.5	9.2	84.2	30.9	1.2	9.2	60.4	22.0	6.4	9.0	265.0	28.7	92.5	22.2
Total Input	1.2	100.0	95.5	100.0	5.9	100.0	272.7	100.0	12.7	100.0	274.6	100.0	71.1	100.0	924.2	100.0	416.4	100.0

Note: Other sectors refer to services, manufacturing, agriculture and mining & quarrying sectors. Figures may not necessarily add up due to rounding.

Table 3.7: Input Requirement by SMEs and Large Firms in Agriculture Sector

Business Size	Micro		Micro		Small		Small		Medium		Medium		Large		Large		Rest of Sectors	
	RM billion	%	Other Sectors RM billion	%	Agriculture RM billion	%	Other Sectors RM billion	%	Agriculture RM billion	%	Other Sectors RM billion	%	Agriculture RM billion	%	Other Sectors RM billion	%	Rest of Sectors RM billion	%
Micro Agriculture	0.0	0.3	0.1	0.1	0.0	0.3	0.4	0.2	0.1	0.2	0.4	0.2	0.0	0.0	0.5	0.1	0.2	0.0
Micro Other Sectors	0.3	6.5	5.6	6.0	0.5	2.9	11.4	4.4	0.3	1.0	5.0	2.0	0.4	0.5	7.8	0.8	9.9	2.4
Small Agriculture	0.0	1.1	0.4	0.5	0.2	1.2	1.7	0.6	0.3	1.0	2.6	1.0	0.2	0.3	3.3	0.4	0.6	0.1
Small Other Sectors	0.4	9.8	9.1	9.8	1.5	8.3	29.6	11.4	1.5	4.7	23.1	9.1	1.5	2.3	33.8	3.6	25.3	6.1
Medium Agriculture	0.0	1.1	0.5	0.5	0.2	1.0	2.6	1.0	0.6	1.9	6.6	2.6	1.3	1.9	9.4	1.0	0.9	0.2
Medium Other Sectors	0.1	3.3	3.3	3.6	1.1	5.8	18.7	7.2	1.5	4.7	33.5	13.1	1.7	2.5	41.2	4.4	19.9	4.8
Large Agriculture	0.0	0.6	0.4	0.5	0.2	0.8	4.5	1.7	1.4	4.3	17.1	6.7	4.0	5.8	25.3	2.7	1.6	0.4
Large Other Sectors	0.2	4.7	4.3	4.6	1.1	5.8	23.6	9.1	2.0	6.3	41.2	16.2	6.2	9.0	201.7	21.8	45.9	11.0
Rest of Sectors	0.3	7.7	8.8	9.6	0.9	4.6	14.7	5.7	2.0	6.3	13.2	5.2	4.7	6.8	39.1	4.2	76.3	18.3
Imported Commodities	0.4	10.3	11.3	12.2	1.9	10.4	41.2	15.9	3.0	9.2	44.2	17.3	5.8	8.5	247.2	26.7	48.0	11.5
Taxes on Products	0.0	0.5	0.8	0.9	0.1	0.6	2.2	0.8	0.2	0.7	1.6	0.6	0.6	0.9	5.6	0.6	1.6	0.4
Subsidies on Products	0.0	1.1	0.6	0.6	0.2	1.2	1.7	0.6	0.3	0.9	1.2	0.5	0.5	0.7	3.8	0.4	0.7	0.2
Value-added	2.4	55.2	48.3	52.3	11.1	59.6	110.9	42.7	19.6	60.5	67.8	26.6	42.7	62.3	315.5	34.1	186.8	44.9
- Compensation of Employees	0.5	10.9	15.6	16.9	2.1	11.4	35.2	13.5	3.6	11.2	22.2	8.7	7.7	11.2	79.2	8.5	94.4	22.7
- Operating Surplus	1.9	44.2	32.7	35.4	9.0	48.2	75.7	29.1	15.9	49.4	45.6	17.9	35.0	51.0	236.4	25.5	92.5	22.2
Total Input	4.3	100.0	92.4	100.0	18.7	100.0	259.9	100.0	32.3	100.0	255.0	100.0	68.6	100.0	926.7	100.0	416.4	100.0

Note: Other sectors refer to services, manufacturing, construction and mining & quarrying sectors.
Figures may not necessarily add up due to rounding.

Table 3.8: Input Requirement by SMEs and Large Firms in the Mining & Quarrying Sector

Business Size	Micro Mining		Micro Other Sectors		Small Mining		Small Other Sectors		Medium Mining		Medium Other Sectors		Large Mining		Large Other Sectors		Rest of Sectors	
	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%
Micro Mining	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Micro Other Sectors	0.0	5.2	6.0	6.2	0.1	3.7	12.3	4.5	0.1	1.6	5.8	2.0	0.2	0.2	8.5	1.0	10.0	2.4
Small Mining	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.6	0.1	0.6	0.1
Small Other Sectors	0.0	10.5	9.9	10.3	0.2	10.0	32.8	11.8	0.2	5.8	27.0	9.5	0.8	0.8	37.4	4.2	25.4	6.1
Medium Mining	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.3	0.6	0.2	0.0	0.0	1.0	0.1	1.2	0.3
Medium Other Sectors	0.0	4.3	4.0	4.1	0.1	5.4	22.2	8.0	0.2	4.6	41.5	14.6	1.0	1.0	51.5	5.8	19.6	4.7
Large Mining	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.1	0.0	0.3	1.8	0.6	1.1	1.1	55.0	6.2	1.3	0.3
Large Other Sectors	0.0	5.1	4.9	5.1	0.1	6.6	28.9	10.4	0.2	7.1	59.6	21.0	6.5	6.4	174.5	19.5	46.2	11.1
Rest of Sectors	0.0	0.1	9.2	9.5	0.0	0.4	15.6	5.6	0.0	0.4	15.2	5.4	1.2	1.2	42.6	4.8	76.3	18.3
Imported Commodities	0.0	8.6	11.7	12.1	0.2	8.3	43.0	15.5	0.3	8.5	46.9	16.5	5.9	5.8	247.1	27.7	48.0	11.5
Taxes on Products	0.0	0.4	0.8	0.9	0.0	0.4	2.3	0.8	0.0	0.4	1.8	0.6	0.2	0.2	6.0	0.7	1.6	0.4
Subsidies on Products	0.0	0.5	0.6	0.6	0.0	0.5	1.9	0.7	0.0	0.5	1.5	0.5	0.4	0.4	3.9	0.4	0.7	0.2
Value-added	0.1	66.2	50.6	52.4	1.2	65.0	120.9	43.7	2.5	71.3	84.8	29.9	85.2	83.7	273.0	30.6	186.8	44.9
- Compensation of Employees	0.0	5.2	16.0	16.6	0.1	5.3	37.2	13.4	0.2	5.9	25.6	9.0	4.6	4.5	82.3	9.2	94.4	22.7
- Operating Surplus	0.1	61.0	34.6	35.8	1.1	59.7	83.7	30.2	2.3	65.5	59.3	20.9	80.6	79.2	190.8	21.4	92.5	22.2
Total Input	0.1	100.0	96.6	100.0	1.8	100.0	276.7	100.0	3.5	100.0	283.8	100.0	101.8	100.0	893.5	100.0	416.4	100.0

Note: Other sectors refer to services, manufacturing, construction and agriculture sectors. Figures may not necessarily add up due to rounding.

Output Production by SMEs and Large Firms

Information on the output consumption by industries and final consumers can be further analysed by exploring the output structure of SMEs and large firms. Generally, output is demanded by consumers locally (domestic market) or abroad (foreign market). Intermediate demand, private consumption, government consumption and investment are the four components that describes domestic demand, while exports are considered as foreign demand.

Taking example for microenterprises, from the total output of RM96.7 billion produced by microenterprises, RM43.1 billion (44.6%) flowed back into the economy as intermediate input (refer to Table 3.9). Meanwhile, about RM35.0 billion (36.1%) of output went to the domestic demand component, of which private consumption, government consumption and investment demanded RM30.6 billion (31.6%), RM1.2 billion (1.2%) and RM3.2 billion (3.3%) respectively. In terms of exports, about RM18.6 billion (19.2%) of microenterprises' total output were for export market.

Table 3.9: Output Production by SMEs and Large Firms

Component	SMEs		Micro		Small		Medium		Large Firms		Rest of Sectors	
	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%
Intermediate Demand	321.6	48.5	43.1	44.6	135.3	48.6	143.1	49.8	380.5	38.2	160.1	38.5
Private Consumption	129.5	19.6	30.6	31.6	58.2	20.9	40.7	14.2	115.0	11.6	112.0	26.9
Government Consumption	4.6	0.7	1.2	1.2	2.0	0.7	1.4	0.5	5.2	0.5	91.6	22.0
Investment	31.7	4.8	3.2	3.3	12.3	4.4	16.3	5.7	70.6	7.1	7.1	1.7
Exports	175.1	26.4	18.6	19.2	70.7	25.4	85.8	29.9	423.8	42.6	45.6	10.9
Total Output	662.5	100.0	96.7	100.0	278.5	100.0	287.3	100.0	995.3	100.0	416.4	100.0

Note: Figures may not necessarily add up due to rounding

Based on the findings displayed above, it is shown that 48.5% of total output produced by SMEs flowed back into the economy as intermediate input while large firms accounted for a lower portion of 38.2%. The larger the amount of output being consumed as intermediate input, the more domestically integrated it is with other industries. Hence, in this case, SMEs are more domestically integrated with other industries as compared to large firms.

Focusing on the output for private consumption, findings highlighted that output produced by microenterprises were highly demanded (31.6%) by household, which further supports its domestic-oriented characteristics as compared to other business size. Unlike microenterprises, output particularly from medium-sized SMEs and large firms were often targeted for export market. As a whole, SMEs exported only 26.4% while large firms exported as high as 42.6% of their total output. The difference in export intensity and the market it serves suggest that different policies are required to drive the growth of each of these firms across business size.

To further explore the output production by SMEs and large firms according to economic sector, Table 3.10 to Table 3.14 present the related information.

Table 3.10: Output Production by SMEs and Large Firms in the Services Sector

Component	Micro Services		Micro Other Sectors		Small Services		Small Other Sectors		Medium Services		Medium Other Sectors		Large Services		Large Other Sectors		Rest of Sectors	
	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%
Intermediate Demand	37.5	44.8	5.6	43.0	83.0	50.3	52.4	46.2	45.4	55.2	97.7	47.7	96.1	49.9	284.5	35.4	160.1	38.5
Private Consumption	27.9	33.3	2.7	21.1	43.2	26.2	15.0	13.2	18.5	22.5	22.2	10.8	53.9	28.0	61.1	7.6	112.0	26.9
Government Consumption	1.2	1.4	-	-	2.0	1.2	-	-	1.4	1.6	-	-	5.2	2.7	-	-	91.6	22.0
Investment	2.3	2.7	0.9	7.3	5.3	3.2	7.0	6.1	2.3	2.8	14.0	6.8	3.0	1.6	67.6	8.4	7.1	1.7
Exports	14.9	17.8	3.7	28.6	31.6	19.1	39.1	34.5	14.8	17.9	71.0	34.7	34.1	17.7	389.8	48.5	45.6	10.9
Total Output	83.7	100.0	13.0	100.0	165.1	100.0	113.4	100.0	82.3	100.0	205.0	100.0	192.3	100.0	802.9	100.0	416.4	100.0

Note: Other sectors refer to manufacturing, construction, agriculture and mining & quarrying sectors.
Figures may not necessarily add up due to rounding.

Table 3.11: Output Production by SMEs and Large Firms in the Manufacturing Sector

Component	Micro Manufacturing		Micro Other Sectors		Small Manufacturing		Small Other Sectors		Medium Manufacturing		Medium Other Sectors		Large Manufacturing		Large Other Sectors		Rest of Sectors	
	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%
Intermediate Demand	3.3	44.3	39.8	44.6	39.8	45.7	95.6	49.9	69.2	44.2	73.9	56.5	155.8	27.8	224.7	51.8	160.1	38.5
Private Consumption	1.0	12.9	29.6	33.2	8.1	9.3	50.1	26.2	14.6	9.3	26.2	20.0	50.8	9.0	64.3	14.8	112.0	26.9
Government Consumption	-	-	1.2	1.3	-	-	2.0	1.1	-	-	1.4	1.0	-	-	5.2	1.2	91.6	22.0
Investment	0.1	1.1	3.1	3.5	2.7	3.1	9.5	5.0	5.8	3.7	10.5	8.0	18.7	3.3	51.9	12.0	7.1	1.7
Exports	3.1	41.7	15.5	17.4	36.5	41.9	34.3	17.9	66.8	42.7	19.0	14.5	336.2	59.9	87.6	20.2	45.6	10.9
Total Output	7.4	100.0	89.3	100.0	87.1	100.0	191.5	100.0	156.5	100.0	130.8	100.0	561.5	100.0	433.7	100.0	416.4	100.0

Note: Other sectors refer to services, construction, agriculture and mining & quarrying sectors.
Figures may not necessarily add up due to rounding.

Table 3.12: Output Production by SMEs and Large Firms in the Construction Sector

Component	Micro Construction		Micro Other Sectors		Small Construction		Small Other Sectors		Medium Construction		Medium Other Sectors		Large Construction		Large Other Sectors		Rest of Sectors	
	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%
Intermediate Demand	0.4	29.8	42.8	44.8	1.6	28.0	133.7	49.0	3.3	25.9	139.9	50.9	14.7	20.7	365.8	39.6	160.1	38.5
Private Consumption	0.2	16.1	30.4	31.8	0.8	14.0	57.4	21.0	1.5	12.0	39.2	14.3	4.3	6.0	110.7	12.0	112.0	26.9
Government Consumption	-	-	1.2	1.2	-	-	2.0	0.7	-	-	1.4	0.5	-	-	5.2	0.6	91.6	22.0
Investment	0.6	50.1	2.6	2.7	3.1	53.5	9.1	3.3	7.2	57.1	9.0	3.3	47.7	67.1	23.0	2.5	7.1	1.7
Exports	0.0	4.0	18.6	19.4	0.3	4.6	70.5	25.8	0.6	5.0	85.2	31.0	4.4	6.1	419.5	45.4	45.6	10.9
Total Output	1.2	100.0	95.5	100.0	5.9	100.0	272.7	100.0	12.7	100.0	274.6	100.0	71.1	100.0	924.2	100.0	416.4	100.0

Note: Other sectors refer to services, manufacturing, agriculture and mining & quarrying sectors.
Figures may not necessarily add up due to rounding.

Table 3.13: Output Production by SMEs and Large Firms in the Agriculture Sector

Component	Micro Agriculture		Micro Other Sectors		Small Agriculture		Small Other Sectors		Medium Agriculture		Medium Other Sectors		Large Agriculture		Large Other Sectors		Rest of Sectors	
	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%
Intermediate Demand	1.9	43.5	41.3	44.6	9.4	50.3	125.9	48.5	22.1	68.5	121.0	47.5	54.4	79.3	326.1	35.2	160.1	38.5
Private Consumption	1.6	37.1	29.0	31.4	6.0	32.3	52.2	20.1	6.1	19.0	34.6	13.6	5.9	8.6	109.1	11.8	112.0	26.9
Government Consumption	-	-	1.2	1.3	-	-	2.0	0.8	-	-	1.4	0.5	-	-	5.2	0.6	91.6	22.0
Investment	0.3	6.2	3.0	3.2	1.1	5.9	11.2	4.3	0.9	2.8	15.4	6.0	1.6	2.3	69.1	7.5	7.1	1.7
Exports	0.6	13.3	18.0	19.5	2.1	11.5	68.6	26.4	3.1	9.7	82.7	32.4	6.7	9.8	417.1	45.0	45.6	10.9
Total Output	4.3	100.0	92.4	100.0	18.7	100.0	259.9	100.0	32.3	100.0	255.0	100.0	68.6	100.0	926.7	100.0	416.4	100.0

Note: Other sectors refer to services, manufacturing, construction and mining & quarrying sectors.
Figures may not necessarily add up due to rounding.

Table 3.14: Output Production by SMEs and Large Firms in the Mining & Quarrying Sector

Component	Micro Mining		Micro Other Sectors		Small Mining		Small Other Sectors		Medium Mining		Medium Other Sectors		Large Mining		Large Other Sectors		Rest of Sectors	
	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%	RM billion	%
Intermediate Demand	0.1	88.5	43.0	44.5	1.5	85.9	133.8	48.3	3.1	87.7	140.1	49.4	59.5	58.5	321.0	35.9	160.1	38.5
Private Consumption	0.0	0.0	30.6	31.7	0.0	0.0	58.2	21.0	0.0	0.0	40.7	14.4	0.1	0.1	114.9	12.9	112.0	26.9
Government Consumption	-	-	1.2	1.2	-	-	2.0	0.7	-	-	1.4	0.5	-	-	5.2	0.6	91.6	22.0
Investment	(0.0)	(0.1)	3.2	3.3	(0.0)	(0.1)	12.3	4.4	(0.0)	(0.0)	16.3	5.7	(0.4)	(0.4)	71.0	7.9	7.1	1.7
Exports	0.0	11.6	18.6	19.2	0.3	14.2	70.5	25.5	0.4	12.3	85.4	30.1	42.5	41.8	381.3	42.7	45.6	10.9
Total Output	0.1	100.0	96.6	100.0	1.8	100.0	276.7	100.0	3.5	100.0	283.8	100.0	101.8	100.0	893.5	100.0	416.4	100.0

Note: Other sectors refer to services, manufacturing, construction and agriculture sectors.
Figures may not necessarily add up due to rounding.
Figures in parentheses refer to negative values.

Potential Key Industries of SMEs

In developing SMEs in the country, it is very important to identify the key industries that will boost the economic performance. The analysis on input-output table provides various multipliers that can be used to estimate the economy-wide impacts that a change in economic activity has on the economy. The possible changes include a change in final demand due to policy shifts, increase in new construction projects, increase in government purchases, increase in investment by private and public sector or increase in exports. There are six type of multipliers that can be estimated, namely output, imports, tax, value-added, compensation of employees and operating surplus. Multipliers will highlight industries that are highly significant or insignificant in the

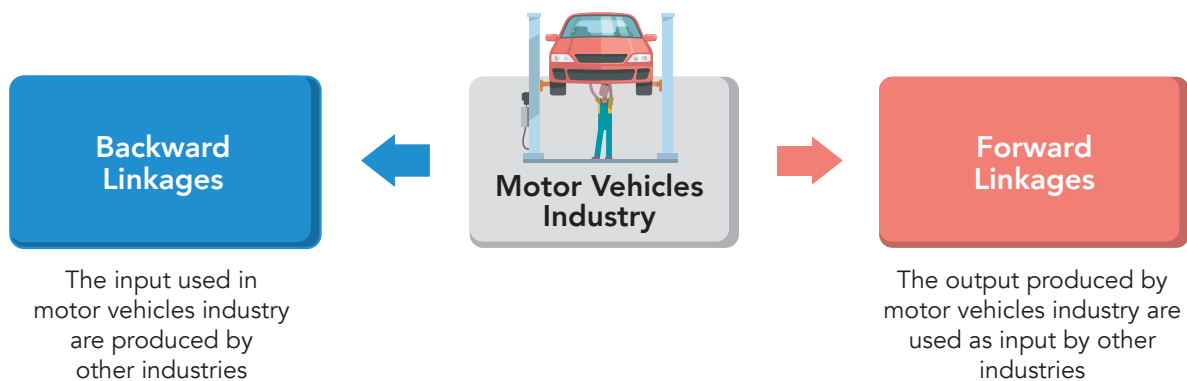
supply chain, thus pointing out which industries that should be focused on and potentially give higher impact to the SMEs ecosystem. In order to measure the total impact to the economy, multiplier impact for all industries covering SMEs and large firms are evaluated.

Besides that, the analysis on input-output table can also measure the effect of an industry's production has on other industries in the economy or also known as spillover effects. The magnitude of spillover effects can be measured through inter-industry linkages which shows the interaction among industries in producing and consuming intermediate input. There are two type of linkages, namely backward linkages and forward linkages.

- Backward linkages reflect the industries' dependency on their input suppliers for production process. If one specific industry increases its output, it will then give positive spillover and create an increase in demand on other industries whose products and services are being used as input to that specific industry's production.
- Forward linkages depict the interaction between industries and their consumers. In other words, it shows the output utilisation of which the output from one specific industry will be used as input to other industries for production or consumption.

This study measures the inter-industry linkages by applying the Hypothetical Extraction Method (HEM). HEM is applied as the alternative to the Rasmussen's linkages due to its capability in considering the size factor. Based on the linkages analysis, industries with backward linkages equal to 1 or higher is said to have a strong connection or interaction with its local input suppliers, while industries with forward linkages equal to 1 or higher is said to have a strong connection or interaction with its output local buyers. Chart 3.1 presents the concept of inter-industry linkages using motor vehicles industry as an example.

Chart 3.1: Concept of Backward and Forward Linkages in Motor Vehicles Industry



In this analysis, key industries of SMEs are determined by using value-added multipliers and backward linkages as the main indicators. Three main criteria is used for an industry to be termed as key industries:

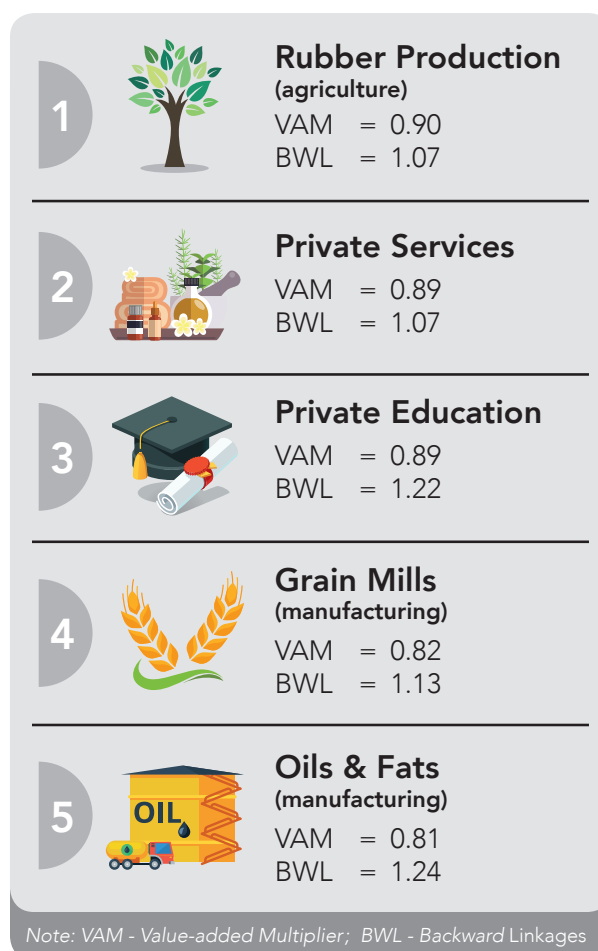
- i. Value-added multiplier of the industry must be ranked the highest;
- ii. Backward linkage of the industry must be greater than one; and
- iii. Key industries must appear in each SME business size i.e. microenterprises, small and medium-sized firms.

In comparison with output multiplier, value-added multiplier is being given the priority as it provides solid information due to exclusion of imports or foreign content components, thus giving better picture of sole economic contribution of each industry to the entire domestic economy. Industries that have high output multipliers do not necessarily have high value-added returns to the economy (Oosterhaven & Stelder, 2002). Meanwhile, backward linkages is more preferable as it expresses the 'pull factor' in the economy, of which it indicates how one particular industry can pull other industries to grow and develop together whenever there is an increase in the output production. Moreover, it is more suitable to use backward linkages as compared to forward linkages to identify the key drivers of growth as forward linkages do not capture the nature of businesses that serve the final consumers such as Restaurants, Accommodation, etc. (Miller & Blair, 2009).

Finding shows that rubber plantation, followed by other private services; private education; manufacturing of grain mills, starches & starch products and manufacturing of vegetable & animal oils & fats are among the top key industries with the biggest potential to drive the economy as these industries have the

highest value-added creation and strongest connection with its input suppliers (refer to Chart 3.2). Hence, these industries are capable to positively affect other related industries across the value chain and further expand the economy. Other private services refer to businesses, among others, that involve in personal service activities, such as laundry & dry-cleaning, hairdressing & beauty treatment, pet care services and repair of computers, personal & household goods. Further details on the top-ranked key industries by business size can be found in Appendix 4.

Chart 3.2: Potential Key Industries of SMEs



Industries with High Import Intensity

A thorough analysis from the findings revealed that most industries with high import multipliers tend to have low value-added multipliers. As described in the previous section, large firms have high import intensity compared to SMEs as they imported most of their input. Higher dependency on imports will significantly drag the value-added creation since imports are considered as the source of leakage in the economy.

As for SMEs, insulated wires & cables; optical instruments & photographic equipment; and basic precious & non-ferrous metals are among the top industries that have high imports multiplier (refer to Table 3.15). Moreover, looking at the composition of input requirement of these industries, it can be seen that they have imported more than half of its total inputs whereby optical instruments & photographic equipment industry tops the list at 65.4%. This finding implies that more efforts are needed to increase local content and reduce imported input as higher import dependence may result in lower linkages among the domestic production sector.

Table 3.15: Top 10 Industries among SMEs with High Import Intensity

Industry	Import Multiplier	VA Multiplier	Import Content to Total Input, %
Insulated Wires & Cables	0.762	0.236	64.3
Optical Instruments & Photographic Equipment	0.726	0.272	65.4
Basic Precious & Non- Ferrous Metals	0.683	0.313	56.8
Electrical Machinery & Apparatus	0.618	0.376	46.7
Domestic Appliances & Office, Accounting & Computing Machinery	0.612	0.386	56.7
Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	0.606	0.385	51.4
Casting of Metals	0.604	0.392	47.4
Motor Vehicles	0.587	0.352	46.1
Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	0.586	0.412	56.6
Iron & Steel Products	0.566	0.431	34.4

Note: Rankings are based on import multiplier

To further explore the import intensity by business size, Table 3.16 to Table 3.19 present the results for the top 10 industries with high import content.

Table 3.16: Top 10 Industries among Microenterprises with High Import Intensity

Industry	Import Multiplier	VA Multiplier
Insulated Wires & Cables	0.706	0.292
Optical Instruments & Photographic Equipment	0.705	0.292
Basic Precious & Non- Ferrous Metals	0.648	0.348
Domestic Appliances & Office, Accounting & Computing Machinery	0.626	0.371
Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	0.600	0.397
Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	0.570	0.421
Casting of Metals	0.560	0.436
Electrical Machinery & Apparatus	0.558	0.435
Motor Vehicles	0.531	0.411
Television & Radio Receivers & Transmitters, Sound or Video Recording or Reproducing Apparatus & Associated Goods	0.503	0.495

Note: Rankings are based on import multiplier

Table 3.17: Top 10 Industries among Small-sized Firms with High Import Intensity

Industry	Import Multiplier	VA Multiplier
Insulated Wires & Cables	0.721	0.277
Optical Instruments & Photographic Equipment	0.716	0.282
Basic Precious & Non- Ferrous Metals	0.662	0.335
Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	0.602	0.389
Electrical Machinery & Apparatus	0.596	0.397
Domestic Appliances & Office, Accounting & Computing Machinery	0.592	0.406
Casting of Metals	0.590	0.405
Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	0.574	0.424
Motor Vehicles	0.569	0.371
Other Electrical Machinery	0.551	0.442

Note: Rankings are based on import multiplier

Table 3.18: Top 10 Industries among Medium-sized Firms with High Import Intensity

Industry	Import Multiplier	VA Multiplier
Insulated Wires & Cables	0.773	0.225
Optical Instruments & Photographic Equipment	0.755	0.243
Basic Precious & Non- Ferrous Metals	0.692	0.304
Electrical Machinery & Apparatus	0.640	0.354
Domestic Appliances & Office, Accounting & Computing Machinery	0.624	0.373
Casting of Metals	0.620	0.376
Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	0.613	0.378
Motor Vehicles	0.603	0.336
Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	0.602	0.396
Iron & Steel Products	0.589	0.408

Note: Rankings are based on import multiplier

Table 3.19: Top 10 Industries among Large Firms with High Import Intensity

Industry	Import Multiplier	VA Multiplier
Insulated Wires & Cables	0.758	0.241
Optical Instruments & Photographic Equipment	0.745	0.253
Basic Precious & Non- Ferrous Metals	0.692	0.304
Motor Vehicles	0.669	0.259
Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	0.651	0.338
Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	0.646	0.352
Electrical Machinery & Apparatus	0.645	0.347
Domestic Appliances & Office, Accounting & Computing Machinery	0.639	0.358
Casting of Metals	0.617	0.380
Motorcycles	0.578	0.384

Note: Rankings are based on import multiplier

Box Article

Business Linkages Initiatives in Malaysia

Given its significant role in the economy, SMEs' growth contributions can be further elevated, among others through greater integration and collaboration with big players. In the business environment, one of the key to boost business linkages is by encouraging large firms to acquire products and services from SMEs. Being the key provider of large firms' supply chain will directly provide linkages and support to the SMEs, thus will indirectly help to create wider market access for them.

In realising their full business potential, SMEs need to build their capacity and capability, as well as leveraging on mechanisation, automation, technology and innovation in order to stay ahead of the curve. This too requires meeting global standards and certifications and undertaking market intelligence to leverage on opportunities. Initiatives by various Ministries and agencies to support and handhold SMEs, and at the same time intensify the business linkages between SMEs and large firms or multinational companies (MNCs) will help build competitive and capable SME suppliers in the global supply chain.

As the Central Coordinating Agency (CCA) under Ministry of Entrepreneur Development Malaysia (MED), SME Corp. Malaysia spearheads the implementation of SME development programmes across related Ministries and agencies. One of the primary goal of SME Corp. Malaysia is to foster competent SMEs that are resilient and competitive in the business environment while at the same time encourage partnership with big players in the market. SME Corp. Malaysia creates close partnerships with industry associations and strategic partners from both the public and private sector, with the aim of nurturing and strengthening industry collaboration, as to further support and promote the development

of SMEs and entrepreneurs in Malaysia. Specific programmes to boost the capacity and capabilities of SMEs have been outlined to give opportunity for SMEs to deliver top-notch services and products to large companies or MNCs.



SME Mentoring Programme

The programme is a strategic collaboration between SME Corp. Malaysia, Nestlé Malaysia and Halal Industry Development Corporation to promote potential SMEs towards enhancing their capabilities in Halal food and beverages (F&B) industry. In the programme, Nestlé shares their key insights on Halal procedures, sales and marketing, world-class best practices for Halal F&B industry and techniques to become competent suppliers to MNCs. SMEs will then be able to grab the opportunity to gain direct knowledge on Halal industry, enhance basic understanding and requirement to be MNC supplier as well as improving their research and development (R&D) technology to implement better halal control in food manufacturing, thus allowing them to compete in both the domestic and global market. Through this mentoring, SMEs that have potential to become Halal suppliers for the fast moving consumer goods industry will also be identified, based on the relevance of their products or services and their readiness and capability which will be assessed during factory visits.

Industrial Linkage Programme

The programme offered by SME Corp. Malaysia facilitates market access through integration of SMEs with large companies along the supply chains. With main objective is to develop high-growth companies, it focuses on high value-added industry in the supply chain, among others are aerospace, Solid State Lighting (SSL) / LED, medical devices, biotechnology and rail.

For aerospace, encouraging involvement of SMEs can be seen in the industry. Capable SMEs are identified under the Aerospace Manufacturing Initiative: Developing Aerospace SMEs in the Global Manufacturing Industry. This programme is part of the Government's initiative under National Aerospace Blueprint 2015 - 2030, as Malaysia aspires to become the main hub for Aero-Manufacturing Industry in Southeast Asia by 2030. These SMEs are being developed to expand the local aerospace supply chain as well as enhancing their capability to be the supplier to local and global players in the aerospace manufacturing industry. SMEs are mainly involved in parts and components (metal and plastic parts & composites), tooling and special processes for aerospace manufacturing. Meanwhile, in Green SSL / LED programme, it emphasises on developing world class SSL / LED home grown companies. With the aim of gaining some traction and visibility for the country, this programme will enhance the capacity of Malaysian SSL / LED companies, expedite the commercialisation and internationalisation activities, through among others, certification, regulation, marketing and branding.

Business Linkage (BLing) Programme

The programme promotes systematic and smart partnership, by means of recognising collaborations and establishing linkages between SMEs and large companies, MNCs or Government-linked Companies (GLCs). With the goal to create business linkages and investment opportunities that will mutually benefit both parties, the programme is being implemented through Business Matching sessions held during several flagship events such as SMIDEX, SME Week and leveraging on various other platforms. In 2017, this programme had generated a total of RM621.75 million in potential sales through 943 sessions involving 425 SMEs.





Omni Mal Agencies Sdn. Bhd.

Business Activity

Supplying healthy low glycemic index (GI) sugar substitute extracted from dates, value-added dates, dried fruits and dates-related products

Business Location

Kota Bharu, Kelantan

Linkage Programme

Participated in SME Mentoring programme in 2013 and 2017

Collaboration or linkages made with large firms / MNCs:

- GCH Retail (Giant, Cold Storage, Mercato, Jasons)
- AEON
- 7-Eleven
- Jaya Grocer
- Guardian
- Watsons
- NTUC FairPrice (Singapore)
- Carrefour (Taiwan)

Impact from the Linkage Programme:

- Sales revenue increased by almost 40% after the programme
- Penetrated markets in Singapore, Brunei, Taiwan, China, Philippines, Australia, South Korea, Thailand and Saudi Arabia
- Certified with HACCP Codex, HACCP RvA, GMP, ISO 2009:2015, Halal and MeSTI
- Received various prestigious recognitions and awards:
 - The International Star for Quality Award (Geneva)
 - Winner of National Mark of Malaysian Brand
 - Malaysian Exporter Leadership Award
 - MPC Productivity Champion
 - 5 Stars in SME Corp. Malaysia's SCORE rating



Moving forward...

"It is of our aspiration that large firms and multinational companies will include our 'Gurun Emas' Low GI Natural Dates Syrup to replace sugar in their ingredients for food and beverages. Incorporating low GI ingredients has become a Corporate Social Responsibility (CSR) to the large corporations! Although the cost and price might be higher, it is worthwhile to pay slightly higher now to stay healthy rather than paying a lot more later for medical expenses."

Managing Director,
Chua Hock Tee





Avialite Sdn. Bhd.

Business Activity

Manufacturing of LED aviation obstruction beacon & warning lights

Business Location

- Seri Kembangan, Selangor (HQ)
- Kuala Terengganu (factory)

Linkage Programme

Participated in Green SSL / LED programme in 2013

Collaboration or linkages made with large firms / MNCs:

- Telekom Malaysia
- edotco Malaysia (formerly known as Celcom Services)
- YTL (1Bestari Project)
- Sacofa Sdn. Bhd.

Impact from the Linkage Programme:

- Sales improved from RM1.7 million in 2012 to RM10.4 million in 2017
- Penetrated markets in UAE, Indonesia, Vietnam, Philippines, Myanmar (16 global clients across six countries including Malaysia)
- Export sales accounted for more than one-fourth (27%) of total business sales
- Obtained certification on ISO 9001:2015
- Secured various Intellectual Property i.e. registered trademark in 7 countries, approved industrial design in 4 countries and registered patent in 3 countries
- Received various prestigious recognitions and awards:
 - GreenTech Industry Award (2013)
 - Certified 1-InnoCERT recipient (2014) - Best Manufacturing Award
 - Winner of National Mark of Malaysian Brand (2014)
 - Best Innovation Award (2016)
 - Winner of Enterprise 50 (E50) Award (2017)



Moving forward...

"We'd like to explore deeper into the ASEAN market in power utility sector for our aviation light, targeting utility companies. In Malaysia, exploring TNB market is of our interest now due to its vast quantity of transmission tower aviation light running across the whole nation. Not to forget, R&D in new products such as induction lamp and new low intensity aviation light will open up further business opportunity."

CEO, Hee Hwee Leng





Curge Advance Sdn. Bhd.



Moving forward...

"After the EPP8 programme, we did not stop participating trade events organised by SME Corp. Malaysia and MATRADE. We have joined almost every major Aerospace trade events both locally and overseas, trying our best to penetrate into Tier 1 & OEM abroad. We are now in direct communication with 26 international Tier 1 and OEM companies."

**Managing Director,
Craymon Goh**

Business Activity

Manufacturing parts & assembling modules to international aerospace players, oil & gas players and machinery makers

Business Location

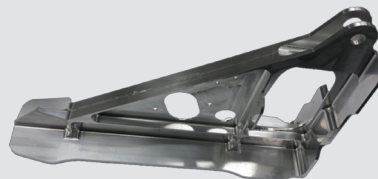
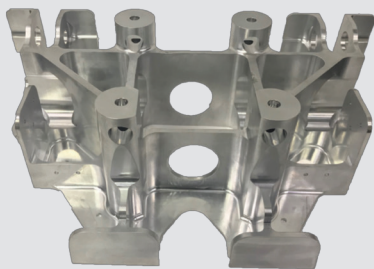
- Shah Alam, Selangor

Linkage Programme

Participated in Malaysian Aerospace SME Development programme in 2017

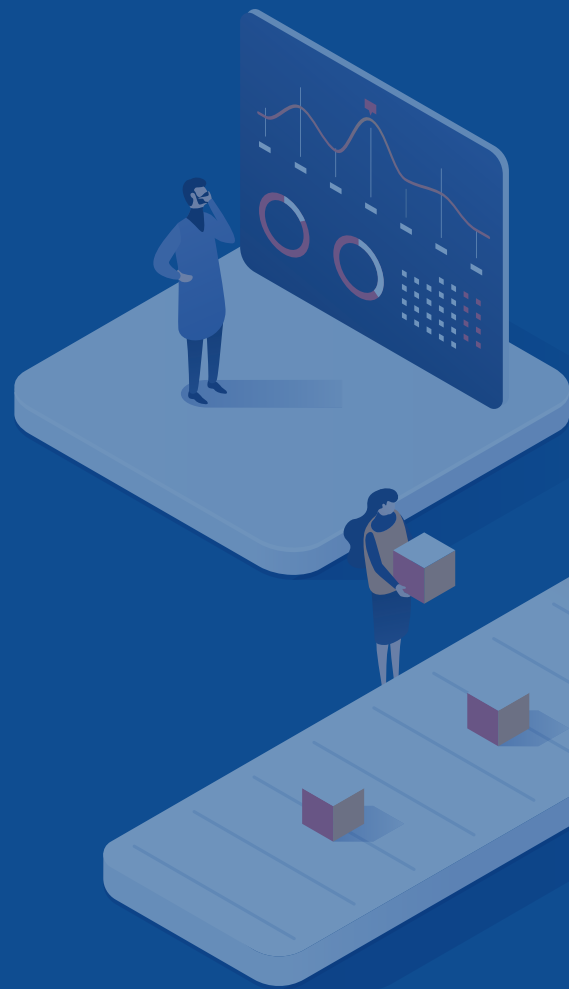
Collaboration or linkages made with large firms / MNCs:

- Singapore Aerospace Manufacturing



Impact from the Linkage Programme:

- Sales revenue increased from RM2.10 million recorded in 2016 to RM3.09 million in 2017
- Penetrated markets in Singapore
- Obtained certification related to ISO 9001:2015 and EN 9100:2009
- Received various prestigious recognitions and awards:
 - Outstanding Manufacturer (2013)
 - Outstanding Mechanical Engineer (2013)



Chapter 4

Moving Forward



Chapter 4

Moving Forward



The SME Input-Output (SME-IO) Table has given an unprecedented insight on the structure of Malaysia economy and enables a bird's-eye view of the business dynamism ranging from microenterprises, small-sized, medium-sized and large firms. While national input-output table describes the interdependencies of production sectors in the economy as a whole, the SME-IO Table illustrates the flows of SMEs and large firms' products and services sold (supply) and bought (demand).

With the development of SME-IO Table, it can be used to estimate the total impact that an initial change in economic activity will have on domestic economy, particularly to SMEs through identifying industries that have high multiplier impacts and backward linkages. From the analysis, SMEs were found to have weak linkages with the big players and thus hindering the growth potential of SMEs. Meanwhile, issue related to the heavy reliance on imported input needs to be further analysed to reduce leakage in the economy. The analysis of import requirements and import substitution could be consider to enhance the capability and capacity of SMEs.

In order to ensure rapid economic growth especially increasing the contribution of SMEs

to the economy, a strong base of thriving SMEs are needed. The focus now should be on nurturing SMEs in the industries that develop high value-added multiplier and strong linkages as they will create positive ripple effects to other industries. Besides that, more activities and promotion of linkages such as business matching among SMEs with large firms including MNCs need to be further enhanced.

Going forward, SME-IO Table will be the foundation in formulating policies, strategies and interventions for SME development. The findings from the analysis on SME-IO Table will be very beneficial in crafting the policies for SME Masterplan 2.0, National Entrepreneurship Policy, 12th Malaysian Plan as well as other SME development programmes implemented by various Ministries and agencies.

For SME Corp. Malaysia, as the Central Coordinating Agency (CCA) for National Entrepreneurship and SME Development Council (NESDC) that coordinates the implementation of development programmes for SMEs, SME-IO will facilitate the Government to review, refine and enhance existing and new SME development programmes. This will ensure that SMEs stay competitive, resilient and productive in achieving the country's aspirations of becoming a high income nation.

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Appendices



Appendix 1

Details of Industries based on Malaysia Standard Industrial Classification (MSIC) 2008

Malaysia Input-Output Tables 2010		SME Input-Output Table			
Num.	Industry	Num.	Industry	Industry Code based on MSIC 2008	Sector
1	Paddy	1	Crops	01111, 01112, 01113, 01119, 01120, 01131, 01132, 01133, 01134, 01135, 01136, 01137, 01138, 01140, 01150, 01160, 01191, 01192, 01193, 01199, 01210, 01221, 01222, 01223, 01224, 01225, 01226, 01227, 01228, 01229, 01231, 01232, 01233, 01239, 01241, 01249, 01251, 01252, 01253, 01259, 01263, 01269, 01271, 01272, 01273, 01279, 01281, 01282, 01283, 01284, 01285, 01289, 01293, 01294, 01295, 01296, 01299, 01301, 01302, 01303, 01304, 01500, 01610, 01631, 01632, 01633, 01634, 01640	Agriculture, Fishing & Forestry
2	Food crops				
3	Vegetables				
4	Fruits				
5	Flower Plants				
6	Other Agriculture				
7	Rubber	2	Rubber	01291, 01292	
8	Oil Palm	3	Oil Palm	01261, 01262	
9	Poultry Farming	4	Poultry Farming	01461, 01462, 01463, 01464, 01465, 01466, 01467, 01468, 01469	
10	Other Livestock	5	Other Livestock	01411, 01412, 01413, 01420, 01430, 01441, 01442, 01443, 01450, 01491, 01492, 01493, 01494, 01495, 01496, 01497, 01499, 01620	
11	Forestry & Logging	6	Forestry & Logging	01701, 01702, 02101, 02102, 02103, 02104, 02105, 02201, 02202, 02203, 02204, 02301, 02302, 02303, 02309, 02401, 02402	
12	Fishing	7	Fishing	03111, 03112, 03113, 03114, 03115, 03119, 03121, 03122, 03123, 03124, 03129, 03211, 03212, 03213, 03214, 03215, 03216, 03217, 03218, 03219, 03221, 03222, 03223, 03224, 03225, 03229	
13	Crude Oil and Natural Gas	8	Crude Oil and Natural Gas	06101, 06102, 06103, 06104, 06201, 06202, 06203, 06204, 06205, 09101, 09102	Mining & Quarrying
14	Metal Ore Mining	9	Metal Ore Mining	07101, 07102, 07210, 07291, 07292, 07293, 07294, 07295, 07296, 07297, 07298, 07299	
15	Stone Clay & Sand Quarrying	10	Other Mining & Quarrying	05100, 05200, 08101, 08102, 08103, 08104, 08105, 08106, 08107, 08108, 08109, 08911, 08912, 08913, 08914, 08915, 08916, 08917, 08918, 08921, 08922, 08923, 08931, 08932, 08933, 08991, 08992, 08993, 08994, 08995, 08996, 08999, 09900	
16	Other Mining & Quarrying				
17	Meat & Meat Production	11	Meat & Meat Production	10101, 10102, 10103, 10104, 10109	Manufacturing
18	Preservation of Seafood	12	Preservation of Seafood	10201, 10202, 10203, 10204, 10205	
19	Preservation of Fruits & Vegetables	13	Preservation of Fruits & Vegetables	10301, 10302, 10303, 10304, 10305, 10306	
20	Dairy Production	14	Dairy Production	10501, 10502, 10509	
21	Oils and Fats	15	Oils and Fats	10401, 10402, 10403, 10404, 10405, 10406, 10407	
22	Grain Mills	16	Grain Mills	10611, 10612, 10613, 10619, 10621, 10622, 10623	
23	Bakery Products	17	Bakery Products	10711, 10712, 10713, 10714	
24	Animal Feeds	18	Animal Feeds	10800	
25	Wine & Spirit	19	Wine & Spirit	11010, 11020, 11030	

Malaysia Input-Output Tables 2010	
Num.	Industry
26	Tobacco Products
27	Yarn & Cloth
28	Other Textiles
29	Wearing Apparel
30	Leather Industries
31	Footwear
32	Sawmilling and Planning of Wood
33	Veneer Sheets, Plywood, Laminated Board, Particle Board and Other Panels and Boards
34	Paper, Paper Products & Furniture
35	Printing
36	Petroleum Refinery
37	Basic Chemicals
38	Paints & Varnishes
39	Other Chemicals Product
40	Pharmaceuticals, Medicinal Chemicals & Botanical Product
41	Tyres
42	Plastics Products
43	Sheet Glass and Glass Products
44	Clay and Ceramic
45	Iron & Steel Products
46	Basic Precious & Non-Ferrous Metals
47	Casting of Metals
48	Structural Metal Products
49	Other Fabricated Metal Products
50	Industrial Machinery
51	Special Purpose Machinery
52	Domestic Appliances
53	Office, Accounting & Computing Machinery
54	Electrical Machinery & Apparatus
55	Other Electrical Machinery
56	Insulated Wires & Cables
57	Electric Lamps & Lighting Equipment
58	Semi-Conductor Devices, electronic Valves, Tubes & Printed Circuit Boards

SME Input-Output Table			
Num.	Industry	Industry Code based on MSIC 2008	Sector
20	Tobacco Products	12000	
21	Yarn & Cloth	13110, 13120	
22	Other Textiles	13910, 13921, 13922, 13930, 13940, 13990	
23	Wearing Apparel	14101, 14102, 14103, 14109, 14200, 14300	
24	Leather Industries	15110, 15120	
25	Footwear	15201, 15202, 15203, 15209	
26	Sawmilling and Planning of Wood	16100	
27	Veneer Sheets, Plywood, Laminated Board, Particle Board and Other Panels and Boards	16211, 16212	
28	Paper, Paper Products & Furniture	17010, 17020, 17091, 17092, 17093, 17094, 17099, 31001, 31002, 31003, 31009	
29	Printing	18110, 18120	
30	Petroleum Refinery	19100, 19201, 19202	
31	Basic Chemicals	20111, 20112, 20113, 20119	
32	Paints & Varnishes & Other Chemicals Product	20131, 20132, 20133, 20210, 20221, 20222, 20291, 20292, 20299, 20300	
33	Pharmaceuticals, Medicinal Chemicals & Botanical Product	21001, 21002, 21003, 21004, 21005, 21006, 21007, 21009	
34	Tyres	22111, 22112	
35	Plastics Products	22201, 22202, 22203, 22204, 22205, 22209	
36	Sheet Glass and Glass Products	23101, 23102, 23109	
37	Clay and Ceramic	23911, 23912, 23921, 23929, 23930	
38	Iron & Steel Products	24101, 24102, 24103, 24104, 24109	
39	Basic Precious & Non-Ferrous Metals	24201, 24202, 24209	
40	Casting of Metals	24311, 24312, 24320	
41	Structural Metal Products	25111, 25112, 25113, 25119, 25120, 25130	
42	Other Fabricated Metal Products	25910, 25920, 25930, 25991, 25992, 25993, 25994, 25999	
43	Industrial Machinery	28110, 28120, 28130	
44	Special Purpose Machinery	25200, 28180, 28210, 28220, 28230, 28240, 28250, 28260, 28290	
45	Domestic Appliances & Office, Accounting & Computing Machinery	26201, 26202, 27500, 28170	
46	Electrical Machinery & Apparatus	27101	
47	Other Electrical Machinery	27102, 27200	
48	Insulated Wires & Cables	27310, 27320	
49	Electric Lamps & Lighting Equipment	27330, 27400, 27900	
50	Semi-Conductor Devices, electronic Valves, Tubes & Printed Circuit Boards	26101, 26102, 26103, 26104, 26105, 26109	

Malaysia Input-Output Tables 2010		SME Input-Output Table			
Num.	Industry	Num.	Industry	Industry Code based on MSIC 2008	Sector
59	Television & Radio Receivers & Transmitters, Sound or Video Recording or Reproducing Apparatus & Associated Goods	51	Television & Radio Receivers & Transmitters, Sound or Video Recording or Reproducing Apparatus & Associated Goods	26300, 26400	
60	Medical & Surgical Equipment & Orthopaedic Appliances	52	Medical & Surgical Equipment & Orthopaedic Appliances	26600	
61	Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	53	Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	26511, 26512	
62	Optical Instruments & Photographic Equipment	54	Optical Instruments & Photographic Equipment	26701, 26702, 26800	
63	Motor Vehicles	55	Motor Vehicles	29101, 29102, 29200, 29300	
64	Motorcycles	56	Motorcycles	30910	
65	Building & Repairing of Ships & Boats; Manufacture of Bicycles & Invalid Carriages	57	Building & Repairing of Ships & Boats; Manufacture of Bicycles & Invalid Carriages	30110, 30120, 30920	
66	Other Transport Equipment	58	Other Manufacturing	30200, 30300, 30400, 30990, 32110, 32120, 32200, 32300, 32400, 32500, 32901, 32909	
67	Other Manufacturing	59	Repair & Maintenance	33110, 33120, 33131, 33132, 33133, 33140, 33150, 33190, 33200	
68	Repair & Maintenance	60	Electricity & Gas	35101, 35102, 35201, 35202, 35203	Services
69	Electricity & Gas	61	Residential	41001	
70	Residential	62	Non Residential	41002, 41003, 41009	
71	Non Residential	63	Civil Engineering	42101, 42102, 42103, 42104, 42105, 42106, 42109, 42201, 42202, 42203, 42204, 42205, 42206, 42207, 42209, 42901, 42902, 42903, 42904, 42905, 42906, 42909, 43110, 43121, 43122, 43123, 43124, 43125, 43126, 43129	Construction
72	Civil Engineering	64	Special Trade Works	43211, 43212, 43213, 43214, 43215, 43216, 43219, 43221, 43222, 43223, 43224, 43225, 43226, 43227, 43228, 43229, 43291, 43292, 43293, 43294, 43295, 43299, 43301, 43302, 43303, 43304, 43305, 43306, 43307, 43309, 43309, 43901, 43902, 43903, 43904, 43905, 43906, 43907, 43909	
73	Special Trade Works	65	Sale of motor vehicles	45101, 45102, 45103, 45104, 45105, 45106, 45109	
74	Wholesale, Retail Trade & Motor Vehicle	66	Maintenance and repair of motor vehicles	45201, 45202, 45203, 45204, 45205	Services
		67	Sale of motor vehicle parts and accessories	45300	

Malaysia Input-Output Tables 2010		SME Input-Output Table			
Num.	Industry	Num.	Industry	Industry Code based on MSIC 2008	Sector
		68	Sale, maintenance and repair of motorcycles and related parts and accessories	45401, 45402, 45403	
		69	Wholesale on a fee or contract basis	46100	
		70	Wholesale of agricultural raw materials and live animals	46201, 46202, 46203, 46204, 46205, 46209	
		71	Wholesale of food, beverages and tobacco	46311, 46312, 46313, 46314, 46319, 46321, 46322, 46323, 46324, 46325, 46326, 46327, 46329	
		72	Wholesale of household goods	46411, 46412, 46413, 46414, 46415, 46416, 46417, 46419, 46421, 46422, 46431, 46432, 46433, 46434, 46441, 46442, 46443, 46444, 46491, 46492, 46493, 46494, 46495, 46496, 46497, 46499	
		73	Wholesale of machinery, equipment and supplies	46510, 46521, 46522, 46531, 46532, 46591, 46592, 46593, 46594, 46595, 46596, 46599	
		74	Other specialised wholesale	46611, 46612, 46619, 46621, 46622, 46631, 46632, 46633, 46634, 46635, 46636, 46637, 46639, 46691, 46692, 46693, 46694, 46695, 46696, 46697, 46698, 46699	
		75	Non-specialised wholesale trade	46901, 46902, 46909	
		76	Retail Sales	47111, 47112, 47113, 47114, 47191, 47192, 47193, 47194, 47199, 47211, 47212, 47213, 47214, 47215, 47216, 47217, 47219, 47221, 47222, 47230, 47300, 47411, 47412, 47413, 47420, 47510, 47520, 47531, 47532, 47533, 47591, 47592, 47593, 47594, 47595, 47596, 47597, 47598, 47611, 47612, 47620, 47631, 47632, 47633, 47634, 47635, 47640, 47711, 47712, 47713, 47721, 47722, 47731, 47732, 47733, 47734, 47735, 47736, 47737, 47738, 47739, 47741, 47742, 47743, 47744, 47749, 47810, 47820, 47891, 47892, 47893, 47894, 47895, 47911, 47912, 47913, 47914, 47991, 47992, 47999	
75	Accommodation	77	Accommodation	55101, 55102, 55103, 55104, 55105, 55106, 55107, 55108, 55109, 55200, 55900	
76	Restaurants	78	Restaurants	56101, 56102, 56103, 56104, 56105, 56106, 56107, 56210, 56290, 56301, 56302, 56303, 56304, 56309	
77	Land Transport	79	Land Transport	49110, 49120, 49211, 49212, 49221, 49222, 49223, 49224, 49225, 49229, 49230, 49300	
78	Water Transport	80	Water Transport	50111, 50112, 50113, 50121, 50122, 50211, 50212, 50220	
79	Air Transport	81	Air Transport	51101, 51102, 51103, 51201, 51202, 51203	
80	Other Transport Services	82	Other Transport Services	52100, 52211, 52212, 52213, 52219, 52241, 52249, 52291, 52292, 52299	
81	Port and Airport Operation Services	83	Port and Airport Operation Services & Highway, Bridge and Tunnel Operation Services	52214, 52221, 52222, 52229, 52231, 52232, 52233, 52234, 52239	
82	Highway, Bridge and Tunnel Operation Services				

Malaysia Input-Output Tables 2010		SME Input-Output Table			
Num.	Industry	Num.	Industry	Industry Code based on MSIC 2008	Sector
83	Cinema, Video & Television Activity	84	Cinema, Video & Television Activity	59110, 59120, 59130, 59140, 59200, 60100, 60200	
84	ICT & Computer Services	85	ICT & Computer Services	62010, 62021, 62022, 62091, 62099, 63111, 63112, 63120, 63910, 63990	
85	Real Estate	86	Real Estate	68101, 68102, 68103, 68104, 68109, 68201, 68202, 68203, 68209	
86	Rental & Leasing	87	Rental & Leasing	77101, 77102, 77211, 77212, 77213, 77219, 77220, 77291, 77292, 77293, 77294, 77295, 77296, 77297, 77299, 77301, 77302, 77303, 77304, 77305, 77306, 77307, 77309, 77400	
87	Professional	88	Professional	69100, 69200, 70100, 70201, 70202, 70203, 70209, 71101, 71102, 71103, 71109, 71200, 73200, 74101, 74102, 74103, 74109, 74200, 74901, 74902, 74903, 74904, 74905, 74909	
88	Business Services	89	Business Services	73100, 78100, 78200, 78300, 79110, 79120, 79900, 80100, 80200, 80300, 81100, 81210, 81291, 81292, 81293, 81294, 81295, 81296, 81297, 81299, 81300, 82110, 82191, 82192, 82193, 82194, 82195, 82196, 82199, 82200, 82301, 82302, 82910, 82920, 82990	
89	Private Non-Profit Institution	90	Other Private Services	87300, 87901, 87902, 87909, 88101, 88109, 88901, 88902, 88909, 94110, 94120, 94200, 94910, 94920, 94990, 95111, 95112, 95113, 95121, 95122, 95123, 95124, 95125, 95126, 95127, 95211, 95212, 95213, 95214, 95221, 95222, 95230, 95240, 95291, 95292, 95293, 95294, 95295, 95296, 95299, 96011, 96012, 96013, 96014, 96020, 96031, 96032, 96033, 96034, 96035, 96091, 96092, 96093, 96094, 96095, 96096, 96097, 96099, 97000, 98100, 98200, 99000	
90	Other Private Services				
91	Amusement and Recreational Services	91	Amusement and Recreational Services	90001, 90002, 90003, 90004, 90005, 90006, 90007, 90009, 91011, 91012, 91021, 91022, 91031, 91032, 92000, 93111, 93112, 93113, 93114, 93115, 93116, 93117, 93118, 93119, 93120, 93191, 93192, 93193, 93199, 93210, 93291, 93292, 93293, 93294, 93295, 93296, 93297, 93299	
92	Education	92	Private Education	85102, 85104, 85212, 85222, 85302, 85411, 85412, 85419, 85421, 85429, 85491, 85492, 85493, 85494, 85499, 85500	
93	Health	93	Private Health	75000, 86101, 86102, 86201, 86202, 86203, 86901, 86902, 86903, 86904, 86905, 86906, 86909	
94	Confectionery	1 RoS	Confectionery	10721, 10722, 10731, 10732, 10733	Rest of Sectors (RoS)
95	Other Food Processing	2 RoS	Other Food Processing	10741, 10742, 10750, 10791, 10792, 10793, 10794, 10795, 10799	
96	Soft Drink	3 RoS	Soft Drink	11041, 11042	
97	Finishing of Textiles	4 RoS	Finishing of Textiles	13131, 13132, 13139	
98	Builders' Carpentry and Joinery	5 RoS	Builders' Carpentry and Joinery	16221, 16222	
99	Wooden and Cane Containers	6 RoS	Wooden and Cane Containers	16230	
100	Other Wood Products	7 RoS	Other Wood Products	16291, 16292	

Malaysia Input-Output Tables 2010	
Num.	Industry
101	Publishing
102	Fertilizers
103	Soap & Detergents, Perfumes, Cleaning & Toilet Preparations
104	Rubber Processing
105	Rubber Gloves
106	Rubber Products
107	Cement, Lime & Plaster
108	Concrete & Other Non-Metallic Mineral Products
109	General Purpose Machinery
110	Watches & Clocks
111	Waterworks
112	Sewerage, Waste Collection & Remediation Activities
113	Communication
114	Publishing Activity
115	Telecommunications
116	Banks
117	Financial Institution
118	Insurance
119	Other Financial Institution
120	Ownership of Dwellings
121	Research and Development
122	Public Administration
123	Defence & Public Order
124	Other Public Administration

SME Input-Output Table			
Num.	Industry	Industry Code based on MSIC 2008	Sector
8 RoS	Publishing	18200	
9 RoS	Fertilizers	20121, 20129	
10 RoS	Soap & Detergents, Perfumes, Cleaning & Toilet Preparations	20231, 20232	
11 RoS	Rubber Processing	22191, 22193	
12 RoS	Rubber Gloves	22192	
13 RoS	Rubber Products	22199	
14 RoS	Cement, Lime & Plaster	23941, 23942	
15 RoS	Concrete & Other Non-Metallic Mineral Products	23951, 23952, 23953, 23959, 23960, 23990	
16 RoS	General Purpose Machinery	28140, 28150, 28160, 28191, 28192, 28199	
17 RoS	Watches & Clocks	26520	
18 RoS	Waterworks	35301, 35302, 35303, 36001, 36002	
19 RoS	Sewerage, Waste Collection & Remediation Activities	37000, 38111, 38112, 38113, 38114, 38115, 38121, 38122, 38210, 38220, 38301, 38302, 38303, 38304, 38309, 39000	
20 RoS	Communication	53100, 53200	
21 RoS	Publishing Activity	58110, 58120, 58130, 58190, 58201, 58202, 58203	
22 RoS	Telecommunications	61101, 61102, 61201, 61202, 61300, 61901, 61902, 61903, 61904, 61905, 61909	
23 RoS	Banks	64110, 64191, 64192, 64193, 64194, 64195, 64199	
24 RoS	Financial Institution	64200, 64301, 64302, 64303, 64304, 64309, 64910, 64921, 64922, 64923, 64924, 64925, 64929, 64991, 64992, 64993, 64999	
25 RoS	Insurance	65111, 65112, 65121, 65122, 65123, 65124, 65125, 65201, 65202, 65203, 65204, 65205, 65206, 65207, 65301, 65302	
26 RoS	Other Financial Institution	66111, 66112, 66113, 66114, 66119, 66121, 66122, 66123, 66124, 66125, 66129, 66191, 66192, 66199, 66211, 66212, 66221, 66222, 66223, 66224, 66290, 66301, 66302, 66303	
27 RoS	Ownership of Dwellings	68900	
28 RoS	Research and Development	72101, 72102, 72103, 72104, 72105, 72106, 72109, 72201, 72202, 72209	
29 RoS	Public Administration	84111, 84112, 84121, 84122, 84123, 84124, 84125, 84126, 84129, 84131, 84132, 84133, 84134, 84135, 84136, 84137, 84138, 84139	
30 RoS	Defence & Public Order	84220, 84231, 84232, 84233, 84234, 84235, 84236, 84239, 87101, 87102, 87103, 87201, 87209	
31 RoS	Other Public Administration	84210, 84300	

Malaysia Input-Output Tables 2010		SME Input-Output Table			
Num.	Industry	Num.	Industry	Industry Code based on MSIC 2008	Sector
125	Education	32 RoS	Public Education	85101, 85103, 85211, 85221, 85301, 85411, 85412, 85419, 85421, 85429, 85491, 85492, 85493, 85494, 85499, 85500	
126	Health	33 RoS	Public Health	75000, 86101, 86102, 86201, 86202, 86203, 86901, 86902, 86903, 86904, 86905, 86906, 86909	

Note: Malaysia Input-Output Tables 2010 consists of 124 industries. However, this analysis further disaggregated Education and Health industries into private and public entities.

Source: Malaysia Standard Industrial Classification (MSIC) 2008 Ver. 1.0, Department of Statistics, Malaysia

Appendix 2

Contribution to Value-added, Output and Imports

Table 1: Contribution of SMEs to Value-added, Output and Imports

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
1	Crops	6.28	0.78	7.92	0.38	0.73	0.18
2	Rubber	2.63	0.33	4.06	0.20	0.17	0.04
3	Oil Palm	15.66	1.94	20.97	1.01	1.73	0.43
4	Poultry Farming	1.15	0.14	3.70	0.18	0.47	0.12
5	Other Livestock	1.68	0.21	3.27	0.16	0.37	0.09
6	Forestry & Logging	1.75	0.22	5.38	0.26	0.45	0.11
7	Fishing	3.91	0.49	9.97	0.48	1.45	0.36
8	Crude Oil and Natural Gas	0.38	0.05	0.67	0.03	0.04	0.01
9	Metal Ore Mining	0.21	0.03	0.28	0.01	0.02	0.01
10	Other Mining & Quarrying	3.16	0.39	4.47	0.22	0.40	0.10
11	Meat & Meat Production	0.13	0.02	0.61	0.03	0.10	0.02
12	Preservation of Seafood	0.40	0.05	2.40	0.12	0.18	0.05
13	Preservation of Fruits & Vegetables	0.14	0.02	0.70	0.03	0.21	0.05
14	Dairy Production	0.22	0.03	0.57	0.03	0.15	0.04
15	Oils and Fats	4.94	0.61	82.24	3.96	3.56	0.88
16	Grain Mills	1.03	0.13	3.50	0.17	0.60	0.15
17	Bakery Products	0.80	0.10	2.36	0.11	0.52	0.13
18	Animal Feeds	0.77	0.10	3.79	0.18	1.40	0.35
19	Wine & Spirit	0.26	0.03	0.62	0.03	0.13	0.03
20	Tobacco Products	0.58	0.07	0.89	0.04	0.13	0.03
21	Yarn & Cloth	0.19	0.02	0.58	0.03	0.16	0.04
22	Other Textiles	0.36	0.04	1.03	0.05	0.32	0.08
23	Wearing Apparel	1.38	0.17	2.70	0.13	0.63	0.16
24	Leather Industries	0.03	0.00	0.13	0.01	0.04	0.01
25	Footwear	0.22	0.03	0.48	0.02	0.07	0.02
26	Sawmilling and Planning of Wood	0.97	0.12	5.23	0.25	0.38	0.09
27	Veneer Sheets, Plywood, Laminated Board, Particle Board and Other Panels and Boards	0.27	0.03	2.53	0.12	0.29	0.07
28	Paper and Paper Products and Furniture	3.13	0.39	12.60	0.61	2.53	0.63
29	Printing	1.53	0.19	4.14	0.20	0.97	0.24
30	Petroleum Refinery	0.44	0.05	5.08	0.24	1.07	0.26
31	Basic Chemicals	2.43	0.30	11.05	0.53	2.45	0.61
32	Paints & Varnishes & Other Chemicals Product	2.63	0.33	16.94	0.82	5.15	1.28
33	Pharmaceuticals, Medicinal Chemicals & Botanical Product	0.96	0.12	2.56	0.12	0.84	0.21
34	Tyres	0.11	0.01	1.50	0.07	0.52	0.13
35	Plastics Products	2.08	0.26	12.27	0.59	4.27	1.06
36	Sheet Glass and Glass Products	0.13	0.02	0.63	0.03	0.16	0.04
37	Clay and Ceramic	0.34	0.04	1.55	0.07	0.44	0.11

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
38	Iron & Steel Products	1.14	0.14	8.32	0.40	2.86	0.71
39	Basic Precious & Non-Ferrous Metals	0.63	0.08	4.50	0.22	2.56	0.63
40	Casting of Metals	0.65	0.08	3.71	0.18	1.76	0.44
41	Structural Metal Products	1.09	0.14	4.45	0.21	1.28	0.32
42	Other Fabricated Metal Products	2.69	0.33	10.78	0.52	3.63	0.90
43	Industrial Machinery	0.26	0.03	0.82	0.04	0.31	0.08
44	Special Purpose Machinery	2.49	0.31	5.77	0.28	1.67	0.41
45	Domestic Appliances & Office, Accounting & Computing Machinery	0.58	0.07	2.07	0.10	1.17	0.29
46	Electrical Machinery & Apparatus	0.07	0.01	0.52	0.03	0.24	0.06
47	Other Electrical Machinery	0.22	0.03	0.73	0.03	0.34	0.09
48	Insulated Wires & Cables	0.34	0.04	5.26	0.25	3.38	0.84
49	Electric Lamps & Lighting Equipment	0.36	0.04	1.13	0.05	0.42	0.10
50	Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	2.08	0.26	5.64	0.27	3.19	0.79
51	Television & Radio Receivers & Transmitters, Sound or Video Recording or Reproducing Apparatus & Associated Goods	0.58	0.07	1.57	0.08	0.74	0.18
52	Medical & Surgical Equipment & Orthopaedic Appliances	0.03	0.00	0.16	0.01	0.06	0.01
53	Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	0.04	0.00	0.17	0.01	0.09	0.02
54	Optical Instruments & Photographic Equipment	0.01	0.00	0.07	0.00	0.05	0.01
55	Motor Vehicles	0.55	0.07	3.44	0.17	1.59	0.39
56	Motorcycles	0.12	0.02	0.49	0.02	0.17	0.04
57	Building & Repairing of Ships & Boats; Manufacture of Bicycles & Invalid Carriages	0.42	0.05	2.22	0.11	0.56	0.14
58	Other Manufacturing	2.33	0.29	7.63	0.37	1.97	0.49
59	Repair & Maintenance	1.03	0.13	2.83	0.14	0.48	0.12
60	Electricity & Gas	3.15	0.39	5.85	0.28	1.37	0.34
61	Residential	1.31	0.16	3.72	0.18	0.48	0.12
62	Non Residential	1.70	0.21	5.04	0.24	0.75	0.19
63	Civil Engineering	1.33	0.17	4.09	0.20	0.75	0.19
64	Special Trade Works	1.99	0.25	6.91	0.33	1.75	0.44
65	Sale of motor vehicles	3.91	0.49	6.48	0.31	0.74	0.18
66	Maintenance and repair of motor vehicles	2.79	0.35	5.50	0.27	0.74	0.18
67	Sale of motor vehicle parts and accessories	3.85	0.48	6.77	0.33	0.84	0.21

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
68	Sale, maintenance and repair of motorcycles and related parts and accessories	1.52	0.19	2.78	0.13	0.35	0.09
69	Wholesale on a fee or contract basis	1.87	0.23	3.39	0.16	0.39	0.10
70	Wholesale of agricultural raw materials and live animals	3.43	0.43	7.30	0.35	1.06	0.26
71	Wholesale of food, beverages and tobacco	5.11	0.63	9.10	0.44	1.14	0.28
72	Wholesale of household goods	7.92	0.98	14.24	0.69	1.71	0.42
73	Wholesale of machinery, equipment and supplies	5.72	0.71	9.97	0.48	1.23	0.30
74	Other specialised wholesale	11.24	1.40	20.25	0.98	2.54	0.63
75	Non-specialised wholesale trade	1.74	0.22	3.14	0.15	0.39	0.10
76	Retail Sales	37.45	4.65	65.45	3.16	7.81	1.94
77	Accommodation	1.52	0.19	3.79	0.18	0.19	0.05
78	Restaurants	13.68	1.70	33.43	1.61	3.56	0.88
79	Land Transport	5.24	0.65	13.85	0.67	2.35	0.58
80	Water Transport	1.35	0.17	3.43	0.17	0.42	0.10
81	Air Transport	0.05	0.01	0.16	0.01	0.04	0.01
82	Other Transport Services	1.51	0.19	6.34	0.31	1.25	0.31
83	Port and Airport Operation Services & Highway, Bridge and Tunnel Operation Services	0.23	0.03	0.48	0.02	0.07	0.02
84	Cinema, Video and Television Activity	0.90	0.11	1.29	0.06	0.07	0.02
85	ICT & Computer Services	3.28	0.41	8.55	0.41	0.75	0.19
86	Real Estate	11.45	1.42	23.75	1.14	1.09	0.27
87	Rental & Leasing	2.28	0.28	4.92	0.24	0.70	0.17
88	Professional	23.88	2.97	38.40	1.85	2.51	0.62
89	Business Services	5.24	0.65	12.13	0.58	1.00	0.25
90	Other Private Services	4.74	0.59	6.48	0.31	0.36	0.09
91	Amusement and Recreational Services	1.71	0.21	4.45	0.21	0.75	0.18
92	Private Education	3.37	0.42	4.64	0.22	0.34	0.08
93	Private Health	2.61	0.32	4.80	0.23	1.01	0.25
Total SME		260.07	32.30	662.54	31.94	102.07	25.32
Overall Total		805.16	100.00	2,074.17	100.00	403.06	100.00

Note: Figures may not necessarily add up due to rounding

Table 2: Contribution of Microenterprises to Value-added, Output and Imports

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
1	Crops	0.85	0.11	1.29	0.06	0.12	0.03
2	Rubber	0.16	0.02	0.38	0.02	0.02	0.00
3	Oil Palm	0.51	0.06	0.84	0.04	0.07	0.02
4	Poultry Farming	0.10	0.01	0.25	0.01	0.03	0.01
5	Other Livestock	0.30	0.04	0.49	0.02	0.06	0.01
6	Forestry & Logging	0.00	0.00	0.01	0.00	0.00	0.00
7	Fishing	0.46	0.06	1.03	0.05	0.15	0.04
8	Crude Oil and Natural Gas	0.01	0.00	0.01	0.00	0.00	0.00
9	Metal Ore Mining	0.00	0.00	0.00	0.00	0.00	0.00
10	Other Mining & Quarrying	0.06	0.01	0.09	0.00	0.01	0.00
11	Meat & Meat Production	0.01	0.00	0.05	0.00	0.01	0.00
12	Preservation of Seafood	0.02	0.00	0.06	0.00	0.00	0.00
13	Preservation of Fruits & Vegetables	0.01	0.00	0.03	0.00	0.01	0.00
14	Dairy Production	0.00	0.00	0.00	0.00	0.00	0.00
15	Oils and Fats	0.03	0.00	0.67	0.03	0.03	0.01
16	Grain Mills	0.05	0.01	0.16	0.01	0.03	0.01
17	Bakery Products	0.05	0.01	0.11	0.01	0.02	0.01
18	Animal Feeds	0.00	0.00	0.00	0.00	0.00	0.00
19	Wine & Spirit	0.01	0.00	0.01	0.00	0.00	0.00
20	Tobacco Products	0.00	0.00	0.00	0.00	0.00	0.00
21	Yarn & Cloth	0.01	0.00	0.04	0.00	0.01	0.00
22	Other Textiles	0.03	0.00	0.06	0.00	0.02	0.00
23	Wearing Apparel	0.45	0.06	0.64	0.03	0.15	0.04
24	Leather Industries	0.00	0.00	0.01	0.00	0.00	0.00
25	Footwear	0.01	0.00	0.03	0.00	0.00	0.00
26	Sawmilling and Planning of Wood	0.03	0.00	0.15	0.01	0.01	0.00
27	Veneer Sheets, Plywood, Laminated Board, Particle Board and Other Panels and Boards	0.03	0.00	0.24	0.01	0.03	0.01
28	Paper and Paper Products and Furniture	0.14	0.02	0.51	0.02	0.10	0.03
29	Printing	0.15	0.02	0.33	0.02	0.08	0.02
30	Petroleum Refinery	0.00	0.00	0.00	0.00	0.00	0.00
31	Basic Chemicals	0.03	0.00	0.10	0.00	0.02	0.01
32	Paints & Varnishes & Other Chemicals Product	0.03	0.00	0.17	0.01	0.05	0.01
33	Pharmaceuticals, Medicinal Chemicals & Botanical Product	0.20	0.02	0.35	0.02	0.12	0.03
34	Tyres	0.02	0.00	0.19	0.01	0.07	0.02
35	Plastics Products	0.11	0.01	0.53	0.03	0.18	0.05
36	Sheet Glass and Glass Products	0.01	0.00	0.03	0.00	0.01	0.00
37	Clay and Ceramic	0.01	0.00	0.02	0.00	0.01	0.00
38	Iron & Steel Products	0.02	0.00	0.05	0.00	0.02	0.00
39	Basic Precious & Non-Ferrous Metals	0.02	0.00	0.14	0.01	0.08	0.02
40	Casting of Metals	0.02	0.00	0.12	0.01	0.06	0.01

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
41	Structural Metal Products	0.10	0.01	0.41	0.02	0.12	0.03
42	Other Fabricated Metal Products	0.15	0.02	0.71	0.03	0.24	0.06
43	Industrial Machinery	0.01	0.00	0.02	0.00	0.01	0.00
44	Special Purpose Machinery	0.04	0.00	0.06	0.00	0.02	0.00
45	Domestic Appliances & Office, Accounting & Computing Machinery	0.01	0.00	0.03	0.00	0.02	0.00
46	Electrical Machinery & Apparatus	0.00	0.00	0.01	0.00	0.00	0.00
47	Other Electrical Machinery	0.01	0.00	0.02	0.00	0.01	0.00
48	Insulated Wires & Cables	0.02	0.00	0.20	0.01	0.13	0.03
49	Electric Lamps & Lighting Equipment	0.02	0.00	0.05	0.00	0.02	0.00
50	Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	0.04	0.00	0.14	0.01	0.08	0.02
51	Television & Radio Receivers & Transmitters, Sound or Video Recording or Reproducing Apparatus & Associated Goods	0.09	0.01	0.25	0.01	0.12	0.03
52	Medical & Surgical Equipment & Orthopaedic Appliances	0.00	0.00	0.00	0.00	0.00	0.00
53	Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	0.00	0.00	0.01	0.00	0.01	0.00
54	Optical Instruments & Photographic Equipment	0.00	0.00	0.00	0.00	0.00	0.00
55	Motor Vehicles	0.02	0.00	0.12	0.01	0.06	0.01
56	Motorcycles	0.01	0.00	0.03	0.00	0.01	0.00
57	Building & Repairing of Ships & Boats; Manufacture of Bicycles & Invalid Carriages	0.01	0.00	0.04	0.00	0.01	0.00
58	Other Manufacturing	0.16	0.02	0.28	0.01	0.07	0.02
59	Repair & Maintenance	0.10	0.01	0.24	0.01	0.04	0.01
60	Electricity & Gas	0.00	0.00	0.00	0.00	0.00	0.00
61	Residential	0.08	0.01	0.18	0.01	0.02	0.01
62	Non Residential	0.10	0.01	0.24	0.01	0.04	0.01
63	Civil Engineering	0.09	0.01	0.24	0.01	0.04	0.01
64	Special Trade Works	0.18	0.02	0.53	0.03	0.13	0.03
65	Sale of motor vehicles	0.79	0.10	1.30	0.06	0.15	0.04
66	Maintenance and repair of motor vehicles	1.49	0.18	2.91	0.14	0.39	0.10
67	Sale of motor vehicle parts and accessories	0.94	0.12	1.53	0.07	0.19	0.05
68	Sale, maintenance and repair of motorcycles and related parts and accessories	0.60	0.07	1.05	0.05	0.13	0.03
69	Wholesale on a fee or contract basis	0.10	0.01	0.20	0.01	0.02	0.01

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
70	Wholesale of agricultural raw materials and live animals	0.39	0.05	0.55	0.03	0.08	0.02
71	Wholesale of food, beverages and tobacco	0.65	0.08	1.07	0.05	0.13	0.03
72	Wholesale of household goods	1.32	0.16	2.29	0.11	0.27	0.07
73	Wholesale of machinery, equipment and supplies	0.98	0.12	1.62	0.08	0.20	0.05
74	Other specialised wholesale	0.84	0.10	1.39	0.07	0.17	0.04
75	Non-specialised wholesale trade	0.79	0.10	1.35	0.06	0.17	0.04
76	Retail Sales	13.47	1.67	22.99	1.11	2.74	0.68
77	Accommodation	0.10	0.01	0.22	0.01	0.01	0.00
78	Restaurants	6.59	0.82	15.96	0.77	1.70	0.42
79	Land Transport	1.40	0.17	3.08	0.15	0.52	0.13
80	Water Transport	0.06	0.01	0.14	0.01	0.02	0.00
81	Air Transport	0.00	0.00	0.01	0.00	0.00	0.00
82	Other Transport Services	0.13	0.02	0.47	0.02	0.09	0.02
83	Port and Airport Operation Services & Highway, Bridge and Tunnel Operation Services	0.00	0.00	0.00	0.00	0.00	0.00
84	Cinema, Video and Television Activity	0.07	0.01	0.10	0.00	0.01	0.00
85	ICT & Computer Services	0.11	0.01	0.28	0.01	0.02	0.01
86	Real Estate	3.36	0.42	7.01	0.34	0.32	0.08
87	Rental & Leasing	0.37	0.05	0.99	0.05	0.14	0.04
88	Professional	4.60	0.57	7.25	0.35	0.47	0.12
89	Business Services	0.92	0.11	1.58	0.08	0.13	0.03
90	Other Private Services	3.44	0.43	4.72	0.23	0.26	0.06
91	Amusement and Recreational Services	0.46	0.06	1.12	0.05	0.19	0.05
92	Private Education	0.63	0.08	0.82	0.04	0.06	0.01
93	Private Health	0.96	0.12	1.67	0.08	0.35	0.09
Total Micro		50.69	6.30	96.71	4.66	11.72	2.91
Overall Total		805.16	100.00	2,074.17	100.00	403.06	100.00

Note: Figures may not necessarily add up due to rounding

Table 3: Contribution of Small-sized Firms to Value-added, Output and Imports

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
1	Crops	2.04	0.25	2.79	0.13	0.26	0.06
2	Rubber	1.09	0.14	1.58	0.08	0.07	0.02
3	Oil Palm	4.03	0.50	5.41	0.26	0.44	0.11
4	Poultry Farming	0.46	0.06	1.30	0.06	0.16	0.04
5	Other Livestock	0.90	0.11	1.88	0.09	0.21	0.05
6	Forestry & Logging	0.22	0.03	0.69	0.03	0.06	0.01
7	Fishing	2.40	0.30	5.03	0.24	0.73	0.18
8	Crude Oil and Natural Gas	0.17	0.02	0.29	0.01	0.02	0.00
9	Metal Ore Mining	0.07	0.01	0.09	0.00	0.01	0.00
10	Other Mining & Quarrying	0.93	0.12	1.43	0.07	0.13	0.03
11	Meat & Meat Production	0.06	0.01	0.30	0.01	0.05	0.01
12	Preservation of Seafood	0.21	0.03	1.18	0.06	0.09	0.02
13	Preservation of Fruits & Vegetables	0.08	0.01	0.32	0.02	0.10	0.02
14	Dairy Production	0.06	0.01	0.17	0.01	0.05	0.01
15	Oils and Fats	0.88	0.11	16.60	0.80	0.72	0.18
16	Grain Mills	0.74	0.09	2.77	0.13	0.48	0.12
17	Bakery Products	0.39	0.05	0.99	0.05	0.22	0.05
18	Animal Feeds	0.25	0.03	1.56	0.08	0.58	0.14
19	Wine & Spirit	0.13	0.02	0.21	0.01	0.05	0.01
20	Tobacco Products	0.04	0.01	0.06	0.00	0.01	0.00
21	Yarn & Cloth	0.09	0.01	0.25	0.01	0.07	0.02
22	Other Textiles	0.19	0.02	0.51	0.02	0.16	0.04
23	Wearing Apparel	0.64	0.08	1.17	0.06	0.27	0.07
24	Leather Industries	0.02	0.00	0.06	0.00	0.02	0.00
25	Footwear	0.15	0.02	0.33	0.02	0.05	0.01
26	Sawmilling and Planning of Wood	0.63	0.08	3.18	0.15	0.23	0.06
27	Veneer Sheets, Plywood, Laminated Board, Particle Board and Other Panels and Boards	0.14	0.02	1.20	0.06	0.14	0.03
28	Paper and Paper Products and Furniture	1.58	0.20	5.67	0.27	1.14	0.28
29	Printing	0.94	0.12	2.46	0.12	0.58	0.14
30	Petroleum Refinery	0.06	0.01	0.37	0.02	0.08	0.02
31	Basic Chemicals	1.37	0.17	3.93	0.19	0.87	0.22
32	Paints & Varnishes & Other Chemicals Product	1.17	0.14	7.38	0.36	2.24	0.56
33	Pharmaceuticals, Medicinal Chemicals & Botanical Product	0.35	0.04	0.79	0.04	0.26	0.06
34	Tyres	0.04	0.01	0.47	0.02	0.17	0.04
35	Plastics Products	0.89	0.11	5.34	0.26	1.86	0.46
36	Sheet Glass and Glass Products	0.08	0.01	0.40	0.02	0.10	0.03
37	Clay and Ceramic	0.15	0.02	0.68	0.03	0.19	0.05
38	Iron & Steel Products	0.47	0.06	2.58	0.12	0.89	0.22
39	Basic Precious & Non-Ferrous Metals	0.18	0.02	1.13	0.05	0.64	0.16
40	Casting of Metals	0.32	0.04	1.79	0.09	0.85	0.21
41	Structural Metal Products	0.57	0.07	2.11	0.10	0.61	0.15
42	Other Fabricated Metal Products	1.18	0.15	4.34	0.21	1.46	0.36
43	Industrial Machinery	0.11	0.01	0.31	0.01	0.12	0.03

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
44	Special Purpose Machinery	1.27	0.16	2.45	0.12	0.71	0.18
45	Domestic Appliances & Office, Accounting & Computing Machinery	0.27	0.03	0.82	0.04	0.46	0.12
46	Electrical Machinery & Apparatus	0.04	0.00	0.25	0.01	0.12	0.03
47	Other Electrical Machinery	0.09	0.01	0.35	0.02	0.17	0.04
48	Insulated Wires & Cables	0.10	0.01	0.84	0.04	0.54	0.13
49	Electric Lamps & Lighting Equipment	0.21	0.03	0.60	0.03	0.22	0.06
50	Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	1.31	0.16	3.24	0.16	1.84	0.46
51	Television & Radio Receivers & Transmitters, Sound or Video Recording or Reproducing Apparatus & Associated Goods	0.23	0.03	0.61	0.03	0.29	0.07
52	Medical & Surgical Equipment & Orthopaedic Appliances	0.02	0.00	0.07	0.00	0.02	0.01
53	Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	0.01	0.00	0.05	0.00	0.03	0.01
54	Optical Instruments & Photographic Equipment	0.01	0.00	0.05	0.00	0.03	0.01
55	Motor Vehicles	0.22	0.03	1.34	0.06	0.62	0.15
56	Motorcycles	0.05	0.01	0.20	0.01	0.07	0.02
57	Building & Repairing of Ships & Boats; Manufacture of Bicycles & Invalid Carriages	0.19	0.02	0.84	0.04	0.21	0.05
58	Other Manufacturing	1.34	0.17	3.18	0.15	0.82	0.20
59	Repair & Maintenance	0.70	0.09	1.55	0.07	0.26	0.06
60	Electricity & Gas	0.65	0.08	1.14	0.05	0.27	0.07
61	Residential	0.37	0.05	1.07	0.05	0.14	0.03
62	Non Residential	0.46	0.06	1.33	0.06	0.20	0.05
63	Civil Engineering	0.39	0.05	1.22	0.06	0.22	0.06
64	Special Trade Works	0.64	0.08	2.26	0.11	0.57	0.14
65	Sale of motor vehicles	2.23	0.28	3.60	0.17	0.41	0.10
66	Maintenance and repair of motor vehicles	1.24	0.15	2.44	0.12	0.33	0.08
67	Sale of motor vehicle parts and accessories	2.35	0.29	4.08	0.20	0.51	0.13
68	Sale, maintenance and repair of motorcycles and related parts and accessories	0.75	0.09	1.41	0.07	0.18	0.04
69	Wholesale on a fee or contract basis	0.98	0.12	1.70	0.08	0.19	0.05
70	Wholesale of agricultural raw materials and live animals	2.10	0.26	3.23	0.16	0.47	0.12
71	Wholesale of food, beverages and tobacco	2.66	0.33	4.66	0.22	0.58	0.14

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
72	Wholesale of household goods	4.60	0.57	7.95	0.38	0.95	0.24
73	Wholesale of machinery, equipment and supplies	3.24	0.40	5.70	0.27	0.70	0.17
74	Other specialised wholesale	6.44	0.80	11.28	0.54	1.41	0.35
75	Non-specialised wholesale trade	0.89	0.11	1.67	0.08	0.21	0.05
76	Retail Sales	19.76	2.45	34.90	1.68	4.17	1.03
77	Accommodation	0.45	0.06	1.07	0.05	0.05	0.01
78	Restaurants	6.11	0.76	14.93	0.72	1.59	0.39
79	Land Transport	2.27	0.28	6.07	0.29	1.03	0.26
80	Water Transport	0.90	0.11	2.36	0.11	0.29	0.07
81	Air Transport	0.03	0.00	0.11	0.01	0.03	0.01
82	Other Transport Services	0.77	0.10	3.24	0.16	0.64	0.16
83	Port and Airport Operation Services & Highway, Bridge and Tunnel Operation Services	0.01	0.00	0.05	0.00	0.01	0.00
84	Cinema, Video and Television Activity	0.40	0.05	0.61	0.03	0.03	0.01
85	ICT & Computer Services	0.41	0.05	1.01	0.05	0.09	0.02
86	Real Estate	5.83	0.72	12.03	0.58	0.55	0.14
87	Rental & Leasing	1.69	0.21	3.36	0.16	0.48	0.12
88	Professional	13.73	1.70	21.69	1.05	1.42	0.35
89	Business Services	2.47	0.31	6.71	0.32	0.55	0.14
90	Other Private Services	1.22	0.15	1.63	0.08	0.09	0.02
91	Amusement and Recreational Services	0.80	0.10	2.20	0.11	0.37	0.09
92	Private Education	1.35	0.17	1.83	0.09	0.13	0.03
93	Private Health	1.30	0.16	2.47	0.12	0.52	0.13
Total Small		122.06	15.16	278.53	13.43	43.16	10.71
Overall Total		805.16	100.00	2,074.17	100.00	403.06	100.00

Note: Figures may not necessarily add up due to rounding

Table 4: Contribution of Medium-sized Firms to Value-added, Output and Imports

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
1	Crops	3.39	0.42	3.85	0.19	0.36	0.09
2	Rubber	1.37	0.17	2.11	0.10	0.09	0.02
3	Oil Palm	11.13	1.38	14.72	0.71	1.21	0.30
4	Poultry Farming	0.59	0.07	2.14	0.10	0.27	0.07
5	Other Livestock	0.48	0.06	0.90	0.04	0.10	0.03
6	Forestry & Logging	1.52	0.19	4.68	0.23	0.39	0.10
7	Fishing	1.05	0.13	3.90	0.19	0.57	0.14
8	Crude Oil and Natural Gas	0.20	0.03	0.37	0.02	0.02	0.01
9	Metal Ore Mining	0.13	0.02	0.19	0.01	0.02	0.00
10	Other Mining & Quarrying	2.17	0.27	2.95	0.14	0.26	0.06
11	Meat & Meat Production	0.06	0.01	0.27	0.01	0.04	0.01
12	Preservation of Seafood	0.17	0.02	1.16	0.06	0.09	0.02
13	Preservation of Fruits & Vegetables	0.05	0.01	0.35	0.02	0.10	0.03
14	Dairy Production	0.16	0.02	0.39	0.02	0.11	0.03
15	Oils and Fats	4.03	0.50	64.97	3.13	2.82	0.70
16	Grain Mills	0.24	0.03	0.57	0.03	0.10	0.02
17	Bakery Products	0.35	0.04	1.26	0.06	0.28	0.07
18	Animal Feeds	0.52	0.06	2.23	0.11	0.82	0.20
19	Wine & Spirit	0.13	0.02	0.39	0.02	0.08	0.02
20	Tobacco Products	0.53	0.07	0.82	0.04	0.12	0.03
21	Yarn & Cloth	0.08	0.01	0.29	0.01	0.08	0.02
22	Other Textiles	0.14	0.02	0.47	0.02	0.14	0.04
23	Wearing Apparel	0.30	0.04	0.88	0.04	0.21	0.05
24	Leather Industries	0.01	0.00	0.06	0.00	0.02	0.00
25	Footwear	0.05	0.01	0.11	0.01	0.02	0.00
26	Sawmilling and Planning of Wood	0.31	0.04	1.90	0.09	0.14	0.03
27	Veneer Sheets, Plywood, Laminated Board, Particle Board and Other Panels and Boards	0.10	0.01	1.08	0.05	0.12	0.03
28	Paper and Paper Products and Furniture	1.42	0.18	6.42	0.31	1.29	0.32
29	Printing	0.44	0.05	1.35	0.07	0.32	0.08
30	Petroleum Refinery	0.38	0.05	4.71	0.23	0.99	0.25
31	Basic Chemicals	1.03	0.13	7.03	0.34	1.56	0.39
32	Paints & Varnishes & Other Chemicals Product	1.43	0.18	9.39	0.45	2.85	0.71
33	Pharmaceuticals, Medicinal Chemicals & Botanical Product	0.41	0.05	1.43	0.07	0.47	0.12
34	Tyres	0.05	0.01	0.84	0.04	0.29	0.07
35	Plastics Products	1.08	0.13	6.40	0.31	2.22	0.55
36	Sheet Glass and Glass Products	0.04	0.00	0.21	0.01	0.05	0.01
37	Clay and Ceramic	0.19	0.02	0.85	0.04	0.24	0.06
38	Iron & Steel Products	0.65	0.08	5.69	0.27	1.96	0.49
39	Basic Precious & Non-Ferrous Metals	0.44	0.05	3.24	0.16	1.84	0.46
40	Casting of Metals	0.30	0.04	1.80	0.09	0.85	0.21
41	Structural Metal Products	0.41	0.05	1.93	0.09	0.55	0.14
42	Other Fabricated Metal Products	1.37	0.17	5.73	0.28	1.93	0.48
43	Industrial Machinery	0.14	0.02	0.49	0.02	0.19	0.05

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
44	Special Purpose Machinery	1.18	0.15	3.25	0.16	0.94	0.23
45	Domestic Appliances & Office, Accounting & Computing Machinery	0.30	0.04	1.22	0.06	0.69	0.17
46	Electrical Machinery & Apparatus	0.03	0.00	0.27	0.01	0.12	0.03
47	Other Electrical Machinery	0.13	0.02	0.36	0.02	0.17	0.04
48	Insulated Wires & Cables	0.22	0.03	4.22	0.20	2.72	0.67
49	Electric Lamps & Lighting Equipment	0.13	0.02	0.48	0.02	0.18	0.04
50	Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	0.74	0.09	2.26	0.11	1.28	0.32
51	Television & Radio Receivers & Transmitters, Sound or Video Recording or Reproducing Apparatus & Associated Goods	0.26	0.03	0.71	0.03	0.34	0.08
52	Medical & Surgical Equipment & Orthopaedic Appliances	0.01	0.00	0.09	0.00	0.03	0.01
53	Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	0.02	0.00	0.10	0.00	0.05	0.01
54	Optical Instruments & Photographic Equipment	0.00	0.00	0.02	0.00	0.01	0.00
55	Motor Vehicles	0.31	0.04	1.98	0.10	0.91	0.23
56	Motorcycles	0.06	0.01	0.25	0.01	0.09	0.02
57	Building & Repairing of Ships & Boats; Manufacture of Bicycles & Invalid Carriages	0.22	0.03	1.35	0.06	0.34	0.08
58	Other Manufacturing	0.82	0.10	4.17	0.20	1.08	0.27
59	Repair & Maintenance	0.22	0.03	1.03	0.05	0.17	0.04
60	Electricity & Gas	2.50	0.31	4.71	0.23	1.10	0.27
61	Residential	0.87	0.11	2.47	0.12	0.32	0.08
62	Non Residential	1.15	0.14	3.47	0.17	0.52	0.13
63	Civil Engineering	0.85	0.11	2.63	0.13	0.48	0.12
64	Special Trade Works	1.17	0.14	4.13	0.20	1.05	0.26
65	Sale of motor vehicles	0.89	0.11	1.57	0.08	0.18	0.04
66	Maintenance and repair of motor vehicles	0.06	0.01	0.15	0.01	0.02	0.01
67	Sale of motor vehicle parts and accessories	0.56	0.07	1.16	0.06	0.14	0.04
68	Sale, maintenance and repair of motorcycles and related parts and accessories	0.17	0.02	0.31	0.01	0.04	0.01
69	Wholesale on a fee or contract basis	0.78	0.10	1.49	0.07	0.17	0.04
70	Wholesale of agricultural raw materials and live animals	0.95	0.12	3.51	0.17	0.51	0.13
71	Wholesale of food, beverages and tobacco	1.80	0.22	3.37	0.16	0.42	0.10

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
72	Wholesale of household goods	2.00	0.25	4.00	0.19	0.48	0.12
73	Wholesale of machinery, equipment and supplies	1.49	0.19	2.65	0.13	0.33	0.08
74	Other specialised wholesale	3.97	0.49	7.59	0.37	0.95	0.24
75	Non-specialised wholesale trade	0.06	0.01	0.12	0.01	0.01	0.00
76	Retail Sales	4.21	0.52	7.56	0.36	0.90	0.22
77	Accommodation	0.97	0.12	2.51	0.12	0.12	0.03
78	Restaurants	0.98	0.12	2.55	0.12	0.27	0.07
79	Land Transport	1.56	0.19	4.69	0.23	0.80	0.20
80	Water Transport	0.39	0.05	0.93	0.04	0.11	0.03
81	Air Transport	0.02	0.00	0.05	0.00	0.01	0.00
82	Other Transport Services	0.61	0.08	2.62	0.13	0.52	0.13
83	Port and Airport Operation Services & Highway, Bridge and Tunnel Operation Services	0.22	0.03	0.43	0.02	0.07	0.02
84	Cinema, Video and Television Activity	0.43	0.05	0.58	0.03	0.03	0.01
85	ICT & Computer Services	2.77	0.34	7.26	0.35	0.64	0.16
86	Real Estate	2.27	0.28	4.71	0.23	0.22	0.05
87	Rental & Leasing	0.22	0.03	0.58	0.03	0.08	0.02
88	Professional	5.55	0.69	9.46	0.46	0.62	0.15
89	Business Services	1.85	0.23	3.84	0.19	0.32	0.08
90	Other Private Services	0.08	0.01	0.13	0.01	0.01	0.00
91	Amusement and Recreational Services	0.45	0.06	1.13	0.05	0.19	0.05
92	Private Education	1.40	0.17	1.99	0.10	0.15	0.04
93	Private Health	0.35	0.04	0.67	0.03	0.14	0.03
Total Medium		87.32	10.85	287.30	13.85	47.19	11.71
Overall Total		805.16	100.00	2,074.17	100.00	403.06	100.00

Note: Figures may not necessarily add up due to rounding

Table 5: Contribution of Large Firms to Value-added, Output and Imports

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
1	Crops	1.24	0.15	2.06	0.10	0.19	0.05
2	Rubber	3.73	0.46	5.36	0.26	0.22	0.05
3	Oil Palm	29.28	3.64	39.02	1.88	3.21	0.80
4	Poultry Farming	2.33	0.29	4.24	0.20	0.54	0.13
5	Other Livestock	0.27	0.03	0.67	0.03	0.08	0.02
6	Forestry & Logging	4.92	0.61	15.13	0.73	1.27	0.32
7	Fishing	0.93	0.12	2.11	0.10	0.31	0.08
8	Crude Oil and Natural Gas	81.92	10.17	97.37	4.69	5.50	1.36
9	Metal Ore Mining	0.98	0.12	1.41	0.07	0.12	0.03
10	Other Mining & Quarrying	2.30	0.29	2.97	0.14	0.26	0.07
11	Meat & Meat Production	0.27	0.03	1.78	0.09	0.28	0.07
12	Preservation of Seafood	0.33	0.04	1.62	0.08	0.12	0.03
13	Preservation of Fruits & Vegetables	0.03	0.00	0.12	0.01	0.04	0.01
14	Dairy Production	1.10	0.14	5.48	0.26	1.48	0.37
15	Oils and Fats	2.97	0.37	47.21	2.28	2.05	0.51
16	Grain Mills	0.44	0.06	0.84	0.04	0.14	0.04
17	Bakery Products	0.83	0.10	2.80	0.14	0.62	0.15
18	Animal Feeds	0.12	0.02	0.97	0.05	0.36	0.09
19	Wine & Spirit	0.74	0.09	1.46	0.07	0.31	0.08
20	Tobacco Products	0.76	0.09	1.17	0.06	0.17	0.04
21	Yarn & Cloth	0.64	0.08	2.80	0.13	0.76	0.19
22	Other Textiles	0.28	0.03	1.07	0.05	0.33	0.08
23	Wearing Apparel	1.05	0.13	3.01	0.15	0.70	0.17
24	Leather Industries	0.04	0.00	0.11	0.01	0.03	0.01
25	Footwear	0.11	0.01	0.29	0.01	0.04	0.01
26	Sawmilling and Planning of Wood	0.09	0.01	0.60	0.03	0.04	0.01
27	Veneer Sheets, Plywood, Laminated Board, Particle Board and Other Panels and Boards	1.00	0.12	8.19	0.39	0.94	0.23
28	Paper and Paper Products and Furniture	2.60	0.32	10.41	0.50	2.09	0.52
29	Printing	1.03	0.13	2.70	0.13	0.63	0.16
30	Petroleum Refinery	22.46	2.79	99.25	4.79	20.88	5.18
31	Basic Chemicals	6.33	0.79	23.10	1.11	5.13	1.27
32	Paints & Varnishes & Other Chemicals Product	2.32	0.29	14.90	0.72	4.53	1.12
33	Pharmaceuticals, Medicinal Chemicals & Botanical Product	0.68	0.08	1.22	0.06	0.40	0.10
34	Tyres	0.20	0.02	1.44	0.07	0.51	0.13
35	Plastics Products	1.58	0.20	10.53	0.51	3.66	0.91
36	Sheet Glass and Glass Products	1.06	0.13	4.63	0.22	1.19	0.30
37	Clay and Ceramic	0.43	0.05	1.85	0.09	0.53	0.13
38	Iron & Steel Products	3.29	0.41	19.71	0.95	6.77	1.68
39	Basic Precious & Non-Ferrous Metals	0.87	0.11	7.62	0.37	4.33	1.07
40	Casting of Metals	0.23	0.03	1.30	0.06	0.62	0.15
41	Structural Metal Products	0.31	0.04	1.28	0.06	0.37	0.09
42	Other Fabricated Metal Products	1.81	0.23	7.68	0.37	2.58	0.64
43	Industrial Machinery	0.45	0.06	1.98	0.10	0.75	0.19
44	Special Purpose Machinery	1.19	0.15	3.32	0.16	0.96	0.24

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
45	Domestic Appliances & Office, Accounting & Computing Machinery	9.55	1.19	42.48	2.05	24.10	5.98
46	Electrical Machinery & Apparatus	0.19	0.02	1.74	0.08	0.81	0.20
47	Other Electrical Machinery	1.17	0.14	4.40	0.21	2.08	0.52
48	Insulated Wires & Cables	0.31	0.04	3.24	0.16	2.08	0.52
49	Electric Lamps & Lighting Equipment	0.27	0.03	0.94	0.05	0.35	0.09
50	Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	19.26	2.39	92.11	4.44	52.17	12.94
51	Television & Radio Receivers & Transmitters, Sound or Video Recording or Reproducing Apparatus & Associated Goods	25.13	3.12	67.89	3.27	31.99	7.94
52	Medical & Surgical Equipment & Orthopaedic Appliances	0.40	0.05	1.30	0.06	0.44	0.11
53	Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	0.13	0.02	0.96	0.05	0.50	0.12
54	Optical Instruments & Photographic Equipment	0.49	0.06	4.01	0.19	2.62	0.65
55	Motor Vehicles	3.32	0.41	29.43	1.42	13.57	3.37
56	Motorcycles	0.46	0.06	2.95	0.14	1.04	0.26
57	Building & Repairing of Ships & Boats; Manufacture of Bicycles & Invalid Carriages	0.67	0.08	7.51	0.36	1.88	0.47
58	Other Manufacturing	4.31	0.54	8.04	0.39	2.07	0.51
59	Repair & Maintenance	0.39	0.05	2.11	0.10	0.35	0.09
60	Electricity & Gas	11.76	1.46	29.28	1.41	6.83	1.69
61	Residential	5.35	0.66	16.39	0.79	2.11	0.52
62	Non Residential	7.06	0.88	22.09	1.06	3.28	0.81
63	Civil Engineering	6.20	0.77	21.62	1.04	3.95	0.98
64	Special Trade Works	2.89	0.36	10.99	0.53	2.79	0.69
65	Sale of motor vehicles	3.35	0.42	5.93	0.29	0.68	0.17
66	Maintenance and repair of motor vehicles	0.15	0.02	0.21	0.01	0.03	0.01
67	Sale of motor vehicle parts and accessories	0.16	0.02	0.50	0.02	0.06	0.02
68	Sale, maintenance and repair of motorcycles and related parts and accessories	0.13	0.02	0.22	0.01	0.03	0.01
69	Wholesale on a fee or contract basis	1.03	0.13	1.56	0.08	0.18	0.04
70	Wholesale of agricultural raw materials and live animals	0.28	0.04	0.55	0.03	0.08	0.02
71	Wholesale of food, beverages and tobacco	2.69	0.33	5.15	0.25	0.65	0.16
72	Wholesale of household goods	2.89	0.36	4.86	0.23	0.58	0.14
73	Wholesale of machinery, equipment and supplies	1.78	0.22	3.52	0.17	0.43	0.11

Num.	Industry	Value-added		Output		Imports	
		RM bil	% to overall total	RM bil	% to overall total	RM bil	% to overall total
74	Other specialised wholesale	6.23	0.77	11.65	0.56	1.46	0.36
75	Non-specialised wholesale trade	0.01	0.00	0.02	0.00	0.00	0.00
76	Retail Sales	7.70	0.96	13.96	0.67	1.67	0.41
77	Accommodation	2.77	0.34	5.75	0.28	0.29	0.07
78	Restaurants	1.48	0.18	4.26	0.21	0.45	0.11
79	Land Transport	2.11	0.26	6.69	0.32	1.13	0.28
80	Water Transport	3.33	0.41	8.49	0.41	1.04	0.26
81	Air Transport	3.49	0.43	18.16	0.88	4.53	1.12
82	Other Transport Services	1.14	0.14	5.36	0.26	1.06	0.26
83	Port and Airport Operation Services & Highway, Bridge and Tunnel Operation Services	5.99	0.74	11.85	0.57	1.84	0.46
84	Cinema, Video and Television Activity	1.81	0.23	3.52	0.17	0.18	0.04
85	ICT & Computer Services	6.01	0.75	12.76	0.62	1.12	0.28
86	Real Estate	2.96	0.37	5.84	0.28	0.27	0.07
87	Rental & Leasing	0.17	0.02	0.48	0.02	0.07	0.02
88	Professional	4.34	0.54	6.61	0.32	0.43	0.11
89	Business Services	1.18	0.15	2.64	0.13	0.22	0.05
90	Other Private Services	0.26	0.03	0.33	0.02	0.02	0.00
91	Amusement and Recreational Services	3.78	0.47	11.53	0.56	1.93	0.48
92	Private Education	3.82	0.47	5.08	0.24	0.37	0.09
93	Private Health	2.35	0.29	5.57	0.27	1.17	0.29
Total Large		358.25	44.49	995.27	47.98	253.01	62.77
Overall Total		805.16	100.00	2,074.17	100.00	403.06	100.00

Note: Figures may not necessarily add up due to rounding

Appendix 3

Multipliers and Linkages

Table 1: Multipliers and Linkages of SMEs

Num.	Industry	Multiplier						Linkages	
		Output	Import	Tax	VA	CE	OS	Backward	Forward
1	Crops	1.202	0.125	0.004	0.879	0.181	0.698	0.656	1.250
2	Rubber	1.653	0.102	0.008	0.896	0.204	0.692	1.065	0.817
3	Oil Palm	1.332	0.127	0.004	0.876	0.171	0.704	0.031	1.631
4	Poultry Farming	2.007	0.365	0.006	0.637	0.169	0.468	1.381	0.490
5	Other Livestock	1.658	0.255	0.006	0.745	0.192	0.552	1.296	0.665
6	Forestry & Logging	2.107	0.232	0.052	0.740	0.133	0.607	0.205	0.835
7	Fishing	1.857	0.273	0.018	0.749	0.157	0.592	0.978	0.725
8	Crude Oil and Natural Gas	1.665	0.174	0.006	0.827	0.105	0.722	0.592	0.965
9	Metal Ore Mining	1.275	0.129	0.006	0.870	0.182	0.689	0.332	1.431
10	Other Mining & Quarrying	1.339	0.142	0.007	0.858	0.098	0.760	0.089	1.538
11	Meat & Meat Production	2.169	0.339	0.008	0.662	0.253	0.409	0.664	0.641
12	Preservation of Seafood	2.525	0.280	0.013	0.730	0.214	0.516	1.202	0.459
13	Preservation of Fruits & Vegetables	1.950	0.441	0.008	0.566	0.190	0.375	1.058	0.665
14	Dairy Production	1.740	0.362	0.006	0.653	0.103	0.550	1.158	0.745
15	Oils and Fats	2.805	0.198	0.010	0.805	0.189	0.616	1.245	0.219
16	Grain Mills	1.900	0.282	0.006	0.822	0.190	0.631	1.128	0.601
17	Bakery Products	1.850	0.351	0.007	0.669	0.212	0.457	1.405	0.609
18	Animal Feeds	1.842	0.483	0.006	0.525	0.163	0.362	0.617	1.118
19	Wine & Spirit	1.583	0.333	0.020	0.654	0.134	0.520	0.950	0.854
20	Tobacco Products	1.347	0.207	0.005	0.790	0.173	0.616	1.117	0.853
21	Yarn & Cloth	1.712	0.398	0.009	0.599	0.153	0.446	0.800	0.850
22	Other Textiles	1.599	0.406	0.012	0.587	0.199	0.389	0.997	0.838
23	Wearing Apparel	1.428	0.306	0.011	0.685	0.191	0.494	1.044	0.883
24	Leather Industries	1.819	0.447	0.012	0.545	0.176	0.369	1.187	0.684
25	Footwear	1.695	0.246	0.009	0.749	0.242	0.507	0.835	0.882
26	Sawmilling and Planning of Wood	2.392	0.235	0.052	0.726	0.199	0.526	0.829	0.476
27	Veneer Sheets, Plywood, Laminated Board, Particle Board and Other Panels and Boards	2.508	0.305	0.051	0.657	0.184	0.472	1.082	0.388
28	Paper and Paper Products and Furniture	2.061	0.358	0.026	0.624	0.166	0.458	1.099	0.637
29	Printing	1.722	0.349	0.012	0.643	0.159	0.484	0.146	1.205
30	Petroleum Refinery	2.107	0.349	0.008	0.651	0.116	0.535	1.026	0.422
31	Basic Chemicals	2.148	0.364	0.011	0.642	0.135	0.506	0.890	0.691
32	Paints & Varnishes & Other Chemicals Product	2.048	0.469	0.013	0.539	0.117	0.422	0.800	0.741
33	Pharmaceuticals, Medicinal Chemicals & Botanical Product	1.525	0.415	0.006	0.583	0.157	0.426	0.373	1.281
34	Tyres	2.074	0.541	0.012	0.454	0.116	0.338	1.099	0.584
35	Plastics Products	1.898	0.531	0.008	0.469	0.205	0.264	0.880	0.800
36	Sheet Glass and Glass Products	1.918	0.424	0.011	0.574	0.176	0.398	0.379	0.837
37	Clay and Ceramic	1.797	0.407	0.011	0.596	0.154	0.442	0.510	0.920
38	Iron & Steel Products	1.919	0.566	0.009	0.431	0.113	0.318	0.230	0.921
39	Basic Precious & Non- Ferrous Metals	1.488	0.683	0.007	0.313	0.083	0.230	1.085	0.837
40	Casting of Metals	1.592	0.604	0.007	0.392	0.111	0.282	0.113	1.390
41	Structural Metal Products	1.807	0.449	0.011	0.544	0.138	0.406	0.489	0.960
42	Other Fabricated Metal Products	1.720	0.488	0.008	0.508	0.174	0.334	0.721	0.957
43	Industrial Machinery	1.530	0.507	0.009	0.487	0.193	0.294	1.221	0.770

Num.	Industry	Multiplier						Linkages	
		Output	Import	Tax	VA	CE	OS	Backward	Forward
44	Special Purpose Machinery	1.474	0.394	0.007	0.601	0.170	0.431	1.015	0.944
45	Domestic Appliances & Office, Accounting & Computing Machinery	1.264	0.612	0.004	0.386	0.110	0.275	1.136	0.870
46	Electrical Machinery & Apparatus	1.669	0.618	0.010	0.376	0.144	0.232	1.279	0.691
47	Other Electrical Machinery	1.371	0.541	0.009	0.453	0.208	0.245	1.127	0.859
48	Insulated Wires & Cables	1.515	0.762	0.005	0.236	0.068	0.168	1.220	0.779
49	Electric Lamps & Lighting Equipment	1.552	0.479	0.009	0.516	0.194	0.322	1.122	0.819
50	Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	1.106	0.586	0.003	0.412	0.108	0.304	1.041	0.960
51	Television & Radio Receivers & Transmitters, Sound or Video Recording or Reproducing Apparatus & Associated Goods	1.268	0.514	0.004	0.484	0.164	0.320	1.159	0.850
52	Medical & Surgical Equipment & Orthopaedic Appliances	1.863	0.504	0.010	0.491	0.135	0.356	1.436	0.562
53	Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	1.468	0.606	0.012	0.385	0.135	0.250	0.945	0.934
54	Optical Instruments & Photographic Equipment	1.370	0.726	0.004	0.272	0.083	0.188	1.108	0.863
55	Motor Vehicles	1.548	0.587	0.063	0.352	0.098	0.255	0.908	0.919
56	Motorcycles	1.633	0.475	0.034	0.495	0.207	0.288	1.124	0.754
57	Building & Repairing of Ships & Boats; Manufacture of Bicycles & Invalid Carriages	1.984	0.457	0.020	0.529	0.162	0.367	1.467	0.511
58	Other Manufacturing	1.794	0.406	0.012	0.588	0.187	0.401	0.758	0.909
59	Repair & Maintenance	1.871	0.331	0.006	0.667	0.222	0.445	0.097	1.165
60	Electricity & Gas	1.362	0.282	0.008	0.723	0.085	0.638	0.296	1.381
61	Residential	1.916	0.293	0.010	0.704	0.353	0.351	1.202	0.619
62	Non Residential	1.912	0.312	0.011	0.685	0.332	0.353	1.430	0.540
63	Civil Engineering	1.856	0.355	0.011	0.646	0.295	0.351	1.288	0.606
64	Special Trade Works	1.818	0.401	0.010	0.598	0.289	0.308	0.808	0.843
65	Sale of motor vehicles	1.497	0.179	0.016	0.815	0.234	0.580	0.780	1.077
66	Maintenance and repair of motor vehicles	1.630	0.213	0.019	0.780	0.205	0.574	0.844	0.993
67	Sale of motor vehicle parts and accessories	1.543	0.194	0.017	0.799	0.218	0.581	0.821	1.086
68	Sale, maintenance and repair of motorcycles and related parts and accessories	1.578	0.197	0.018	0.795	0.218	0.578	0.832	1.049
69	Wholesale on a fee or contract basis	1.601	0.194	0.017	0.799	0.229	0.570	0.851	1.050
70	Wholesale of agricultural raw materials and live animals	1.703	0.239	0.021	0.752	0.186	0.567	0.917	1.004
71	Wholesale of food, beverages and tobacco	1.560	0.199	0.018	0.794	0.214	0.580	0.822	1.059
72	Wholesale of household goods	1.576	0.195	0.017	0.798	0.222	0.576	0.838	1.062
73	Wholesale of machinery, equipment and supplies	1.538	0.193	0.017	0.800	0.219	0.581	0.817	1.083
74	Other specialised wholesale	1.573	0.201	0.018	0.792	0.214	0.578	0.834	1.061
75	Non-specialised wholesale trade	1.563	0.194	0.017	0.799	0.220	0.579	0.838	1.082
76	Retail Sales	1.541	0.188	0.017	0.805	0.226	0.579	0.828	1.094

Num.	Industry	Multiplier						Linkages	
		Output	Import	Tax	VA	CE	OS	Backward	Forward
77	Accommodation	2.039	0.165	0.008	0.834	0.296	0.538	1.085	0.631
78	Restaurants	1.921	0.221	0.011	0.782	0.259	0.523	1.324	0.699
79	Land Transport	1.847	0.288	0.020	0.724	0.201	0.523	0.601	1.085
80	Water Transport	1.885	0.269	0.015	0.736	0.175	0.561	1.293	0.646
81	Air Transport	1.784	0.345	0.022	0.677	0.210	0.467	1.010	0.741
82	Other Transport Services	2.087	0.361	0.018	0.635	0.216	0.420	0.505	0.984
83	Port and Airport Operation Services & Highway, Bridge and Tunnel Operation Services	1.662	0.252	0.008	0.747	0.194	0.553	0.554	1.069
84	Cinema, Video and Television Activity	1.456	0.093	0.009	0.899	0.212	0.687	0.580	1.184
85	ICT & Computer Services	2.031	0.190	0.015	0.796	0.233	0.562	0.396	0.886
86	Real Estate	1.852	0.110	0.009	0.884	0.259	0.625	0.095	1.266
87	Rental & Leasing	1.708	0.231	0.015	0.772	0.214	0.558	0.398	1.234
88	Professional	1.547	0.119	0.008	0.876	0.323	0.554	0.492	1.377
89	Business Services	1.855	0.171	0.016	0.817	0.246	0.571	0.541	1.289
90	Other Private Services	1.376	0.104	0.008	0.891	0.230	0.661	1.070	0.974
91	Amusement and Recreational Services	1.720	0.252	0.016	0.735	0.319	0.416	1.349	0.674
92	Private Education	1.326	0.108	0.003	0.890	0.623	0.267	1.218	0.826
93	Private Health	1.409	0.290	0.004	0.708	0.463	0.245	1.211	0.831

Note: Output Multiplier; Import Multiplier; Tax Multiplier; VA - Value-added Multiplier; CE - Compensation of Employees Multiplier; OS - Operating Surplus Multiplier

Table 2: Multipliers and Linkages of Microenterprises

Num.	Industry	Multiplier						Linkages	
		Output	Import	Tax	VA	CE	OS	Backward	Forward
1	Crops	1.419	0.157	0.006	0.848	0.181	0.667	0.735	1.056
2	Rubber	2.101	0.144	0.011	0.852	0.218	0.634	1.249	0.547
3	Oil Palm	1.563	0.150	0.006	0.852	0.182	0.670	0.034	1.339
4	Poultry Farming	1.761	0.231	0.009	0.767	0.194	0.572	1.307	0.583
5	Other Livestock	1.437	0.170	0.007	0.828	0.208	0.619	1.202	0.768
6	Forestry & Logging	1.944	0.214	0.041	0.766	0.168	0.599	0.198	0.801
7	Fishing	1.717	0.240	0.018	0.780	0.168	0.611	0.916	0.774
8	Crude Oil and Natural Gas	1.604	0.139	0.007	0.860	0.118	0.742	0.588	0.981
9	Metal Ore Mining	1.813	0.177	0.011	0.821	0.214	0.607	0.429	0.849
10	Other Mining & Quarrying	1.373	0.135	0.008	0.865	0.109	0.756	0.091	1.485
11	Meat & Meat Production	1.915	0.285	0.008	0.714	0.295	0.419	0.594	0.752
12	Preservation of Seafood	2.098	0.224	0.012	0.781	0.248	0.533	0.902	0.545
13	Preservation of Fruits & Vegetables	1.481	0.358	0.007	0.647	0.248	0.399	0.904	0.906
14	Dairy Production	1.269	0.308	0.004	0.705	0.089	0.617	0.996	0.956
15	Oils and Fats	2.410	0.206	0.014	0.793	0.200	0.593	1.065	0.128
16	Grain Mills	1.851	0.268	0.006	0.833	0.189	0.644	1.090	0.507
17	Bakery Products	1.548	0.291	0.007	0.722	0.241	0.481	1.203	0.731
18	Animal Feeds	1.306	0.408	0.004	0.596	0.204	0.392	0.282	1.419
19	Wine & Spirit	1.176	0.240	0.018	0.748	0.136	0.612	0.780	1.153
20	Tobacco Products	1.327	0.185	0.005	0.813	0.175	0.638	1.117	0.853
21	Yarn & Cloth	1.611	0.352	0.010	0.643	0.171	0.472	0.784	0.888
22	Other Textiles	1.347	0.351	0.010	0.643	0.229	0.415	0.894	0.993
23	Wearing Apparel	1.110	0.247	0.009	0.746	0.205	0.540	0.887	1.091
24	Leather Industries	1.540	0.373	0.011	0.619	0.206	0.413	1.027	0.833
25	Footwear	1.738	0.235	0.010	0.760	0.242	0.518	0.837	0.809
26	Sawmilling and Planning of Wood	2.207	0.221	0.041	0.748	0.225	0.523	0.778	0.440
27	Veneer Sheets, Plywood, Laminated Board, Particle Board and Other Panels and Boards	2.295	0.273	0.040	0.696	0.216	0.481	0.987	0.354
28	Paper and Paper Products and Furniture	1.886	0.318	0.021	0.668	0.186	0.481	1.008	0.641
29	Printing	1.535	0.299	0.010	0.694	0.174	0.520	0.123	1.305
30	Petroleum Refinery	1.691	0.298	0.008	0.700	0.139	0.561	0.854	0.789
31	Basic Chemicals	1.806	0.320	0.012	0.683	0.158	0.525	0.770	0.738
32	Paints & Varnishes & Other Chemicals Product	1.793	0.399	0.014	0.605	0.142	0.463	0.709	0.762
33	Pharmaceuticals, Medicinal Chemicals & Botanical Product	1.180	0.352	0.004	0.646	0.174	0.472	0.289	1.548
34	Tyres	2.004	0.500	0.013	0.494	0.130	0.364	1.066	0.578
35	Plastics Products	1.743	0.452	0.009	0.545	0.244	0.301	0.797	0.797
36	Sheet Glass and Glass Products	1.820	0.369	0.011	0.628	0.200	0.428	0.364	0.868
37	Clay and Ceramic	1.738	0.378	0.012	0.623	0.187	0.436	0.481	0.902
38	Iron & Steel Products	1.439	0.406	0.007	0.591	0.157	0.435	0.188	1.343
39	Basic Precious & Non- Ferrous Metals	1.506	0.648	0.008	0.348	0.094	0.253	1.096	0.802
40	Casting of Metals	1.565	0.560	0.008	0.436	0.123	0.313	0.092	1.263
41	Structural Metal Products	1.752	0.384	0.012	0.608	0.160	0.449	0.456	0.920
42	Other Fabricated Metal Products	1.747	0.447	0.009	0.548	0.182	0.367	0.700	0.828
43	Industrial Machinery	1.367	0.432	0.009	0.562	0.230	0.331	1.110	0.848
44	Special Purpose Machinery	1.086	0.301	0.005	0.695	0.197	0.499	0.807	1.168
45	Domestic Appliances & Office, Accounting & Computing Machinery	1.442	0.626	0.006	0.371	0.105	0.266	1.241	0.745
46	Electrical Machinery & Apparatus	1.564	0.558	0.011	0.435	0.169	0.266	1.192	0.728
47	Other Electrical Machinery	1.183	0.497	0.007	0.497	0.247	0.250	1.017	0.963
48	Insulated Wires & Cables	1.410	0.706	0.005	0.292	0.085	0.207	1.143	0.813
49	Electric Lamps & Lighting Equipment	1.274	0.407	0.007	0.588	0.235	0.353	0.967	0.977
50	Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	1.260	0.600	0.005	0.397	0.106	0.291	1.136	0.857

Num.	Industry	Multiplier						Linkages	
		Output	Import	Tax	VA	CE	OS	Backward	Forward
51	Television & Radio Receivers & Transmitters, Sound or Video Recording or Reproducing Apparatus & Associated Goods	1.256	0.503	0.004	0.495	0.165	0.329	1.147	0.850
52	Medical & Surgical Equipment & Orthopaedic Appliances	1.544	0.408	0.008	0.587	0.161	0.426	1.245	0.713
53	Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	1.439	0.570	0.012	0.421	0.144	0.277	0.929	0.929
54	Optical Instruments & Photographic Equipment	1.360	0.705	0.005	0.292	0.089	0.204	1.092	0.860
55	Motor Vehicles	1.477	0.531	0.062	0.411	0.114	0.297	0.865	0.938
56	Motorcycles	1.580	0.429	0.033	0.542	0.220	0.322	1.103	0.759
57	Building & Repairing of Ships & Boats; Manufacture of Bicycles & Invalid Carriages	1.769	0.350	0.016	0.638	0.205	0.433	1.333	0.563
58	Other Manufacturing	1.265	0.294	0.009	0.700	0.240	0.461	0.569	1.264
59	Repair & Maintenance	1.741	0.283	0.006	0.714	0.235	0.479	0.076	1.131
60	Electricity & Gas	1.194	0.252	0.007	0.753	0.080	0.673	0.265	1.545
61	Residential	1.771	0.223	0.010	0.773	0.407	0.365	1.111	0.672
62	Non Residential	1.709	0.238	0.010	0.757	0.399	0.359	1.295	0.629
63	Civil Engineering	1.747	0.275	0.012	0.725	0.343	0.382	1.200	0.649
64	Special Trade Works	1.684	0.344	0.010	0.653	0.335	0.318	0.745	0.874
65	Sale of motor vehicles	1.472	0.169	0.016	0.825	0.239	0.585	0.741	1.033
66	Maintenance and repair of motor vehicles	1.619	0.208	0.019	0.785	0.207	0.577	0.794	0.939
67	Sale of motor vehicle parts and accessories	1.447	0.176	0.017	0.817	0.224	0.593	0.734	1.060
68	Sale, maintenance and repair of motorcycles and related parts and accessories	1.536	0.187	0.017	0.805	0.222	0.584	0.765	0.998
69	Wholesale on a fee or contract basis	1.629	0.187	0.017	0.807	0.235	0.572	0.797	0.902
70	Wholesale of agricultural raw materials and live animals	1.246	0.174	0.018	0.819	0.193	0.625	0.666	1.218
71	Wholesale of food, beverages and tobacco	1.461	0.178	0.017	0.815	0.222	0.593	0.739	1.042
72	Wholesale of household goods	1.513	0.179	0.017	0.814	0.229	0.585	0.757	1.003
73	Wholesale of machinery, equipment and supplies	1.462	0.176	0.017	0.817	0.225	0.592	0.740	1.044
74	Other specialised wholesale	1.455	0.177	0.017	0.816	0.222	0.594	0.738	1.045
75	Non-specialised wholesale trade	1.498	0.182	0.017	0.811	0.224	0.587	0.754	1.035
76	Retail Sales	1.507	0.179	0.017	0.815	0.230	0.584	0.758	1.024
77	Accommodation	1.923	0.149	0.008	0.850	0.325	0.525	0.990	0.667
78	Restaurants	1.857	0.224	0.011	0.778	0.264	0.515	1.190	0.657
79	Land Transport	1.693	0.255	0.019	0.757	0.213	0.544	0.463	1.061
80	Water Transport	1.814	0.231	0.015	0.773	0.189	0.584	1.193	0.656
81	Air Transport	1.365	0.287	0.019	0.736	0.226	0.511	0.804	1.058
82	Other Transport Services	1.976	0.313	0.016	0.684	0.236	0.448	0.346	0.872
83	Port and Airport Operation Services & Highway, Bridge and Tunnel Operation Services	2.379	0.285	0.012	0.710	0.222	0.488	0.703	0.338
84	Cinema, Video and Television Activity	1.448	0.091	0.009	0.901	0.215	0.686	0.574	1.152
85	ICT & Computer Services	1.918	0.174	0.014	0.814	0.244	0.570	0.378	0.847
86	Real Estate	1.862	0.105	0.008	0.889	0.261	0.628	0.018	1.103
87	Rental & Leasing	1.866	0.242	0.016	0.761	0.215	0.546	0.346	0.939
88	Professional	1.521	0.111	0.008	0.884	0.327	0.558	0.417	1.217
89	Business Services	1.570	0.139	0.014	0.851	0.258	0.593	0.329	1.225
90	Other Private Services	1.383	0.107	0.008	0.888	0.229	0.659	1.028	0.934
91	Amusement and Recreational Services	1.689	0.239	0.016	0.749	0.331	0.418	1.234	0.675
92	Private Education	1.271	0.097	0.003	0.902	0.636	0.266	1.144	0.861
93	Private Health	1.366	0.271	0.004	0.727	0.485	0.242	1.126	0.854

Note: Output Multiplier; Import Multiplier; Tax Multiplier; VA - Value-added Multiplier; CE - Compensation of Employees Multiplier; OS - Operating Surplus Multiplier

Table 3: Multipliers and Linkages of Small-sized Firms

Num.	Industry	Multiplier						Linkages	
		Output	Import	Tax	VA	CE	OS	Backward	Forward
1	Crops	1.306	0.142	0.005	0.862	0.181	0.681	0.703	1.184
2	Rubber	1.544	0.094	0.007	0.904	0.200	0.704	1.032	0.875
3	Oil Palm	1.321	0.125	0.004	0.878	0.173	0.705	0.031	1.642
4	Poultry Farming	1.935	0.344	0.006	0.658	0.173	0.485	1.355	0.538
5	Other Livestock	1.729	0.273	0.006	0.728	0.189	0.538	1.339	0.627
6	Forestry & Logging	1.999	0.223	0.044	0.754	0.159	0.596	0.202	0.852
7	Fishing	1.705	0.246	0.017	0.775	0.162	0.613	0.933	0.853
8	Crude Oil and Natural Gas	1.611	0.155	0.007	0.845	0.110	0.736	0.590	1.018
9	Metal Ore Mining	1.092	0.099	0.005	0.901	0.179	0.722	0.302	1.623
10	Other Mining & Quarrying	1.428	0.148	0.008	0.852	0.111	0.742	0.095	1.452
11	Meat & Meat Production	2.184	0.337	0.008	0.664	0.250	0.414	0.660	0.625
12	Preservation of Seafood	2.481	0.272	0.013	0.737	0.220	0.518	1.065	0.441
13	Preservation of Fruits & Vegetables	1.815	0.422	0.008	0.586	0.204	0.382	1.027	0.719
14	Dairy Production	1.774	0.379	0.007	0.638	0.112	0.525	1.227	0.674
15	Oils and Fats	2.647	0.205	0.012	0.796	0.195	0.601	1.097	0.174
16	Grain Mills	1.933	0.285	0.006	0.820	0.189	0.631	1.155	0.523
17	Bakery Products	1.699	0.326	0.006	0.699	0.226	0.472	1.324	0.678
18	Animal Feeds	1.862	0.490	0.007	0.521	0.157	0.364	0.470	1.006
19	Wine & Spirit	1.283	0.264	0.018	0.724	0.136	0.588	0.828	1.081
20	Tobacco Products	1.338	0.197	0.005	0.800	0.174	0.626	1.125	0.854
21	Yarn & Cloth	1.632	0.378	0.009	0.619	0.160	0.459	0.786	0.918
22	Other Textiles	1.527	0.388	0.011	0.606	0.209	0.397	0.975	0.886
23	Wearing Apparel	1.370	0.290	0.011	0.701	0.195	0.506	1.019	0.923
24	Leather Industries	1.687	0.414	0.011	0.578	0.190	0.389	1.115	0.764
25	Footwear	1.703	0.244	0.009	0.751	0.243	0.507	0.845	0.885
26	Sawmilling and Planning of Wood	2.331	0.227	0.047	0.736	0.216	0.520	0.814	0.509
27	Veneer Sheets, Plywood, Laminated Board, Particle Board and Other Panels and Boards	2.491	0.301	0.049	0.661	0.198	0.463	1.059	0.410
28	Paper and Paper Products and Furniture	1.991	0.343	0.024	0.639	0.175	0.464	1.056	0.679
29	Printing	1.689	0.339	0.011	0.653	0.162	0.490	0.139	1.238
30	Petroleum Refinery	1.981	0.334	0.010	0.664	0.135	0.529	0.987	0.547
31	Basic Chemicals	1.798	0.326	0.010	0.678	0.142	0.537	0.750	0.866
32	Paints & Varnishes & Other Chemicals Product	1.992	0.460	0.014	0.547	0.125	0.422	0.755	0.735
33	Pharmaceuticals, Medicinal Chemicals & Botanical Product	1.387	0.388	0.005	0.610	0.165	0.445	0.334	1.378
34	Tyres	2.014	0.520	0.012	0.475	0.122	0.353	1.087	0.614
35	Plastics Products	1.886	0.521	0.008	0.478	0.208	0.270	0.847	0.781
36	Sheet Glass and Glass Products	1.897	0.412	0.011	0.586	0.183	0.403	0.377	0.874
37	Clay and Ceramic	1.797	0.402	0.011	0.600	0.160	0.440	0.504	0.885
38	Iron & Steel Products	1.806	0.519	0.009	0.478	0.128	0.350	0.221	1.015
39	Basic Precious & Non- Ferrous Metals	1.447	0.662	0.007	0.335	0.089	0.246	1.070	0.858
40	Casting of Metals	1.580	0.590	0.007	0.405	0.115	0.290	0.100	1.338
41	Structural Metal Products	1.751	0.425	0.011	0.568	0.145	0.423	0.469	1.002
42	Other Fabricated Metal Products	1.672	0.465	0.008	0.531	0.184	0.347	0.688	0.966
43	Industrial Machinery	1.455	0.477	0.009	0.517	0.209	0.308	1.167	0.808
44	Special Purpose Machinery	1.319	0.350	0.006	0.645	0.183	0.462	0.925	1.016
45	Domestic Appliances & Office, Accounting & Computing Machinery	1.161	0.592	0.003	0.406	0.116	0.289	1.076	0.928
46	Electrical Machinery & Apparatus	1.639	0.596	0.011	0.397	0.153	0.244	1.244	0.703
47	Other Electrical Machinery	1.462	0.551	0.010	0.442	0.191	0.251	1.177	0.799
48	Insulated Wires & Cables	1.402	0.721	0.005	0.277	0.081	0.196	1.145	0.837
49	Electric Lamps & Lighting Equipment	1.484	0.457	0.008	0.538	0.206	0.332	1.076	0.856
50	Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	1.048	0.574	0.003	0.424	0.111	0.313	1.006	0.994

Num.	Industry	Multiplier						Linkages	
		Output	Import	Tax	VA	CE	OS	Backward	Forward
51	Television & Radio Receivers & Transmitters, Sound or Video Recording or Reproducing Apparatus & Associated Goods	1.264	0.511	0.004	0.487	0.164	0.322	1.160	0.850
52	Medical & Surgical Equipment & Orthopaedic Appliances	1.725	0.458	0.009	0.537	0.148	0.389	1.348	0.631
53	Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	1.504	0.602	0.013	0.389	0.133	0.256	0.965	0.905
54	Optical Instruments & Photographic Equipment	1.370	0.716	0.005	0.282	0.086	0.195	1.108	0.864
55	Motor Vehicles	1.533	0.569	0.063	0.371	0.103	0.268	0.897	0.924
56	Motorcycles	1.599	0.452	0.034	0.518	0.216	0.301	1.118	0.773
57	Building & Repairing of Ships & Boats; Manufacture of Bicycles & Invalid Carriages	1.879	0.426	0.018	0.560	0.181	0.379	1.399	0.548
58	Other Manufacturing	1.558	0.357	0.011	0.637	0.212	0.425	0.660	1.062
59	Repair & Maintenance	1.695	0.295	0.005	0.703	0.237	0.466	0.082	1.304
60	Electricity & Gas	1.318	0.267	0.008	0.737	0.093	0.644	0.287	1.423
61	Residential	1.900	0.277	0.011	0.720	0.356	0.364	1.193	0.606
62	Non Residential	1.874	0.291	0.011	0.705	0.341	0.364	1.407	0.544
63	Civil Engineering	1.849	0.336	0.012	0.664	0.300	0.364	1.281	0.595
64	Special Trade Works	1.801	0.387	0.010	0.611	0.294	0.317	0.795	0.822
65	Sale of motor vehicles	1.461	0.174	0.016	0.819	0.237	0.582	0.755	1.087
66	Maintenance and repair of motor vehicles	1.623	0.215	0.019	0.777	0.204	0.574	0.860	1.023
67	Sale of motor vehicle parts and accessories	1.523	0.191	0.017	0.802	0.220	0.582	0.794	1.073
68	Sale, maintenance and repair of motorcycles and related parts and accessories	1.602	0.202	0.018	0.791	0.217	0.574	0.839	1.026
69	Wholesale on a fee or contract basis	1.532	0.184	0.017	0.810	0.234	0.576	0.785	1.040
70	Wholesale of agricultural raw materials and live animals	1.351	0.191	0.019	0.801	0.191	0.610	0.715	1.177
71	Wholesale of food, beverages and tobacco	1.529	0.194	0.018	0.799	0.217	0.582	0.783	1.040
72	Wholesale of household goods	1.526	0.188	0.017	0.805	0.226	0.580	0.789	1.057
73	Wholesale of machinery, equipment and supplies	1.537	0.192	0.017	0.801	0.221	0.580	0.794	1.048
74	Other specialised wholesale	1.530	0.194	0.018	0.799	0.217	0.582	0.786	1.043
75	Non-specialised wholesale trade	1.602	0.201	0.018	0.792	0.219	0.573	0.855	1.052
76	Retail Sales	1.550	0.190	0.017	0.803	0.226	0.577	0.818	1.069
77	Accommodation	1.959	0.154	0.009	0.845	0.316	0.528	1.053	0.672
78	Restaurants	1.941	0.217	0.011	0.786	0.257	0.529	1.278	0.694
79	Land Transport	1.852	0.286	0.021	0.726	0.205	0.521	0.551	1.025
80	Water Transport	1.905	0.267	0.015	0.738	0.178	0.561	1.272	0.622
81	Air Transport	1.858	0.347	0.023	0.674	0.214	0.461	1.038	0.683
82	Other Transport Services	2.084	0.354	0.018	0.643	0.219	0.424	0.431	0.913
83	Port and Airport Operation Services & Highway, Bridge and Tunnel Operation Services	1.999	0.280	0.011	0.718	0.200	0.517	0.629	0.767
84	Cinema, Video and Television Activity	1.517	0.098	0.010	0.893	0.215	0.679	0.600	1.136
85	ICT & Computer Services	1.919	0.183	0.014	0.804	0.243	0.562	0.380	0.917
86	Real Estate	1.846	0.109	0.009	0.885	0.260	0.626	0.074	1.263
87	Rental & Leasing	1.634	0.222	0.014	0.782	0.217	0.565	0.362	1.271
88	Professional	1.527	0.115	0.008	0.880	0.325	0.555	0.460	1.331
89	Business Services	1.971	0.180	0.017	0.807	0.243	0.564	0.513	1.053
90	Other Private Services	1.340	0.092	0.008	0.903	0.235	0.668	1.057	0.986
91	Amusement and Recreational Services	1.753	0.251	0.017	0.736	0.317	0.419	1.332	0.645
92	Private Education	1.313	0.104	0.003	0.894	0.625	0.269	1.195	0.836
93	Private Health	1.436	0.297	0.004	0.701	0.453	0.248	1.192	0.809

Note: Output Multiplier; Import Multiplier; Tax Multiplier; VA - Value-added Multiplier; CE - Compensation of Employees Multiplier; OS - Operating Surplus Multiplier

Table 4: Multipliers and Linkages of Medium-sized Firms

Num.	Industry	Multiplier						Linkages	
		Output	Import	Tax	VA	CE	OS	Backward	Forward
1	Crops	1.054	0.102	0.003	0.902	0.181	0.721	0.611	1.471
2	Rubber	1.654	0.100	0.007	0.898	0.205	0.692	1.071	0.829
3	Oil Palm	1.322	0.127	0.004	0.876	0.170	0.706	0.041	1.707
4	Poultry Farming	2.078	0.394	0.006	0.609	0.163	0.446	1.520	0.475
5	Other Livestock	1.630	0.266	0.005	0.735	0.189	0.546	1.337	0.706
6	Forestry & Logging	2.123	0.233	0.053	0.738	0.129	0.609	0.222	0.909
7	Fishing	2.091	0.316	0.019	0.708	0.148	0.560	1.248	0.651
8	Crude Oil and Natural Gas	1.710	0.189	0.006	0.812	0.101	0.711	0.622	0.993
9	Metal Ore Mining	1.349	0.142	0.007	0.857	0.182	0.675	0.356	1.414
10	Other Mining & Quarrying	1.296	0.139	0.007	0.861	0.091	0.770	0.098	1.674
11	Meat & Meat Production	2.195	0.351	0.007	0.650	0.248	0.402	0.709	0.706
12	Preservation of Seafood	2.591	0.291	0.013	0.719	0.206	0.513	1.357	0.519
13	Preservation of Fruits & Vegetables	2.111	0.466	0.009	0.540	0.173	0.367	1.161	0.630
14	Dairy Production	1.729	0.355	0.005	0.659	0.098	0.561	1.173	0.784
15	Oils and Fats	2.850	0.196	0.009	0.808	0.187	0.620	1.330	0.263
16	Grain Mills	1.756	0.275	0.006	0.827	0.197	0.629	1.147	0.828
17	Bakery Products	1.996	0.375	0.007	0.641	0.199	0.442	1.527	0.559
18	Animal Feeds	1.828	0.478	0.006	0.527	0.167	0.360	0.632	1.203
19	Wine & Spirit	1.755	0.373	0.022	0.614	0.132	0.482	1.061	0.751
20	Tobacco Products	1.347	0.208	0.004	0.789	0.173	0.615	1.138	0.858
21	Yarn & Cloth	1.796	0.423	0.009	0.575	0.143	0.432	0.851	0.832
22	Other Textiles	1.707	0.433	0.012	0.560	0.184	0.377	1.086	0.804
23	Wearing Apparel	1.735	0.371	0.013	0.619	0.175	0.445	1.243	0.698
24	Leather Industries	2.000	0.493	0.013	0.498	0.156	0.342	1.323	0.599
25	Footwear	1.658	0.253	0.009	0.743	0.239	0.503	0.906	1.033
26	Sawmilling and Planning of Wood	2.508	0.248	0.060	0.707	0.170	0.538	1.012	0.546
27	Veneer Sheets, Plywood, Laminated Board, Particle Board and Other Panels and Boards	2.573	0.317	0.055	0.643	0.162	0.481	1.128	0.421
28	Paper and Paper Products and Furniture	2.136	0.374	0.028	0.606	0.156	0.450	1.198	0.663
29	Printing	1.827	0.378	0.013	0.614	0.150	0.463	0.196	1.278
30	Petroleum Refinery	2.117	0.350	0.008	0.650	0.114	0.536	1.075	0.473
31	Basic Chemicals	2.349	0.386	0.011	0.621	0.131	0.489	0.992	0.633
32	Paints & Varnishes & Other Chemicals Product	2.096	0.477	0.013	0.531	0.110	0.421	0.865	0.806
33	Pharmaceuticals, Medicinal Chemicals & Botanical Product	1.685	0.446	0.006	0.553	0.148	0.405	0.466	1.200
34	Tyres	2.125	0.561	0.012	0.434	0.109	0.324	1.162	0.631
35	Plastics Products	1.921	0.545	0.008	0.455	0.199	0.256	0.927	0.851
36	Sheet Glass and Glass Products	1.975	0.456	0.010	0.543	0.159	0.384	0.406	0.889
37	Clay and Ceramic	1.799	0.411	0.011	0.592	0.148	0.445	0.544	0.971
38	Iron & Steel Products	1.975	0.589	0.009	0.408	0.106	0.303	0.251	0.965
39	Basic Precious & Non- Ferrous Metals	1.501	0.692	0.007	0.304	0.080	0.224	1.120	0.842
40	Casting of Metals	1.605	0.620	0.007	0.376	0.105	0.271	0.151	1.500
41	Structural Metal Products	1.880	0.490	0.011	0.504	0.126	0.377	0.594	1.016
42	Other Fabricated Metal Products	1.753	0.511	0.008	0.485	0.165	0.320	0.759	0.991
43	Industrial Machinery	1.584	0.528	0.009	0.466	0.181	0.285	1.271	0.748
44	Special Purpose Machinery	1.598	0.429	0.008	0.566	0.160	0.406	1.105	0.876
45	Domestic Appliances & Office, Accounting & Computing Machinery	1.328	0.624	0.005	0.373	0.107	0.266	1.195	0.836
46	Electrical Machinery & Apparatus	1.700	0.640	0.010	0.354	0.135	0.219	1.326	0.685
47	Other Electrical Machinery	1.292	0.533	0.008	0.461	0.223	0.239	1.097	0.916
48	Insulated Wires & Cables	1.542	0.773	0.005	0.225	0.065	0.160	1.255	0.770
49	Electric Lamps & Lighting Equipment	1.664	0.513	0.009	0.482	0.175	0.307	1.211	0.769
50	Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	1.179	0.602	0.004	0.396	0.105	0.291	1.098	0.918

Num.	Industry	Multiplier						Linkages	
		Output	Import	Tax	VA	CE	OS	Backward	Forward
51	Television & Radio Receivers & Transmitters, Sound or Video Recording or Reproducing Apparatus & Associated Goods	1.276	0.521	0.003	0.477	0.162	0.315	1.184	0.851
52	Medical & Surgical Equipment & Orthopaedic Appliances	1.973	0.541	0.010	0.454	0.124	0.331	1.556	0.513
53	Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	1.452	0.613	0.012	0.378	0.135	0.243	0.957	0.965
54	Optical Instruments & Photographic Equipment	1.368	0.755	0.004	0.243	0.075	0.168	1.141	0.871
55	Motor Vehicles	1.563	0.603	0.064	0.336	0.093	0.243	0.936	0.938
56	Motorcycles	1.668	0.499	0.034	0.470	0.198	0.273	1.172	0.759
57	Building & Repairing of Ships & Boats; Manufacture of Bicycles & Invalid Carriages	2.056	0.479	0.022	0.506	0.148	0.357	1.533	0.493
58	Other Manufacturing	2.010	0.451	0.013	0.543	0.165	0.378	0.881	0.813
59	Repair & Maintenance	2.166	0.396	0.006	0.601	0.195	0.406	0.177	1.100
60	Electricity & Gas	1.373	0.286	0.008	0.720	0.082	0.637	0.305	1.420
61	Residential	1.933	0.306	0.010	0.692	0.348	0.344	1.234	0.634
62	Non Residential	1.941	0.325	0.011	0.672	0.323	0.348	1.471	0.538
63	Civil Engineering	1.870	0.372	0.011	0.630	0.288	0.341	1.326	0.617
64	Special Trade Works	1.845	0.416	0.009	0.583	0.281	0.302	0.832	0.875
65	Sale of motor vehicles	1.600	0.198	0.017	0.796	0.224	0.572	0.863	1.072
66	Maintenance and repair of motor vehicles	1.950	0.267	0.021	0.725	0.185	0.540	1.133	0.905
67	Sale of motor vehicle parts and accessories	1.737	0.226	0.019	0.767	0.205	0.562	0.981	1.038
68	Sale, maintenance and repair of motorcycles and related parts and accessories	1.613	0.210	0.018	0.783	0.208	0.576	0.926	1.142
69	Wholesale on a fee or contract basis	1.676	0.207	0.017	0.786	0.222	0.564	0.925	1.059
70	Wholesale of agricultural raw materials and live animals	2.098	0.294	0.023	0.697	0.179	0.518	1.159	0.756
71	Wholesale of food, beverages and tobacco	1.636	0.213	0.018	0.780	0.207	0.573	0.893	1.067
72	Wholesale of household goods	1.712	0.218	0.018	0.775	0.212	0.563	0.951	1.037
73	Wholesale of machinery, equipment and supplies	1.586	0.204	0.017	0.789	0.212	0.578	0.881	1.120
74	Other specialised wholesale	1.658	0.216	0.018	0.777	0.206	0.571	0.908	1.056
75	Non-specialised wholesale trade	1.742	0.227	0.019	0.766	0.204	0.562	1.021	1.070
76	Retail Sales	1.606	0.203	0.017	0.790	0.216	0.574	0.911	1.129
77	Accommodation	2.084	0.171	0.008	0.828	0.284	0.543	1.153	0.649
78	Restaurants	2.195	0.218	0.011	0.786	0.244	0.542	1.543	0.688
79	Land Transport	1.943	0.313	0.021	0.699	0.187	0.512	0.665	1.064
80	Water Transport	1.844	0.281	0.015	0.724	0.166	0.558	1.310	0.694
81	Air Transport	1.669	0.347	0.021	0.676	0.200	0.475	0.978	0.857
82	Other Transport Services	2.112	0.379	0.018	0.617	0.207	0.410	0.553	1.076
83	Port and Airport Operation Services & Highway, Bridge and Tunnel Operation Services	1.618	0.248	0.008	0.751	0.193	0.558	0.557	1.146
84	Cinema, Video and Television Activity	1.393	0.088	0.009	0.904	0.208	0.696	0.572	1.277
85	ICT & Computer Services	2.050	0.192	0.015	0.794	0.232	0.562	0.400	0.894
86	Real Estate	1.852	0.121	0.009	0.873	0.254	0.620	0.128	1.438
87	Rental & Leasing	1.864	0.270	0.016	0.733	0.199	0.534	0.469	1.154
88	Professional	1.612	0.133	0.008	0.862	0.315	0.548	0.541	1.370
89	Business Services	1.770	0.168	0.016	0.820	0.247	0.574	0.571	1.484
90	Other Private Services	1.552	0.120	0.010	0.874	0.228	0.646	1.228	0.871
91	Amusement and Recreational Services	1.689	0.268	0.016	0.720	0.312	0.407	1.333	0.686
92	Private Education	1.361	0.117	0.003	0.881	0.616	0.266	1.237	0.802
93	Private Health	1.418	0.311	0.004	0.687	0.444	0.243	1.228	0.809

Note: Output Multiplier; Import Multiplier; Tax Multiplier; VA - Value-added Multiplier; CE - Compensation of Employees Multiplier; OS - Operating Surplus Multiplier

Table 5: Multipliers and Linkages of Large Firms

Num.	Industry	Multiplier						Linkages	
		Output	Import	Tax	VA	CE	OS	Backward	Forward
1	Crops	1.561	0.191	0.008	0.813	0.163	0.649	0.880	1.097
2	Rubber	1.572	0.094	0.007	0.903	0.200	0.703	1.041	0.883
3	Oil Palm	1.336	0.129	0.004	0.874	0.168	0.706	0.105	1.922
4	Poultry Farming	1.574	0.258	0.004	0.743	0.180	0.563	1.297	0.801
5	Other Livestock	1.843	0.303	0.008	0.697	0.177	0.520	1.573	0.584
6	Forestry & Logging	2.119	0.241	0.053	0.729	0.115	0.614	0.361	1.190
7	Fishing	1.758	0.266	0.015	0.754	0.125	0.629	1.097	0.896
8	Crude Oil and Natural Gas	1.185	0.085	0.003	0.917	0.059	0.858	0.478	1.428
9	Metal Ore Mining	1.373	0.150	0.007	0.849	0.167	0.682	0.374	1.449
10	Other Mining & Quarrying	1.239	0.131	0.006	0.870	0.079	0.791	0.115	1.829
11	Meat & Meat Production	2.383	0.382	0.007	0.619	0.234	0.385	0.877	0.752
12	Preservation of Seafood	2.500	0.284	0.010	0.723	0.220	0.502	1.570	0.700
13	Preservation of Fruits & Vegetables	1.878	0.437	0.008	0.569	0.189	0.380	1.212	0.818
14	Dairy Production	2.046	0.463	0.006	0.554	0.104	0.451	1.490	0.549
15	Oils and Fats	2.506	0.181	0.008	0.823	0.180	0.643	1.673	0.640
16	Grain Mills	1.556	0.243	0.004	0.858	0.196	0.661	1.089	1.014
17	Bakery Products	1.911	0.385	0.007	0.631	0.191	0.440	1.568	0.600
18	Animal Feeds	1.997	0.510	0.007	0.496	0.145	0.351	1.020	1.199
19	Wine & Spirit	1.442	0.307	0.019	0.681	0.130	0.550	0.945	1.010
20	Tobacco Products	1.349	0.205	0.004	0.793	0.170	0.622	1.171	0.880
21	Yarn & Cloth	1.912	0.440	0.009	0.559	0.126	0.432	0.945	0.788
22	Other Textiles	1.772	0.461	0.012	0.533	0.163	0.370	1.229	0.818
23	Wearing Apparel	1.737	0.382	0.012	0.609	0.164	0.445	1.338	0.742
24	Leather Industries	1.683	0.432	0.011	0.561	0.183	0.379	1.246	0.851
25	Footwear	1.838	0.290	0.009	0.706	0.221	0.485	1.106	0.997
26	Sawmilling and Planning of Wood	2.531	0.257	0.062	0.698	0.151	0.547	1.453	0.821
27	Veneer Sheets, Plywood, Laminated Board, Particle Board and Other Panels and Boards	2.512	0.309	0.055	0.652	0.157	0.495	1.348	0.586
28	Paper and Paper Products and Furniture	2.068	0.367	0.027	0.614	0.148	0.466	1.372	0.812
29	Printing	1.716	0.364	0.012	0.629	0.148	0.481	0.237	1.515
30	Petroleum Refinery	1.697	0.266	0.003	0.736	0.067	0.669	1.018	0.899
31	Basic Chemicals	1.940	0.357	0.009	0.650	0.113	0.536	1.064	1.073
32	Paints & Varnishes & Other Chemicals Product	2.012	0.473	0.011	0.536	0.093	0.443	1.083	1.079
33	Pharmaceuticals, Medicinal Chemicals & Botanical Product	1.206	0.367	0.003	0.632	0.166	0.466	0.351	1.694
34	Tyres	1.970	0.536	0.010	0.459	0.102	0.357	1.254	0.886
35	Plastics Products	1.942	0.555	0.008	0.446	0.183	0.263	1.105	0.959
36	Sheet Glass and Glass Products	1.910	0.446	0.009	0.554	0.160	0.394	0.440	1.074
37	Clay and Ceramic	1.818	0.428	0.010	0.576	0.143	0.433	0.647	1.133
38	Iron & Steel Products	1.896	0.559	0.008	0.439	0.106	0.333	0.336	1.284
39	Basic Precious & Non- Ferrous Metals	1.536	0.692	0.007	0.304	0.075	0.229	1.206	0.870
40	Casting of Metals	1.589	0.617	0.007	0.380	0.098	0.282	0.283	1.853
41	Structural Metal Products	1.837	0.496	0.011	0.497	0.117	0.380	0.795	1.309
42	Other Fabricated Metal Products	1.757	0.519	0.008	0.478	0.155	0.323	0.916	1.178
43	Industrial Machinery	1.704	0.556	0.010	0.437	0.160	0.277	1.446	0.713
44	Special Purpose Machinery	1.607	0.439	0.008	0.555	0.153	0.403	1.212	0.951
45	Domestic Appliances & Office, Accounting & Computing Machinery	1.367	0.639	0.005	0.358	0.101	0.257	1.242	0.817
46	Electrical Machinery & Apparatus	1.736	0.645	0.011	0.347	0.125	0.223	1.425	0.684
47	Other Electrical Machinery	1.454	0.576	0.010	0.416	0.184	0.232	1.228	0.820
48	Insulated Wires & Cables	1.453	0.758	0.004	0.241	0.066	0.174	1.281	0.837
49	Electric Lamps & Lighting Equipment	1.601	0.505	0.009	0.489	0.177	0.312	1.259	0.840
50	Semi-Conductor Devices, Electronic Valves, Tubes & Printed Circuit Boards	1.402	0.646	0.005	0.352	0.094	0.258	1.272	0.798

Num.	Industry	Multiplier						Linkages	
		Output	Import	Tax	VA	CE	OS	Backward	Forward
51	Television & Radio Receivers & Transmitters, Sound or Video Recording or Reproducing Apparatus & Associated Goods	1.282	0.525	0.003	0.473	0.161	0.313	1.206	0.851
52	Medical & Surgical Equipment & Orthopaedic Appliances	1.642	0.482	0.007	0.515	0.133	0.382	1.433	0.708
53	Instruments & Appliances for Measuring, Checking, Testing, Navigating and Other Purpose; Manufacture of Industrial Process Control Equipment	1.593	0.651	0.014	0.338	0.112	0.227	1.067	0.879
54	Optical Instruments & Photographic Equipment	1.380	0.745	0.004	0.253	0.077	0.176	1.171	0.876
55	Motor Vehicles	1.617	0.669	0.075	0.259	0.070	0.189	1.068	0.978
56	Motorcycles	1.845	0.578	0.041	0.384	0.158	0.226	1.393	0.702
57	Building & Repairing of Ships & Boats; Manufacture of Bicycles & Invalid Carriages	2.258	0.506	0.026	0.477	0.122	0.354	1.941	0.448
58	Other Manufacturing	1.356	0.332	0.009	0.662	0.221	0.442	0.713	1.425
59	Repair & Maintenance	2.215	0.400	0.006	0.597	0.188	0.409	0.516	1.621
60	Electricity & Gas	1.600	0.342	0.008	0.665	0.063	0.602	0.519	1.522
61	Residential	2.082	0.315	0.012	0.682	0.345	0.337	1.411	0.644
62	Non Residential	2.058	0.334	0.012	0.662	0.325	0.337	1.666	0.543
63	Civil Engineering	2.014	0.375	0.012	0.627	0.269	0.358	1.513	0.623
64	Special Trade Works	1.934	0.428	0.010	0.571	0.269	0.301	1.103	1.008
65	Sale of motor vehicles	1.562	0.216	0.018	0.776	0.209	0.567	1.022	1.251
66	Maintenance and repair of motor vehicles	1.245	0.180	0.017	0.812	0.195	0.616	0.783	1.495
67	Sale of motor vehicle parts and accessories	1.977	0.306	0.024	0.682	0.160	0.522	1.385	1.043
68	Sale, maintenance and repair of motorcycles and related parts and accessories	1.491	0.216	0.019	0.775	0.194	0.580	0.986	1.346
69	Wholesale on a fee or contract basis	1.394	0.187	0.017	0.805	0.220	0.585	0.903	1.402
70	Wholesale of agricultural raw materials and live animals	1.595	0.257	0.022	0.732	0.161	0.571	1.078	1.302
71	Wholesale of food, beverages and tobacco	1.619	0.238	0.020	0.753	0.187	0.566	1.077	1.236
72	Wholesale of household goods	1.499	0.212	0.018	0.779	0.202	0.577	0.988	1.331
73	Wholesale of machinery, equipment and supplies	1.653	0.242	0.020	0.748	0.187	0.561	1.111	1.225
74	Other specialised wholesale	1.597	0.234	0.020	0.757	0.189	0.568	1.064	1.257
75	Non-specialised wholesale trade	2.059	0.323	0.025	0.665	0.153	0.512	1.467	1.011
76	Retail Sales	1.576	0.226	0.019	0.765	0.197	0.568	1.056	1.286
77	Accommodation	1.803	0.178	0.007	0.822	0.280	0.542	1.136	0.859
78	Restaurants	2.140	0.232	0.011	0.770	0.228	0.543	1.744	0.733
79	Land Transport	1.949	0.328	0.019	0.687	0.150	0.537	0.988	1.419
80	Water Transport	1.892	0.263	0.014	0.744	0.150	0.593	1.492	0.730
81	Air Transport	2.006	0.408	0.020	0.617	0.125	0.492	1.332	0.802
82	Other Transport Services	2.143	0.408	0.019	0.595	0.174	0.421	1.070	1.603
83	Port and Airport Operation Services & Highway, Bridge and Tunnel Operation Services	1.627	0.265	0.008	0.737	0.174	0.563	0.823	1.465
84	Cinema, Video and Television Activity	1.900	0.131	0.012	0.858	0.216	0.642	0.713	0.951
85	ICT & Computer Services	1.871	0.177	0.014	0.810	0.236	0.574	0.461	1.183
86	Real Estate	1.808	0.139	0.009	0.856	0.236	0.621	0.241	1.787
87	Rental & Leasing	1.891	0.288	0.015	0.717	0.164	0.553	0.651	1.424
88	Professional	1.486	0.141	0.008	0.855	0.305	0.550	0.617	1.731
89	Business Services	1.846	0.202	0.016	0.789	0.223	0.565	0.811	1.765
90	Other Private Services	1.287	0.099	0.008	0.896	0.220	0.677	1.096	1.065
91	Amusement and Recreational Services	1.860	0.294	0.018	0.692	0.286	0.406	1.496	0.629
92	Private Education	1.290	0.118	0.003	0.881	0.629	0.253	1.222	0.855
93	Private Health	1.660	0.353	0.005	0.646	0.377	0.269	1.464	0.720

Note: Output Multiplier; Import Multiplier; Tax Multiplier; VA - Value-added Multiplier; CE - Compensation of Employees Multiplier; OS - Operating Surplus Multiplier

Appendix 4

Top 10 Potential Key Industries by Business Size

Table 1: Top 10 Key Industries of SMEs with Highest Value-added Multipliers & Backward Linkages > 1

Industry	Output	Import	Tax	VA	CE	OS	BWL	FWL
Rubber Plantation	1.653	0.102	0.008	0.896	0.204	0.692	1.065	0.817
Other Private Services	1.376	0.104	0.008	0.891	0.230	0.661	1.070	0.974
Private Education	1.326	0.108	0.003	0.890	0.623	0.267	1.218	0.826
Grain Mills	1.900	0.282	0.006	0.822	0.190	0.631	1.128	0.601
Oils & Fats	2.805	0.198	0.010	0.805	0.189	0.616	1.245	0.219
Tobacco Products	1.347	0.207	0.005	0.790	0.173	0.616	1.117	0.853
Restaurants	1.921	0.221	0.011	0.782	0.259	0.523	1.324	0.699
Other Livestock	1.658	0.255	0.006	0.745	0.192	0.552	1.296	0.665
Water Transport	1.885	0.269	0.015	0.736	0.175	0.561	1.293	0.646
Amusement and Recreational Services	1.720	0.252	0.016	0.735	0.319	0.416	1.349	0.674

Note: 1) Rankings are based on highest value-added multipliers, backward linkages > 1 and industries appear across microenterprises, small and medium-sized category.

2) Output Multiplier; Import Multiplier; Tax Multiplier; VA - Value-added Multiplier; CE - Compensation of Employees Multiplier; OS - Operating Surplus Multiplier; BWL - Backward Linkage; FWL - Forward Linkage

Table 2: Top 10 Microenterprises with Highest Value-added Multipliers & Backward Linkages > 1

Industry	Output	Import	Tax	VA	CE	OS	BWL	FWL
Private Education	1.271	0.097	0.003	0.902	0.636	0.266	1.144	0.861
Other Private Services	1.383	0.107	0.008	0.888	0.229	0.659	1.028	0.934
Rubber Plantation	2.101	0.144	0.011	0.852	0.218	0.634	1.249	0.547
Grain Mills	1.851	0.268	0.006	0.833	0.189	0.644	1.090	0.507
Other Livestock	1.437	0.170	0.007	0.828	0.208	0.619	1.202	0.768
Tobacco Products	1.327	0.185	0.005	0.813	0.175	0.638	1.117	0.853
Oils & Fats	2.410	0.206	0.014	0.793	0.200	0.593	1.065	0.128
Restaurants	1.857	0.224	0.011	0.778	0.264	0.515	1.190	0.657
Water Transport	1.814	0.231	0.015	0.773	0.189	0.584	1.193	0.656
Residential	1.771	0.223	0.010	0.773	0.407	0.365	1.111	0.672

Note: 1) Rankings are based on value-added multipliers and backward linkages.

2) Output Multiplier; Import Multiplier; Tax Multiplier; VA - Value-added Multiplier; CE - Compensation of Employees Multiplier; OS - Operating Surplus Multiplier; BWL - Backward Linkage; FWL - Forward Linkage

Table 3: Top 10 Small-sized Firms with Highest Value-added Multipliers & Backward Linkages > 1

Industry	Output	Import	Tax	VA	CE	OS	BWL	FWL
Rubber Plantation	1.544	0.094	0.007	0.904	0.200	0.704	1.032	0.875
Other Private Services	1.340	0.092	0.008	0.903	0.235	0.668	1.057	0.986
Private Education	1.313	0.104	0.003	0.894	0.625	0.269	1.195	0.836
Accommodation	1.959	0.154	0.009	0.845	0.316	0.528	1.053	0.672
Grain Mills	1.933	0.285	0.006	0.820	0.189	0.631	1.155	0.523
Tobacco Products	1.338	0.197	0.005	0.800	0.174	0.626	1.125	0.854
Oils & Fats	2.647	0.205	0.012	0.796	0.195	0.601	1.097	0.174
Restaurants	1.941	0.217	0.011	0.786	0.257	0.529	1.278	0.694
Water Transport	1.905	0.267	0.015	0.738	0.178	0.561	1.272	0.622
Preservation of Seafood	2.481	0.272	0.013	0.737	0.220	0.518	1.065	0.441

Note: 1) Rankings are based on value-added multipliers and backward linkages.

2) Output Multiplier; Import Multiplier; Tax Multiplier; VA - Value-added Multiplier; CE - Compensation of Employees Multiplier; OS - Operating Surplus Multiplier; BWL - Backward Linkage; FWL - Forward Linkage

Table 4: Top 10 Medium-sized Firms with Highest Value-added Multipliers & Backward Linkages > 1

Industry	Output	Import	Tax	VA	CE	OS	BWL	FWL
Rubber Plantation	1.654	0.100	0.007	0.898	0.205	0.692	1.071	0.829
Private Education	1.361	0.117	0.003	0.881	0.616	0.266	1.237	0.802
Other Private Services	1.552	0.120	0.010	0.874	0.228	0.646	1.228	0.871
Accommodation	2.084	0.171	0.008	0.828	0.284	0.543	1.153	0.649
Grain Mills	1.756	0.275	0.006	0.827	0.197	0.629	1.147	0.828
Oils & Fats	2.850	0.196	0.009	0.808	0.187	0.620	1.330	0.263
Tobacco Products	1.347	0.208	0.004	0.789	0.173	0.615	1.138	0.858
Restaurants	2.195	0.218	0.011	0.786	0.244	0.542	1.543	0.688
Non-specialised wholesale trade	1.742	0.227	0.019	0.766	0.204	0.562	1.021	1.070
Other Livestock	1.630	0.266	0.005	0.735	0.189	0.546	1.337	0.706

Note: 1) Rankings are based on value-added multipliers and backward linkages.

2) Output Multiplier; Import Multiplier; Tax Multiplier; VA - Value-added Multiplier; CE - Compensation of Employees Multiplier; OS - Operating Surplus Multiplier; BWL - Backward Linkage; FWL - Forward Linkage

Table 5: Top 10 Large Firms with Highest Value-added Multipliers & Backward Linkages > 1

Industry	Output	Import	Tax	VA	CE	OS	BWL	FWL
Rubber Plantation	1.572	0.094	0.007	0.903	0.200	0.703	1.041	0.883
Other Private Services	1.287	0.099	0.008	0.896	0.220	0.677	1.096	1.065
Private Education	1.290	0.118	0.003	0.881	0.629	0.253	1.222	0.855
Grain Mills	1.556	0.243	0.004	0.858	0.196	0.661	1.089	1.014
Oils & Fats	2.506	0.181	0.008	0.823	0.180	0.643	1.673	0.640
Accommodation	1.803	0.178	0.007	0.822	0.280	0.542	1.136	0.859
Tobacco Products	1.349	0.205	0.004	0.793	0.170	0.622	1.171	0.880
Sale of motor vehicles	1.562	0.216	0.018	0.776	0.209	0.567	1.022	1.251
Restaurants	2.140	0.232	0.011	0.770	0.228	0.543	1.744	0.733
Retail Sales	1.576	0.226	0.019	0.765	0.197	0.568	1.056	1.286

Note: 1) Rankings are based on value-added multipliers and backward linkages.

2) Output Multiplier; Import Multiplier; Tax Multiplier; VA - Value-added Multiplier; CE - Compensation of Employees Multiplier; OS - Operating Surplus Multiplier; BWL - Backward Linkage; FWL - Forward Linkage