**Abstract:** The Malaysian government has decided to re-introduce the Sales and Services Tax (SST) to replace the Goods and Services Tax (GST). This decision is expected to reduce the rate of inflation, however, it still leaves the members of industries and the public with more questions regarding its impacts on the cost of production. To address this concern, this study is structured to measure the impacts of GST and SST systems on the cost of production in Malaysia. To achieve this objective, an Input-Output price modelling technique is applied. The application of this model takes into consideration the different tax rates under both the GST and SST systems on 124 economic sectors in Malaysia. Results from the analysis suggest that GST has the tendency to reduce the cost of production in the economy while SST drives the cost increment. Meanwhile, these 124 economic sectors are classified into five broad economic sectors and the findings show that manufacturing sectors are mostly affected by these consumption taxes. It is noted that, this finding is derived based on the assumption that only the consumption tax system will affect the cost of production without considering the impacts of other external factors such as subsidy rationalisation, currency depreciation, minimum wage and market structure.

**Keywords:** Consumption tax structures, cost of production, Input-Output analysis

**Introduction**

On the 1st of April 2015, the Malaysian government introduced the Goods and Services Tax (GST) system as a measure to broaden the consumption tax base. The introduction of GST has replaced the Sales Tax and Services Tax system that were introduced in February 1972 and March 1975, respectively. Through GST, Malaysia become the eighth member in the ASEAN community that implemented such a system following Indonesia that started its implementation in 1984, Thailand (1992), Singapore (1993), Philippines (1998), Cambodia and Vietnam (1999) and Laos (2009).

The government’s decision to implement GST is justified by its capability to increase the economic efficiency (Hassan et al., 2016). Specifically, we can view the efficiency in three perspectives. First, GST is capable of reducing the cost of production. Theoretically, the cost of production under the GST system is expected to be lower since businesses are now entitled to claim their intermediate input costs along the supply chain. Second, since the businesses are entitled to claim their input costs, it is expected that the number of business registration would increase. In return, the government can reduce the number of informal businesses that are not registered with the authorities. Third, GST is regarded as a more equitable consumption tax system as it taxes every producer equitably along the supply chain.

Despite its role to increase the economic efficiency, the literature on this has provided clear evidences that GST may contribute towards inflationary episodes. The study that was conducted following the implementation of GST in Canada showed that the system has the
tendency to increase the price level between 1.5% to 2.0%, while the study in Hungary concluded that the increase of the GST rate by 3.0% will result in the inflation rate of 2.1% (Dungan & Wilson, 1989; Gabriel & Reiff, 2010). Based on a study conducted in Singapore by Jenkins and Khadka (1998), the implementation of GST in this country has induced the increment of the inflation rate to 3.6%.

Based on the inflationary episodes in Malaysia, the government has decided to re-introduce the Sales and Services Tax (SST) system effective on September 2018. The decision has marked Malaysia as the first country that has replaced the GST system with the former consumption tax system. Although this decision is expected to reduce the inflation rate, it still leaves the members of the industries and the public with more questions regarding its impacts on the cost of production which will reflect the future cost of living. These consumption taxes would require the average price changes of consumer goods and services to be relative to the cost of productions. Therefore, would the re-introduction of SST contribute to diverse impact on the cost of production compared to GST?

To address this concern, this study is structured to measure the different impacts of GST and SST systems on the cost of production in Malaysia. To achieve this objective, the Input-Output price modelling technique is applied. The application of this model takes into consideration the different tax rates under both the GST and SST systems. It is also worth to emphasise, that the scope of this study is limited only to the impacts of the GST and SST systems. The study excludes the possible impacts from other external factors that might influence the cost of production such as the minimum wage legislation, crude oil price movement and currency depreciation.

This study provides two major contributions to the body of literature. First, the study updates the outcome of the study by Hassan et al. (2016) by comparing it with the impact of SST. The latest information related to the tax rates under the GST and SST systems is used in the modelling activities. Second, the study provides the results for all 124 economic sectors in Malaysia. With the detailed results, we may observe the impacts of GST and SST on all individual sectors. This study is structured into five sections.

- Section 2 summarises the findings from the previous literature.
- Section 3 details the methodological approach and the data used in the study.
- Section 4 discusses the results derived from the analysis.
- Section 5 provides the concluding remarks.

**Literature Review**

This section provides important findings from the literature which inform on the research gaps in the area of consumption tax structures. Based on the literature survey, this study discovered two main research gaps which provide the novelty aspects of this study. First, there is no study in the literature that analyses the government decision to replace the GST system with SST. The existing studies only focus on the impacts of consumption tax reforms from SST to GST. Second, consumption tax structure studies in Malaysia are highly concentrated on the application of partial equilibrium techniques. As far as the economic impacts are concerned, an applied general equilibrium analysis, such as an Input-Output price model, is more appropriate to be used. The following paragraphs detail the literature survey.

A range of empirical studies has been conducted to examine the economic and social impacts of different consumption tax structures. The scope of the studies ranges from the national level, to specific regional and local levels. For consumption tax structures itself, GST and SST, are commonly found in empirical findings from studies around the world, especially in developing and developed countries (see, for example, Olatunji, 2009; Keen & Lockwood, 2010; Alm & El-Ganainy, 2013; Gupta, 2014).

In the case of Malaysia, recent studies on consumption tax structures include a number
Specifically, several relevant studies by researchers on GST in Malaysia used econometric method and survey technique for their methodology. For instance, Ling et al. (2016) analysed the impact and the correlation of GST between consumer price index (CPI), aggregate consumption, revenue and welfare adopted the multiple regression analysis. Meanwhile, Palil and Ibrahim (2011) and Shaari et al. (2015) used a questionnaire survey to recognise the response of society towards GST using the primary data. However, the application of the Input-Output price model to study the consumption tax reforms in Malaysia is limited, with the exception of Hassan et al. (2016). None of the studies used Input-Output price model to study the impacts of consumption tax structures. This constitutes another literature gap that this study aims to contribute to scientific knowledge.

Research Method

Introduction
This study employs an Input-Output modelling technique as the main methodological approach. Input-output is frequently utilised by researchers for impact analysis. The technique is chosen due to its capability to capture the interdependency aspect for economic sectors along their supply chain. Among the list of studies that has utilised this type of methodology in Malaysia are by Maji et al. (2017), Akhir et al. (2018) and Saari et al. (2018).

In specific terms, this study utilises an Input-Output price modelling technique. Figure 1 details the methodological framework that is used in this study. This framework is adapted from the study by Hassan et al. (2016) and is improvised by adding in the element of SST.
Based on Figure 1, the framework can be summarised into three stages.

i. The first stage identifies the GST and SST variable in the input-output table. Using the 2010 national input-output table, the variable can be found at the row of “taxes on products”. In general, this variable refers to the amount of consumption tax paid by the economic sectors to the government.

ii. Second, the Input-Output price model needs to be developed. The model will take into account the different tax rates available under the GST (standard rate, zero-rated and exempted) and SST (6% for services and 5% or 10% for sale of goods) system.

iii. In the third stage, the impacts of GST and SST tax systems on cost of production are calculated. The results are detailed for all 124 economic sectors.

*Input-Output Price Model*

The development of the Input-Output price model is assisted by the availability of the 2010 national input-output table. This table is published by the Department of Statistics Malaysia (2014) and consists of 124 economic sectors. Each sector in this table is represented by a group of economic activities that are classified based on the Malaysian Standard Industrial Classification (MSIC 2008). As previously mentioned, this study adapted the methodological framework by Hassan et al. (2016). Thus, the Input-Output price model described in this subsection shares similar characteristics.

To better understand the development process of the Input-Output price model, we may start by describing the interdependency aspect of the economy using the following equation.

\[ x = \sum Z + f + e \]  

(1)

where, \( x \) is the total output vector. Specifically, \( x \) is formed through the summation of output that is consumed as an intermediate input \( Z \) (i.e., output of sector A that is used as intermediate input by sector B), output consumed by final demand, \( f \) (private consumption, government consumption and investment) and exports, \( e \). In a standard model, equation (1) can be transformed into:

\[ x = Ax + (f + e) = (I - A)^{-1} (f + e) = L(f + e) \]  

(2)

where I, is the identity matrix, \( A(A = Z \hat{X}^{-1}) \) is the input-output coefficient matrix, and \( L \) is the Leontief inverse matrix. For each sector, the Leontief inverse matrix coefficient represents the total output that is required to fulfil each unit of final demand. Equation (2) is also known as an Input-Output quantity model. This model assumes that only quantity changes, while price is fixed.

As for the price model or also known as the cost-push model, it is useful to analyse the impacts from the movement of prices and costs...
that can be linked to taxes, import duty and labour income. This model assumes that the quantity is fixed and prices and costs are adjustable. The model can be summarised as follows:

\[ p = A'p + l + v + m + t = (I - A')^{-1} (l + v + m + t) = L' (l + v + m + t) \]  

(3)

where, \( p \) is a vector of normalised prices (price is adjusted to equal 1 at baseline), \( A' \) is the transposed input-output coefficient matrix and \( l, v, m \) and \( t \) are the column vectors for labour income coefficient (income per unit of output), capital income coefficient (capital income per unit of output), import coefficient (import per unit of output) and indirect taxes coefficient (indirect taxes per unit of output), respectively. In equation (3), \( l, v, m \) and \( t \) are exogenous variables. As we set \( p \) as unity, thus the equation (3) can be simplified as the following:

\[ p = L' (l + v + m + t) \]  

(4)

Through equation 4, \( l, v \) and \( m \) are assumed to be fixed and only \( t \) is adjusted according to the GST and SST rates. It means that only \( t \) causes change in \( p \). In this model, when there is no change in the indirect taxes, the represented indirect taxes coefficient equals 1. Meanwhile, if indirect taxes have changed, the changes can be translated into: \( \Delta t = t \otimes \Delta p \), where \( \otimes \) refers to Hadamard product, which simply means cell-by-cell multiplication and \( \Delta p \) refers to changes in indirect taxes. At the baseline, \( p \) equals 1 and if the tax rate increases by 10%, then \( p \) will become 1.10. Using the price pass-through concept, the increase in the cost of production due to the increase in tax rate will be translated into the increase in the price of goods and services. Therefore, the equation can be rewritten as the following:

\[ \Delta p = L' (1 + v + m + \Delta t) \]  

(5)

For GST, the modification on equation (5) is needed since the equation is modelled only for standard tax rate, but in practice, GST rates consist of 6%, zero-rated and exempted-rate. Each category of GST rates gives differential effects on the cost of production. Hence, the Leontief inverse matrix is modified according to the GST rates and modelled as in equation 6. For SST, the same process is also undertaken to address the different tax rates for the sale of services and sales of goods.

\[ \Delta p = (I - A' \hat{B})^{-1} (1 + v + m + \Delta t) = L' (1 + v + m + \Delta t) \]  

(6)

where, \( \hat{B} \) represents the diagonal matrix used to modify the input-output coefficient, \( A' \) according to the GST and SST rates. Apart of \( A' \), indirect tax coefficient, \( t \), is also adjusted for the impacts of GST as this consumption tax is based on value added. The complete model of the impacts of GST and SST on the cost of production is based on the following equation. For more exposition on the model, please refer to Hassan et. al. (2016).

\[ \Delta p = (I - A' \hat{B})^{-1} (1 + v + m + u) = L' (1 + v + m + u) \]  

(7)

Data Sources

There are three types of data utilised in this study. The first data comes from the 2010 national input-output table that is derived from the Department of Statistics Malaysia (2014). The input-output analyses are based on the publicly available input-output table as of 2010 when this study was conducted. Therefore, there were arguments on the validity of using the same data set for this analysis with the available input-output table for Malaysia is for reference year 2010 (released in 2014). However, from the perspective of national accounting, the time-lag issue with input-output tables is negligible because there are strong evidences proving there are only marginal changes in the economic structure over the periods of five to ten years. Thus, the employment of input-output table 2010 for economic analysis before 2018 is valid since the latest input-output table is released at the end of 2018. This table provides the information that details the transaction among the different economic sectors and also their relationship with final consumers. In total, the table covers
124 economic sectors. The second data source is the output breakdown by economic activities that are derived from the 2011 Economic Census Report (Department of Statistics Malaysia, 2012). Output breakdown by economic activities is needed to provide the information during the development process of the Input-Output price model. Finally, the information on the tax rates for different goods and services under GST and SST systems are derived from the Royal Malaysian Customs Department (2015 and 2018). The list is required to classify the goods and services based on their tax rate.

Results and Discussion

Discussion in Section 3 clearly mentioned that the impacts of GST and SST systems on the cost of production in Malaysia are measured using the Input-Output price model. However, before the price models are developed, several data processing stages are conducted. As the starting point, the list of taxable goods and services under GST and SST systems are harmonized to the list of available economic activities in the economy that are classified using MSIC 2008. Matching is required as each economic activity has a different tax rate. A sector is represented by a group of economic activities and it means that one sector may consist of more than one tax rate. Once the price models are developed, the impacts of the consumption tax system on the cost of production are measured and the results are presented in the following subsections.

Impacts on Cost of Production by Broad Economic Sectors

This section compares the impacts of GST and SST on cost of production by broad economic sectors. From the total of 124 sectors, the average changes in the cost of production in Agriculture, Mining and Quarrying, Manufacturing, Construction and Services sector are calculated. Findings from the analysis are given in Table 1.

| Sector           | GST  | SST  |
|------------------|------|------|
| Agriculture      | -0.54| 3.08 |
| Mining & Quarrying | -0.10| 1.23 |
| Manufacturing    | -0.56| 14.14|
| Construction     | -0.50| 12.24|
| Services         | -0.80| 9.50 |
| Total Economy    | -0.63| 10.83|

In total GST is found to reduce the total cost of production in the economy by 0.63%. The highest decrease can be observed in the services sector with the estimated reduction by 0.80% and manufacturing by 0.54%. This result is in line with the findings highlighted in Hassan et. al. (2016) where the GST is also found to reduce the level of cost of production. Nevertheless, these findings are not being reflected in reality during the GST implementation period as price levels are partly determined by external factors such as subsidy rationalisation, currency depreciation, minimum wage and market structure.

Meanwhile, for the re-introduction of the SST, the tax structure is prone to increase the total cost of production by 10.83%. The major reason behind the sharp rises in the price level is due to the larger tax rate levied on manufacturers and service providers. The largest increment can be found in the Manufacturing sector with the incremental level of 14.14% and construction sector with 12.24%. However, it is worth to be noted that the estimated impacts for SST as presented in Table 1 are based on the assumption that all Manufacturing and Services subsectors are taxed evenly according to their rates.

Total Impacts on Cost of Production

Based on the discussion from the previous subsection, we may further expand the results to cover all 124 economic sectors. The expansion of the results will enable us to identify the list of sectors that are affected the most from the implementation of GST and the re-introduction of the SST. The results for five broad economic sectors are tabulated in Table 2 until Table 6.
Table 2: Impacts of GST and SST on the cost of production in percentage for Agriculture

| Sector                | GST  | SST  |
|-----------------------|------|------|
| 1  Paddy              | -0.12| 1.03 |
| 2  Food Crops         | -0.19| 1.60 |
| 3  Vegetables         | -0.39| 2.11 |
| 4  Fruits             | -0.29| 1.44 |
| 5  Rubber             | -0.56| 3.47 |
| 6  Oil Palm           | -0.37| 2.12 |
| 7  Flower Plants      | -0.32| 1.59 |
| 8  Other Agriculture  | -0.43| 2.38 |
| 9  Poultry Farming    | -1.12| 5.81 |
| 10 Cash Livestock     | -0.88| 5.06 |
| 11 Forestry and Logging | -0.72| 3.89 |
| 12 Fishing            | -0.82| 4.94 |

Total Economy (Weighted Average) | -0.52| 2.95 |

The result given in Table 2 shows the impacts of GST and SST on cost of production in Agriculture. Top-three sectors that received the most benefits from the implementation of GST include Poultry Farming, Other Livestock and Fishing. Their respective reduction in total cost of production is 1.12%, 0.88% and 0.82%. In contrast, SST tends to increase all sectors in Agriculture. The largest increment can also be recorded by Poultry Farming, Other Livestock and Fishing with their respective cost increment of 5.81%, 5.06% and 4.94%.

In the meantime, Table 3 illustrates the impacts of GST and SST on cost of production in Mining and Quarrying. As can be seen in the table, all economic sectors acknowledged reduction from the implementation of GST. However, SST tends to increase in all the economic sectors in Mining and Quarrying.

Table 3: Impacts of GST and SST on the cost of production in percentage for Mining and Quarrying

| Sector                        | GST  | SST  |
|-------------------------------|------|------|
| 13 Crude Oil and Natural Gas  | -0.06| 1.16 |
| 14 Metal Ore Mining           | -0.69| 2.15 |

Next broad economic sectors are Manufacturing that is represented in Table 4. Both consumption taxes give different impacts on these economic sectors where GST tends to reduce the cost of production while SST significantly raises the cost of production of the economic sectors. In the case of GST, the cost of production of Meat and Meat Production, Bakery Products and Preservation of Seafood showed the highest cost of production reduction with total reduction of 5.08%, 4.24% and 3.66% respectively. Again, the results on the impact of SST shows the increment for all sectors in Manufacturing. The major increment can be noted by Rubber sectors which includes Rubber Processing, Rubber Gloves and Rubber Products by their respective cost increment of 19.60%, 20.93% and 21.58%.

Table 4: Impacts of GST and SST on the cost of production in percentage for Manufacturing

| Sector                        | GST  | SST  |
|-------------------------------|------|------|
| 17 Meat and Meat Production   | -5.08| 17.94|
| 18 Preservation of Seafood    | -3.66| 18.31|
| 19 Preservation of Fruits and Vegetables | -2.15| 15.49|
| 20 Dairy Production           | -2.94| 17.07|
| 21 Oils and Fats              | -0.64| 17.54|
| 22 Grain Mills                | -1.34| 12.06|
| 23 Bakery Products           | -4.24| 15.52|
| 24 Confectionery              | -2.15| 13.19|
| 25 Other Food Processing      | -2.73| 14.95|
| 26 Animal Feeds               | -2.50| 15.11|
| 27 Wine and Spirit            | -1.03| 11.74|
| 28 Soft Drink                 | -2.12| 15.30|
| 29 Tobacco Products           | -1.39| 12.07|
| 30 Yarn and Cloth             | -1.26| 15.80|
| Sector                                      | GST   | SST   |
|---------------------------------------------|-------|-------|
| 31 Finishing of Textiles                    | -2.39 | 16.30 |
| 32 Other Textiles                           | -0.56 | 14.00 |
| 33 Wearing Apparel                          | -0.53 | 13.38 |
| 34 Leather Industries                       | -0.60 | 14.50 |
| 35 Footwear                                 | -1.46 | 14.66 |
| 36 Sawmilling and Planning of Wood          | -0.75 | 11.61 |
| 37 Veneer Sheets, Plywood, Laminated & Particle Board | -0.61 | 13.19 |
| 38 Builders’ Carpentry and Joinery          | -0.59 | 15.17 |
| 39 Wooden and Cane Containers               | -0.75 | 16.38 |
| 40 Other Wood Products                      | -1.31 | 15.36 |
| 41 Paper and Paper Products and Furniture   | -0.89 | 14.58 |
| 42 Publishing                               | -0.26 | 13.85 |
| 43 Printing                                 | -0.84 | 14.23 |
| 44 Petroleum Refinery                       | -0.12 | 11.22 |
| 45 Basic Chemicals                          | -0.53 | 15.87 |
| 46 Fertilizers                              | -0.55 | 15.27 |
| 47 Paints and Varnishes                     | -0.52 | 15.21 |
| 48 Pharmaceuticals, Chemicals & Botanical Product | -0.37 | 12.60 |
| 49 Soap, Detergents, Perfumes, Cleaning & Toilet Preparations | -0.43 | 16.30 |
| 50 Other Chemicals Product                  | -0.41 | 16.40 |
| 51 Tyres                                    | -0.64 | 16.59 |
| 52 Rubber Processing                        | -0.56 | 19.60 |
| 53 Rubber Gloves                            | -0.59 | 20.93 |
| 54 Rubber Products                          | -0.70 | 21.58 |
| 55 Plastics Products                        | -0.57 | 16.49 |
| 56 Sheet Glass and Glass Products           | -0.59 | 15.86 |
| 57 Clay and Ceramic                         | -0.61 | 13.91 |
| 58 Cement, Lime and Plaster                 | -0.51 | 15.03 |
| 59 Concrete & Other Non-Metallic Mineral Products | -0.66 | 16.90 |
| 60 Iron and Steel Products                  | -0.42 | 16.44 |
| 61 Basic Precious and Non-Ferrous Metals    | -0.32 | 13.24 |
| 62 Casting of Metals                        | -0.33 | 13.80 |
| 63 Structural Metal Products                | -0.44 | 15.59 |
| 64 Other Fabricated Metal Products          | -0.50 | 15.08 |
| 65 Industrial Machinery                     | -0.44 | 14.25 |
| 66 General Purpose Machinery                | -0.51 | 13.93 |
| 67 Special Purpose Machinery                | -0.91 | 13.42 |
| 68 Domestic Appliances                      | -0.52 | 13.63 |
| 69 Office, Accounting and Computing Machinery | -0.36 | 11.97 |
| 70 Electrical Machinery and Apparatus       | -0.43 | 14.63 |
| 71 Other Electrical Machinery               | -0.62 | 12.42 |
| 72 Insulated Wires and Cables               | -0.34 | 13.36 |
| 73 Electric Lamps and Lighting Equipment    | -0.42 | 13.53 |
| 74 Semi-Conductor Devices, Tubes and Circuit Boards | -0.28 | 12.25 |
| 75 TV, Radio Receivers & Transmitters & Assoc. Goods | -0.18 | 11.65 |
| 76 Medical, Surgical and Orthopaedic Appliances | -0.36 | 14.25 |
| 77 Measuring, Checking & Industrial Process Equipment | -0.26 | 12.84 |
| 78 Optical Instruments and Photographic Equipment | -0.27 | 12.40 |
| 79 Watches and Clocks                       | -0.40 | 13.77 |
| 80 Motor Vehicles                           | -0.08 | 8.19  |
| 81 Motorcycles                              | -0.23 | 12.75 |
| 82 Building & Repairing of Ships & Boats, Manufacturing of Bicycles & Invalid Carriages | -0.64 | 16.22 |
| 83 Other Transport Equipment                | -0.35 | 14.64 |
| 84 Other Manufacturing                      | -0.51 | 12.80 |
| 85 Repair & Maintenance                     | -0.72 | 18.05 |
| Total Economy                               | -0.93 | 14.70 |

*(Weighted Average)*
The impacts of both consumption taxes in Construction cost of production illustrated in Table 5, where GST positively impacts the cost of production for all economic sectors for Construction with cost reduction. Yet, SST still gives the opposite impact on the cost of production for all the economic sectors in Construction as the results show the increment in the cost.

Table 5: Impacts of GST and SST on the cost of production in percentage for Construction

| Sector               | GST   | SST   |
|----------------------|-------|-------|
| Residential          | -0.43 | 12.53 |
| Non-Residential      | -0.44 | 12.38 |
| Civil Engineering    | -0.53 | 12.17 |
| Special Trade Works  | -0.60 | 11.81 |
| Total Economy        | -0.50 | 12.22 |

For Services sectors, the results from the impact of GST and SST are of similar pattern with other previous broad economic sectors in which the impact of GST tends to reduce the cost of production while SST is likely to increase the cost as shown in Table 6. For instance, the impact of GST mostly benefited the Education sector as the cost reduction for the sector is recorded at 2.73%. Unlike SST, the most affected sector from SST is the Financial institution which indicated a cost increment of 12.34%. The reduction in their cost of production is mainly due to the fact that their goods are levied with zero-rate GST.

Table 6: Impacts of GST and SST on the cost of production in percentage for Services

| Sector                              | GST    | SST    |
|-------------------------------------|--------|--------|
| Electricity and Gas                 | -0.26  | 8.61   |
| Waterworks                          | -0.25  | 8.25   |
| Sewerage, Waste Collection & Remediation Activities | -0.51  | 10.67  |
| Wholesale & Retail Trade and Motor Vehicle | -0.64  | 8.17   |
| Accommodation                       | -0.40  | 10.97  |

Total Economy (Weighted Average) -0.69 9.63
As previously discussed, GST reduces the total cost of production in the economy by 0.63%, while SST drives the cost increment by 10.83%. Although not all sectors are taxed under both of the system, the interdependency aspect that can be traced along the supply chain leads to changes in the cost of production in all sectors. In this case, the magnitude of the impacts depends entirely on the integration level between one sector to another. For example, both GST and SST systems clearly defined that the rice that is classified under Grain Mills sector is exempted from consumption tax, but the interaction between the sector with other sectors of the supply chain has channelled some the impact to this sector.

The outcome from this study is in-line with the result obtained from the survey conducted by the Federation of Malaysian Manufacturers (FMM) and the Malaysian Institute of Economic Research (MIER) (FMM & MIER, 2019). The survey concludes that the re-introduction of SST has increased the cost of doing business by 10%.

Specifically, the reason behind the sharp increase in the cost of production due to the implementation of SST can be directed towards its taxation process (Hassan et al., 2016). In practice, SST is levied based on output, while the GST is based on value added. Among other factors that contributed to the cost increment is higher SST rate for raw materials, components and services (FMM & MIER, 2019). Additionally, the lack of clarity on the application of procedures for exemption also contributed to rising cost of production.

To better explain the impacts of GST and SST, Figure 2 gives the details on the difference between the GST and SST tax coefficients on output. The coefficients are derived by calculating the ratio of tax to output. In total, Figure 2 clearly shows that the tax coefficients for GST are lower than the coefficients for SST, thus explaining why GST can drive down the cost of production.

**Conclusion**

This study documents the findings on the impacts of GST and SST systems on the cost of production in Malaysia. Based on the available dataset at the national level, the impacts are estimated using the Input-Output modelling technique. Findings reveal that GST has the tendency to reduce the cost of production. In contrast, SST is estimated to bring undesirable impacts for the cost of production. Despite the usefulness of the findings from this study, the results need to be interpreted cautiously as the study is subjected to a number of limitations.
of assumptions. Specifically, this study assumes that only consumption tax system determines the cost of production. This assumption leaves out other external forces for example: subsidy rationalisation, currency depreciation, minimum wage and market structure as constant.

For that reason, this study concludes that the impact of the re-introduction of SST is contrary to GST where the cost of production in each broad economic sector keeps increasing. As such, the re-introduced SST will erode the cost of production increase as the price of commodities is likely to inflate. The significant implications are by improving the tax structures with supplementary tax exemptions, especially on small medium sectors. The new adjustment of SST structures with exemption, especially for small business sectors, will help reduce the tax compliance costs. This would reduce administrative burdens for these business sectors and create a level playing field for businesses, regardless of where they are established in the country.

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