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Export Expansion And Imported Input Intensity In The Manufacturing Sector

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ABSTRACT

There are two objectives of this paper. First, it aims to evaluate the export performance of Malaysian industries and the intensity of their imported input usage. Secondly, this paper aims to examine the effective rate of protection in Malaysia. The effective rate of protection (ERP) is an indicative measure of the effects of tariff on inputs as well as outputs. Also, this paper uses backward linkage as a measure of the relation between an industry and the suppliers of its inputs from the entire production system. Input-output tables for the year 2000 and 2005 were used for this study. The study found that the manufacturing sector is the highest importer of inputs, importing 82 per cent of the country's total imported inputs. The manufacturing sector also exports 79.1 per cent of the country's total export. Our analysis shows that there is positive relationship between export share and imported input content. However, there was a negative relationship between export share and domestic input share. The same result was found when the regression was run for the manufacturing sector. The motor vehicles industry has the highest ERP rate. Other industries that are heavily protected are the wine and spirit industry and the tobacco products industry. In general, it can be concluded that ERP is higher in the manufacturing sector compared to other sectors in the economy. The manufacturing sector power of dispersion is higher than one. Since the index was more than the average this means that the industry has greater influence on the economy as purchaser of goods and services.
Key Words: Import intensity, Effective rate of Protection, Input-Output.

INTRODUCTION

In the past four decades, Malaysia's economic performance has been impressive. Malaysia's real gross domestic product (GDP) grew by an average of 6.5 per cent per year from 1957 to 2005. This growth fell in 2008 and was at -1.7 per cent in 2009 possibly due to the subprime crisis in the United States. Malaysia's GDP increased again in 2010 to 7.2 per cent per annum. During this year Malaysia was ranked at number 32 in the real growth rate rank chart. Qatar leads the way with a real growth rate of 16.3 per cent.

Malaysia's performance peaked in the early 1980s through the mid-1990s, as the economy experienced sustained rapid growth averaging almost 8 per cent annually. Malaysia also has had a surplus balance of trade. In 2000 Malaysia had a balance of trade of RM61.81 billion. This amount has been gradually Increasing and in 2010 Malaysia's balance of trade surplus was about RM 109.99 billion (MITI, 2011).

This dramatic economic transformation has been underpinned by two reasons. First, Malaysia has a long-standing commitment in maintaining a remarkably open trade policy regime. Malaysia's trade and investment barriers have been low compared to other Southeast Asian countries such as Indonesia, Vietnam, Thailand and Philippines with the exception of Singapore having lower trade barriers than Malaysia. However, this general perception of Malaysia does not imply that protection in all sectors of the economy is low. There are certain sectors with very high tariff rates. This paper measures the effective rate of protection. The ERP is an indicator that can measure the incentive effects of protection. Protection permits the domestic industry to operate with a higher value added than would be the case under free trade, thereby providing incentives for the movement of domestic resources into protected industries.

Second, this dramatic economic transformation is because of the significant role played by the high levels of foreign and domestic private investment as the economy diversified and modernized. Malaysia was once heavily dependent on primary products such as rubber and tin. Malaysia today is a middle-income country with a multi-sector economy based on services and manufacturing. Currently Malaysia's largest export is from the manufacturing sector. For example Malaysia is one of the world's largest exporters of semi-conductor devices, tubes and circuit board. The total export of this sector in 2005 is worth RM 99.49 billion. However, exports in this sector rely heavily on imported intermediate input which was about RM114.83 billion.

This paper attempts to measure the degree of dependency of exports in the different sectors in Malaysia on intermediate inputs using quantitative method. The analysis is based on the structure of the economy through the use of input-output tables published by Malaysia's national statistical office (*Department of Statistics*, Malaysia). In this study, we also examine the effective rate of protection and the power of dispersion of the different sectors in the Malaysian economy. The effective rate of protection measures the amounts of protection received by domestic producers taking into account both nominal tariffs on final goods as well as imported intermediate inputs. The power of dispersion or backward linkages index measures the effect on supplier industries when a particular industry expands.

LITERATURE REVIEW

Alavi (1994 p. 45) found that "the non-resource based industries were largely domestic-oriented (63 percent), while 62 percent of resource-based industries exported a significant share of their output." Alavi (1994) reveals that even though diversification and expansion of exports occur, industries in the electrical and electronics and textiles and apparel sub-sector have been dominating the scene. Out of the 21 industries which have been categorized as export-oriented, seven were from the electrical and electronics sub-sector, and six industries from the textiles and apparel sub-sector. This means that 12 out of 21, that is 57 percent of export-oriented non-resource-based industries, were from these two sectors.

The determinants of protection in Thai manufacturing showed that there was a significant tariff reduction and rationalization in the mid-1990s (Jongwanich and Kohpaiboon, 2007). The tariff structure in Thai manufacturing is still cascading, with lower tariff on intermediate inputs than on finished products. For example, chemicals, fertilizer and metal products have relatively lower intermediate inputs tariff than final goods tariff. In Thailand, tariff rates are generally higher for manufacturing compared with agriculture and other primary product sectors. The industries that are protected the most in 2003 are the processed food industry, textile products and leather and footwear products. However, non-electrical machinery and electrical machinery and equipment have low tariffs on final-goods.

Trinh et al. (2011) examined economic integration and trade deficit in Vietnam. The trade deficit is attributed to the degradation of manufacturing industry with low productivity, poor technology and the continuous increase of intermediate inputs per gross output during this period. The effective rate of protection for the manufacturing sector in Vietnam fell from 21.4 per cent in 2005 to 4 per cent in 2009. The protection policy of Vietnam was arbitrarily implemented creating disadvantages for the competing sectors, with negative ERP rates. Trinh et al. (2011) showed that the sectors including agriculture, forestry and fishery had high economic multiplier and low import multiplier. Hence, it should be considered as priority sector and this sector should be enjoying production protection through ERP. The power of dispersion on import or production was increasingly induced by export. Trinh et.al (2011) suggested that the Vietnamese government should strengthen export and restrict import.

The agriculture sector has an important role in the economic development of Malaysia. FauzanaHj. Ismail (2007) explained that Malaysia is focusing more on manufacturing and services sectors nowadays; however the agricultural sector is still not forgotten. This can be seen through the recovery in agriculture output underpinned by a significant improvement in palm oil yield, had contributed towards the positive growth in the economy after the financial crisis in 1998. Agricultural activities have contributed a lot to the development of the economy directly and indirectly(Bank Negara Malaysia, 2000).

Athukorala and Menon (1996) examined the role of export-oriented foreign domestic investment (FDI) in Malaysia's industrialization and reported that most of the growth in Malaysia is because of export-oriented FDI. There has been increased employment because of the export-oriented nature of FDI. Their analysis also found that the effects of FDI backward linkages and direct technology transfer are limited, however there are signs that this is increasing. Authokorala and Menon (1996, p. 45) states that "high import intensity and limited linkages are not intrinsic features of FDI-led export expansion." These are partly a reflection of the early stage of FDI participation in Malaysia, and there are already signs that foreign firms are beginning to generate greater linkages and spill-over effects.

METHODOLOGY

Data used to run the regression analysis for this paper is from the input-output table of Malaysia for the year 2005 compiled by the *Department of Statistics*, Malaysia. The objective of this paper is to examine the hypothesis that increasing demand for imported inputs in Malaysia has been mainly to cater for the export-oriented industries.

A simple OLS regression was run to examine the relationship between export performance and the usage of imported inputs and domestic inputs for all sectors in the economy and the sub-sample of industries in the manufacturing sector.

Six regression equations were estimated:

Model 1: $EX = \beta_1 + \beta_2 mi + \beta_3 di$

Model 2: $EXM = \beta_1 + \beta_2 mim + \beta_3 dim$

Model 3: $EXS = \beta_1 + \beta_2 mis$

Model 4: $EXSM = \beta_1 + \beta_2 mism$

Model 5: $EXS = \beta_1 + \beta_2 misq + \beta_3 disq$

Model 6: $EXSM = \beta_1 + \beta_2 mismq + \beta_3 dismq$

Where:

EX	Export Value (All Sectors)
EXS	Export Share (All Sectors)
EXM	Export Value (Manufacturing)
EXSM	Export Share (Manufacturing)
mi	Intermediate Input Imported
mim	Intermediate Input Imported for Manufacturing Sector
mis	Share of Intermediate Input Imported
mism	Share of Intermediate Input Imported in Manufacturing Sector
misq	Share of Intermediate Input Imported over total gross output
mismq	Share of Intermediate Input Imported over total gross output in Manufacturing Sector
di	Domestic Input
dim	Domestic Input in Manufacturing Sector
disq	Share of Intermediate Input Domestic over total gross output
dismq	Share of Intermediate Input Domestic over total gross output in Manufacturing Sector

Effective Rate of Protection

The effective rate of protection (ERP) concept was propounded in the mid-1960s by several economists but it is mainly associated with Balassa (1965) and Corden (1966), who devised ways of measuring the structure of protection in an industry. The ERP was designed to measure the effects of protection (including tariffs and other import duties) and subsidies on both inputs and outputs in the production process (Balassa et al. 1982). It indicates the difference in value added in a protected environment and a free trade environment relative to value added in a free trade situation.

The effective rate of protection (ERP) is an indicative measure of the effects of tariff on inputs as well as outputs. It gives a percentage increase in domestic value added over the free-trade level, an increase made possible by the country's tariff structure. In other words, ERP of industry*j* is defined as the difference between its value added (per unit of output) at domestic price (that is, inclusion of tariffs on the finished product and the intermediate inputs) and its corresponding value added at world prices (that is, price prevailing under free trade).

$$ej = \left\{\frac{V(do)j - V(fo)j}{V(fo)j}\right\} * 100$$

Where*e* is the effective protection rate, *j* indexes industries, $V(d_0)$ is value added at domestic prices and $V(f_0)$ is value added at free trade prices.

The Power of Dispersion Index

The power of dispersion index, which has been widely applied as a measure of backward linkages, describes the relative extent to which an increase in final demand for the products of a given industry is dispersed throughout the total system of industries. The index is defined as

$$\sum iUij = \frac{1}{n}\sum iBij \Big/ \frac{1}{n^2}\sum i \sum jBij$$

Where n is the number of industries and $\sum i\beta ij$ is the sum of the column elements in the Leontief inverse matrix$\beta = (I - A)^{-1}$, and $\sum i \sum j\beta_{ij}$ is the sum over all the elements of the Leontief inverse. The weighting introduced by $\frac{1}{n}/\frac{1}{n^2}\sum i \sum j \beta_{ij}$ normalises the linkage measure in such a way that a linkage value above 1 for a given industry indicates that this industry draws more than average on the system of industries, that is, the industry will hand over a relatively large share of the increase of final demand for its products to the system of industries in general. Likewise an industry with a linkage value below 1 draws less than average on the system. Because the average linkage value is 1, the sum of the linkage values is always equal to the number of industries in the system.

EXPORT AND IMPORTED INPUT

Table 1 shows the value of export, value of imported input and gross output for the year 2005. It also shows the share of export, which represents total export of a sector divided by total export for the economy. Share of intermediate input imported is calculated by dividing intermediate input imported over total intermediate input imported. Share of output is represented by dividing total output of a sector over the country's total output. From table 1 we can see that the manufacturing sector has the highest total amount of output, export and intermediate inputs imported. The manufacturing sector which has 69 industries in it produces output worth of RM 1.333.304 billion in 2005. Out of this RM 474.569 billion are exported to other countries. The high total output and export in the manufacturing sector shows that the manufacturing sector has been the key impetus for the growth of the country. The share of manufactured exports increased dramatically from 12 percent in 1970 to 22 percent in 1980 and sharply increased to 59 percent in 1990 and 80.5 per cent in 1998. This was due to the new foreign and domestic investment. This trend continued in 2000 where the share of manufactured exports was at 80.5 per cent. The total amount of export for the manufacturing sector was RM 341.906 billion. In 2005 the share of export dropped a little to 79.1 per cent.

However, as can be gleaned from Table 1, the total amount of export has increased from 2000 to 2005. In 2010 the total amount of export for the country is RM 638.82 billion and in 2011 it was RM 694.55 billion (MITI). The country's major export destinations in 2011 was China followed by Singapore, Japan, USA, Thailand, Hong Kong, India, Korea, Australia and Taiwan (MATRADE).

Industries which imported more than 50 percent of their inputs requirement were categorized as high import intensity industry. Out of the 12 industries above only one sector is categorized as high import intensity industry and that is the manufacturing industry. It has been claimed that rapid export performance in the manufacturing sector has led to high imports of inputs in Malaysia. From the input-output table we can see that the major export earners are the semi-conductor devices, tubes and circuit boards industry with an export value of RM 99.4 billion. The same industry imported inputs worth RM 114.8 billion. From Table 1 we can agree with the claim that rapid export performance in the manufacturing sector has led to high imports of inputs in Malaysia. From the data computed we can see that the manufacturing sector exports almost 80 per cent of total export. However they also import input worth more than 82 per cent of the country's total input imported. This shows that the manufacturing sector is highly dependent on imported input.

TABLE 1: Output, export, total intermediate input and their shares in 2005.

Commodity	Export RM	%	Imported Input RM	%	Output RM	%
Agriculture, Fishery & Forestry	10,650,484	1.78	7,780,896	2.08	73,048,381	3.44
Mining & Quarrying	52,094,852	8.68	16,491,122	4.4	116,712,638	5.49
Manufacturing	474,568,521	79.1	307,140,378	82	1,333,304,428	62.8
Electricity, Gas & Water	281,683	0.05	26,828	0.01	30,429,381	1.43
Construction	0	0	0	0	61,357,932	2.89
Wholesale & Retail Trade	0	0	0	0	68,909,096	3.24
Hotel & Restaurants	0	0	0	0	32,586,928	1.53
Transport & Communication	509,040	0.08	15,126,945	4.04	73,298,105	3.45
Finance & Insurance	31,601,639	5.27	771,137	0.21	106,923,879	5.03
Real Estate & Ownership of Dwellings	0	0	0	0	33,702,121	1.59
Business & Private Services	30,109,902	5.02	27,246,925	7.27	110,907,123	5.22
Government Services	11,270	0	0	0	83,264,884	3.92
Total	599827391	100	374,584,231	100	2,124,444,897	100

Source: Authors' computation based on the input-output table 2005, compiled by the *Department of Statistics*, Malaysia.

TABLE 2: Regression Estimation For Model 1 to Model 4

Model	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.118 (1.324)	0.118 (1.585)	6.5E-08*** (5.768)	1.08E-09*** (7.080)	1.6E-17*** (10.054)	1.5E-16*** (10.988)
Imported Intermediate Input (*mi*)	6.6E-22*** (11.909)					
Domestic Intermediate Input (*di*)	0.060** (1.900)					
Imported Intermediate Input For Manufacturing Sector *(mim)*		2.9E-12*** (8.525)				
Domestic Intermediate Input For Manufacturing Sector *(dim)*		0.243 (1.177)				
Share of Imported Input *(mis)*			1.5E-06*** (5.058)			
Share of Imported Input in Manufacturing Sector *(mism)*				0.096* (1.687)		
Share of Imported Input *(misq)*					0.7742 (0.287)	

Domestic Intermediate Input*(disq)*					5.6E-07*** (-5.295)	
Imported Intermediate Input For Manufacturing Sector *(mimsq)*						0.3375 (-0.966)
Domestic Intermediate Input For Manufacturing Sector *(dimq)*						9.9E-05*** (-4.142)
R^2 adjusted	0.647	0.693	0.178	0.04	0.189	0.188

Note: *,** and *** significant at 10%, 5%, and 1%
t-ratios in parentheses

EMPIRICAL EVIDENCE

A simple regression was run to see the relationship between export performance and the usage of imported inputs and domestic or local inputs for all industries in the economy. There are 120 industries in the economy based on the input-output table description. In the first model of the regression we found that there is a significant relationship between absolute export value and imported input for all the 120 industries. This means the higher the usage of imported inputs, the higher the exported value. There is also a significant relationship between absolute export value and domestic input.

In the second model, a simple regression was run to see the relationship between export performance and the usage of imported inputs and domestic or local inputs for all industries in the manufacturing sector. There are 69 industries in the manufacturing sector. Our analysis shows that the result concurs with other studies; there is a significant relationship between absolute value of export and imported input value at the industry level. The result, therefore, indicates that the higher the usage of imported inputs, the higher the exported value. However, our analysis also shows that the there is an insignificant relationship between export value and domestic input. This indicates that higher usage of domestic inputs does not result in higher export value.

From model 1 and 2 we can see that in the case of the domestic input value and export value, the domestic input has a significant relationship with export at 10 percent significant level for the entire sample. In the split sample of only the manufacturing industries; the variable on the domestic intermediate inputs is not a significant determinant of exports. One possible explanation for these results is that inputs are used less in the manufacturing sector and more in the agriculture, fishery and forestry sector. This proves our claim that there is rapid export performance in the manufacturing sector can be attributed to high imports of inputs in Malaysia.

In the third and fourth model our analysis shows that there is a similar result as export value and imported input. There is a significant relationship between export share and imported input content. Export share is calculated by dividing export with totaloutput. Imported input is calculated by dividing imported input with total input. The result, therefore, indicates that the higher the usage of imported input, the more is the share of exports. To confirm this finding in the manufacturing sector we run the regression for all sub-sample of the 69 industries in the manufacturing sector. We found that there is a significant relationshipbetween export share and imported input content.

In the fifth model a regression was run to see the relationship between export shares, imported input share and domestic input share. Export share refers to export value divided by output. Imported input share is calculated by dividing imported input with output. Domestic input share is calculated by dividing import and output. Our analysis shows that there is an insignificant relationship between export share and imported input share in the entire sample of all 120 industries. However, there was a significant negative relationship at the 1 per cent level between share of domestic inputs and the intensity of export. This means the higher the intensity of domestic inputs used, the lower the export intensity. We estimated similar regression for all sub-sample of the 69 industries in the manufacturing sector. The estimation result for the sub-sample of manufacturing industries is the same to that of the full sample.

The above result in terms of intensity of the export variable, imported inputs variable and domestic input variable over gross output shows a negative significant effect of the share of domestic inputs intensity on export intensity, both per the entire sample of industries as well as a sub-sample of manufacturing industries. This result was not obtained when absolute values were used in the regression model 2 showing the importance of weighting the variables used in the analysis.

THE EFFECTIVE RATE OF PROTECTION (ERP)

The effective rate of protection (ERP) is a measure of how tariff structure affects value added in an industry. The ERP is very important to producers because it indicates the degree of protection provided to domestic production of import-competing goods. The ERP measure has been widely used both by governments to determine the level of protection provided to domestic industries and by international organizations such as the World Bank, the OECD, and the World Trade Organization in trade policy negotiations.

In this paper we compute ERP measures based on input-output tables. The advantage of the input-output data structure is in its completeness and consistency. I/O tables cover all inputs and outputs not just some. They also fully account for all usage of tradable inputs. A disadvantage of the I/O data structure, however, is the inability to utilize information at a more detailed industry classification, to separate out different types of commodities

A positive ERP shows that returns to capital and labor are higher than they would have been in the absence of state intervention. It suggests that tariff protection and other elements of the trade regime if included, working through final product and input prices, have tended to expand the given industry. A negative ERP can be interpreted in two different ways first the firm can be harmed by intervention or it would be better off under free trade regime. Second it would be worse off under free trade or the firm is so highly supported by state intervention.

Structure of ERP can be described as follows:
100% and above = extremely strongly protected
50%-99% = highly protected
0%-49% = protected
=< 0% = negative ERP

Derived from estimates of nominal tariffs on output and inputs and value added, the ERP value is sensitive to variations in these three parameters. Estimates of nominal tariffs, for both output and inputs, are commodity based. Estimates for each industry are weighted commodity values, derived from the commodity level for both output and input values and individual product tariff and duty rates.

Table 3 shows the effective rate of protection for the manufacturing sector in 2005. The industries have been arranged in ascending order, from the least protected industry to the most protected industry. The industry that is extremely protected in the manufacturing sector is the motor vehicles industry. The ERP value is 174 per cent. The high protection is to protect the domestic car as it is an infant industry. Malaysia has applied tariffs and nontariff barriers in the automobile sector for more than 20 years. The Malaysian government has started to slowly dismantle some of its measures in order to implement its commitments under the WTO and the ASEAN Free Trade Agreement (AFTA). This is followed by the wine and spirit industry, with an ERP value of 90.62 per cent. The high ERP rate is because of the high import taxes levied to protect the industry from foreign competition. Most of the manufacturing sector has negative ERP value. However, the negative ERP value ranges from negative one to zero. Only two industries have ERP value more than negative one. They are the petroleum refinery industry and the soft drink industry. The petroleum refinery industry ERP value is -16.5 per cent.

TABLE 3: Effective Rates of Protection (ERP) for 2005.

	Commodity	%		Commodity	%
1	Petroleum Refinery	-16.5	36	Medical, Surgical and Orthopedic Appliances	-0.16
2	Soft Drink	-2.28	37	Animal Feeds	-0.16
3	Other Fabricated Metal Products	-1.63	38	Paper and Paper Products and Furniture	-0.15
4	Plastics Products	-1.54	39	Confectionery	-0.14
5	Basic Precious and Non-Ferrous Metals	-1.37	40	Pharmaceuticals, Chemicals & Botanical Product	-0.14
6	General Purpose Machinery	-1.14	41	Preservation of Seafood	-0.12
7	Casting of Metals	-0.93	42	Rubber Products	-0.12
8	Publishing	-0.93	43	Electrical Machinery and Apparatus	-0.11
9	Rubber Gloves	-0.92	44	Sawmilling and Planning of Wood	-0.1
10	Watches and Clocks	-0.87	45	Printing	-0.1
11	Basic Chemicals	-0.8	46	Optical Instruments and Photographic Equipment	-0.07
12	Dairy Production	-0.77	47	Wooden and Cane Containers	-0.05
13	Measuring, Checking & Industrial Process Equipment	-0.61	48	Leather Industries	-0.04
14	Other Food Processing	-0.57	49	Recycling	-0
15	Ships & Boats Building, Bicycles & Invalid Carriages	-0.56	50	Other Manufacturing	0.577
16	Insulated Wires and Cables	-0.55	51	Other Chemicals Product	1.187
17	Paints and Varnishes	-0.53	52	TV, Radio Receivers & Transmitters & Associated Goods	1.247
18	Footwear	-0.51	53	Soap, Perfumes, Cleaning & Toilet Preparations	1.249
19	Cement, Lime and Plaster	-0.48	54	Fertilizers	1.771
20	Finishing of Textiles	-0.48	55	Iron and Steel Products	2.566
21	Semi-Conductor Devices, Tubes and Circuit Boards	-0.46	56	Structural Metal Products	3.174
22	Industrial Machinery	-0.45	57	Sheet Glass and Glass Products	3.59
23	Wearing Apparels	-0.43	58	Motorcycles	3.739
24	Builders' Carpentry and Joinery	-0.42	59	Meat and Meat Production	4.443
25	Rubber Processing	-0.39	60	Other Transport Equipment	5.632
26	Yarn and Cloth	-0.38	61	Domestic Appliances	10.18
27	Bakery Products	-0.33	62	Preservation of Fruits and Vegetables	10.79
28	Electric Lamps and Lighting Equipment	-0.26	63	Concrete & Other Non-Metallic Mineral Products	11.98
29	Oils and Fats	-0.24	64	Tyres	13.28
30	Grain Mills	-0.22	65	Special Purpose Machinery	17.82
31	Clay and Ceramic	-0.22	66	Other Textiles	23.22
32	Office, Accounting and Computing Machinery	-0.21	67	Tobacco Products	23.39
33	Other Wood Products	-0.21	68	Wine & Spirit	90.62
34	Veneer Sheets,Plywood,Laminated and Particle Board	-0.21	69	Motor Vehicles	174
35	Other Electrical Machinery	-0.17			

Source: Authors' computation based on the Input-Output Table 2005, compiled by the *Department of Statistics*, Malaysia.

BACKWARD LINKAGES

A backward linkage is a measure of the relation between an industry and the suppliers of its inputs from the entire production system. It measures the output increase which will occur in industries which supply inputs to the industry concerned. The backward linkage measure is also known as the power of dispersion index showing the effect of the greater purchase of inputs on the entire system of industries. Table 4 shows the power of dispersion index for the years 2000 and 2005.
Table 4:- Power of Dispersion Index, 2000 and 2005.

Commodity	2000	2005
Agriculture, Fishery & Forestry	1	0.87
Mining & Quarrying	0.81	0.75
Manufacturing	1.08	1.07
Electricity, Gas & Water	1.02	1.12
Construction	1.18	1.07
Wholesale & Retail Trade	0.89	0.84
Hotel & Restaurants	1.19	1.18
Transport & Communication	1.08	1.22
Finance & Insurance	0.91	1.08
Real Estate & Ownership of Dwellings	0.87	0.91
Business & Private Services	1.01	0.89
Government Services	0.96	1.02

Source: - Input-Output Table 2005

In the year 2000 the Hotel and Restaurants sector had the highest index of power of dispersion. The index was 1.18. Since the index was more than the average this means that the industry has greater influence on the economy as purchaser of goods and services. The power of dispersion index increased to 1.19 in 2005. The other five sectors that has index of power of dispersion more than one in 2000 are the manufacturing sector, electricity, gas and water sector, construction sector, transport and communication sector and the business and private sector. The powers of dispersion for this sector are 1.08, 1.02, 1.18, 1.08 and 1.01. Out of these five sectors only one sector's power of dispersion fell below one in 2005. It is the business and private services sector. The power of dispersion for this industry was 0.89.

The power of dispersion for the agriculture, fishery and forestry in 2000 was 1 that is the same with the average for the industry. The index fell to 0.87 in 2005. On the other hand, in the government sector the power of dispersion index increased from 0.96 in 2000 to 1.02 in 2005. It is the same for the finance and insurance sector. The power of dispersion increased from 0.91 in 2000 to 1.08 2005. The mining and quarrying sector, wholesale and retail trade sector and the real estate and ownership of dwellings sector power of dispersion index is lower than one for both 2000 and 2005. The mining and quarrying sector power of dispersion index in 2000 was 0.81 this fell to 0.75 in 2005. The power of dispersion for the wholesale and retail trade sector also fell from 0.89 in 2000 to 0.84 in 2005. In the real estate and ownership of dwellings sector, the power of dispersion increased from 0.87 to 0.91.

CONCLUSION

The objective of this paper is to evaluate the export performance of Malaysia's manufacturing industries as well as all the other industries in the economy and also to identify the level of imported input intensity of these industries in 2005. The manufacturing sector exported 79.1 per cent of the countries' export. The three main industries that have high export value are the semi-conductor devices, tubes and circuit boards industry with an export value of RM 99.49 billion. This is followed by the office, accounting and computing machinery industry. It exported RM 87.391billion worth of goods in 2005. The TV, radio receivers & transmitters & associated goods industry ranks in third with a total export value of RM 50,763billion. All together these three industries account for 39.6 per cent of the countries' export. There seems to be a shift compared to the country's export pattern in 1994. In 1994 the export base for the country was in the electrical and electronics and textiles and apparels sub-sector.

In 2005 it was in the electrical and electronics, machinery and chemical sub-sector. The chemical sub-sector accounted for RM 38.135 billion of the country's total export.

There were 22 high import intensive industries in 2005. The Semi-Conductor Devices, Tubes and Circuit Boards industry imported the most inputs from abroad. It imported RM 114.826 billion inputs in 2005. This was followed by the Office, Accounting and Computing Machinery industry. It imported RM 28,917 billion of inputs. The petroleum refinery industry was third; it imported RM 18.029 billion of inputs. It can be seen that the country's two main export industries also imports the most inputs. A simple regression was run to the see the relationship between export performance and the usage of imported inputs and domestic inputs. The results show that there is a significant relationship between absolute export value and imported input. There is an insignificant relationship between absolute export value and domestic input in the manufacturing sector, when all industries are included in the regression, there is a positive and significant relationship of imported inputs as well as local inputs on export. One possible explanation for these results is that inputs are used less in the manufacturing sector and more in the agriculture, fishery and forestry sector. This proves our claim that there is rapid export performance in the manufacturing sector can be attributed to high imports of inputs in Malaysia.When the variables are weighted by gross output; imported input intensity is insignificantly related to export intensity but domestic input intensity is negatively and significantly related to export intensity both for the entire sample of industries as well as a sub-sample of manufacturing industries.

The effective rate of protection (ERP) is an indicative measure of the effects of tariff on inputs as well as outputs. The industry that is protected the most in the manufacturing sector is the motor vehicles industry. The ERP rate for the industry is 174 per cent. Other private services industry has the highest ERP rate for all the 120 industries in the economy. The ERP value is 228 per cent. The wine and spirit industry is the third most protected industry with an ERP value of 90.6 per cent. Generally, the manufacturing sector is more protected than any other sectors in the industry. However, out of the 69 industries in the manufacturing sector only 20 industries have positive ERP value.Hotel and Restaurants sector had the highest index of power of dispersion in 2000 and 2005. The index was 1.18; since the index was more than the average this means that the industry has greater influence on the economy as purchaser of goods and services.

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