MALAYSIAN BILATERAL TRADE RELATIONS AND ECONOMIC GROWTH¹

Mohammed B. Yusoff²

ABSTRACT

This paper examines the structure and trends of Malaysian bilateral exports and imports and then investigates whether these bilateral exports and imports have caused Malaysian economic growth. Although the structure of Malaysia's trade has changed quite significantly over the last three decades, the direction of Malaysia's trade remains generally the same. Broadly, ASEAN, the EU, East Asia, the US and Japan continue to be the Malaysia's major trading partners. The Granger causality tests have shown that it is the bilateral imports that have caused economic growth in Malaysia rather than the bilateral exports.

INTRODUCTION

Malaysia, as an open economy, has been very much dependent on foreign trade to achieve its economic development goals. Foreign trade (exports plus imports) has accounted for a significant and rising portion of its gross domestic product (GDP) in the last three decades, indicating that international trade has been playing an important role in the development of Malaysian economy. The share of merchandise trade in GDP was 73% in 1970, increased to 172% in 1995, and increased further to 202% in 2000. If we take the share of the merchandise trade in GDP as an indicator of trade liberalization, Malaysia certainly has gone through a relatively rapid process of trade liberalization and globalization. Thus, it has become the major objective of this paper to analyze the trends in bilateral trade relations of Malaysia with her traditional major trading partners: Singapore, Japan, the United States, and the EU and her new major trading partners: ASEAN and the East Asian nations and see whether these trade relations have had contributed to the relatively rapid growth of the Malaysian economy. In particular, the decision made by Malaysia to implement the export-oriented development strategy beginning in 1980s has been the major vehicle that has transformed Malaysia from the primary commodity based economy to a more industrial based economy. As a result. Malaysia recorded an average of 8 percent economic growth for about nine years prior to the 1997 East Asian financial crisis. This financial shock had a profound impact on Malaysian economy when it registered a negative one per cent growth rate in 1998. The economy began to recover the following year.

The paper begins with an introductory remarks on bilateral trade relations, followed by a detail discussion on the directions of bilateral exports and imports between Malaysia and her major trading partners: the USA, Japan, and Singapore. The third section deals with the issue of whether exports and imports cause economic growth in the context of Malaysia, followed by sections on the methodology, empirical results and finally the conclusion.

¹ Yusoff, M.B. (2005). Malaysian Bilateral Trade Relations and Economic Growth. *International Journal of Business and Society*, 6: 55-68.

²Professor, Department of Economics, International Islamic University Malaysia, 53100 Kuala Lumpur, Malaysia. e-mail: mohammed.yusoff@iiu.edu.my

DIRECTION OF EXPORTS AN IMPORTS

Malaysian total trade, imports plus exports, has been increasing steadily beginning at RM 9.451 billion in 1970 and increased to RM 684.729 billion by 2000. Japan, the United States, the Association of South-East Asian Nations, the European Union have been the major Malaysian trading partners which together accounted for more than 70% of Malaysia's total trade flows during the 1970–2000 period. In recent years East Asia, comprising South Korea, Hong Kong, Taiwan and China, have become increasingly important Malaysian trading partners while that of the EU has declined. Interestingly, the direction of Malaysia's trade follows closely with the sources of foreign direct investments in Malaysia, especially in the manufacturing sector, as foreign firms investing in Malaysia's manufacturing sector generally source their intermediate goods from their parent or associated companies in their home countries. Subsequently, the processed products are exported back either to their country of origin or other markets. Hence, Japan, the US, ASEAN, East Asian and the EU have been the major source of foreign direct investment in Malaysia. In 2000, the USA was the largest investor in Malaysia at 37.7 percent, followed by Japan at 14.5 percent, Singapore at 8.9 percent, Taiwan at 4.6 percent, South Korea at 3.6 percent, and Hong Kong at 1.7 percent.

Exports

There has been a tremendous increase in the Malaysia's exports during the 1970 – 2000 period. Malaysian total exports in 1970 was at RM5263 million which increased further to RM28172 million in 1980 growing at an annual rate of 43.5 percent. In 1990 the total exports was RM79646 million registering an increase of 18.3 percent per year during the 1980-1990 period. There was a resurgence of Malaysia exports in 2000 at RM373,270 million giving a growth rate of 36.7 percent in 1990-2000 period. Most of the exports went to ASEAN and the US, followed by EU and Japan. They accounted for 76% of Malaysian exports in 1970 which declined to 70% in 2000.

Individually, in 1970 ASEAN imported 25% of Malaysian exports, the EU market at 20%, Japan at 18%, the US at 13%, and the East Asian market at only 6%. In 1990, ASEAN still remained the biggest market for Malaysia's exports which accounted for 29% of total exports. However, most of our exports to ASEAN are destined to Singapore. The US was in second position at 17%, followed by the EU at 15%, Japan at 16 percent and East Asia at 12%. The importance, in terms of export shares, of the US, ASEAN and East Asia as Malaysian export markets had improved over the 1971-93 period while that of the EU declined from 20% in 1970 to 14% in 2000 and similarly the exports to Japan declined from 18% in 1970 to 14% in 2000. By 1990s, East Asia became one of the major Malaysian exports markets where its share of Malaysian exports increased from a merely 6 percent in 1970 to more than 15 percent in 2000.

By country, Singapore, Japan and the US are Malaysian major export markets. They together, accounted for 53% of Malaysia's exports in 1970. In 2000, they continued to account for more than 52% of Malaysian exports. Singapore was Malaysian largest export market in 1970 and remained so in 1993, accounting for about 22% of the exports. Japan was our second largest export market in 1970; however, the position was overtaken by the US in the 1990s. In 2000 the USA import was the major importer at 21%, Singapore at 18%, Japan at 13%. The share of Malaysian exports to the rest of the world has declined from 17% in 1970 to just 4 percent in 2000.

The structure of Malaysian exports has changed substantially. In 1970s and 1980s, most of the exports were in the form of raw materials: inedible crude materials, mineral fuels, and lubricants which had decreased from 61 percent in 1970 to 57 percent in 1980. By 1990 these exports accounted for only 33 percent of the total exports while the exports of manufactured goods had begun to emerge when its share increased from 26 percent in 1970 to 55 percent in 1990. The contribution of the inedible crude materials, mineral fuels, and lubricants fell to merely 12 percent in 2000 while that of manufactured products increased to 82 percent. Although the manufactured exports have increased substantially, it has some major weaknesses in terms of its composition. Specifically, most of the manufactured exports have been in the form of intermediate manufactured goods where their shares increased from 23 percent 1970 to 49 percent in 2000. The exports of machinery and transport equipment increased from 2 percent in 1970 to 25 percent in 2000. Malaysian exports of final manufactured goods is still relatively small contributing only 8 percent of the total exports in 2000. The changes in the structure of Malaysian exports have been due to the deliberate government policy to industrialize and develop the domestic economy through the export-oriented development strategy since 1980s by diversifying and intensifying the export base and at the same time focusing on manufactured exports.

The structure of Malaysian trade with Japan has changed over the last 30 years. In particular, during 1970 – 1990 period, Malaysian exports to Japan were mainly in the form of raw materials, inedible crude materials, mineral fuels and lubricants which accounted for 68% of the total exports to Japan in 1990. But by 1990s, there has been a significant shift towards the export of machinery, such as electrical, non-electrical and electronics, and transport equipment and as well as final manufactured goods. Thus in 2000 Malaysian exports of raw materials to Japan was only at 38 percent compared to 59 percent of machinery and transport equipment and final manufactured goods in the same period.

Similarly, Malaysian exports to the US were comprised mainly of raw materials and intermediate manufactured goods in 1970s, which accounted for 93% of the total exports in 1970 but declined to 59 percent in 1980. As foreign direct investment from the US in the electrical and electronics sector increased, the structure of Malaysian exports to the US has also changed accordingly. Specifically, Malaysian exports of machinery and transport equipment increased dramatically from a negligible amount in 1970 to 31 percent in 1980 and by 2000 it had increased to 78 percent. The exports of final manufactured goods also increased from just 2 percent in 1970 to 13 percent in 2000.

Although Malaysian exports to Singapore follows the same patterns as Japan and the USA, generally they are quite diversified resembling the Malaysian export structure. This is not surprising as Malaysia has been using Singapore to export her products since Singapore has been the major entreport port in the region. Therefore Malaysian exports to Singapore are mainly for re-export. Thus in 1970's, Malaysian exports to Singapore were mainly food, beverages, tobacco and inedible raw materials accounting for 87 percent of exports in 1970 and 81 percent in 1980. By 1990s most of Malaysian exports are in the form of machinery and transport equipment where they accounted for 44 percent of Malaysian exports to Singapore in 1990 which increased further to 73 percent in 2000.

Imports

The major sources of Malaysian imports have been the EU, ASEAN, the US, Japan and East Asia each accounting for 23 percent, 23 percent, 9 percent, 17 percent, and 10 percent respectively in1970. Since then

the Malaysian imports from EU have started to decline to 16 percent in 1980 and decreased further to 11 percent in 2000 mainly due to the fall of thr imports from the UK. The share of imports from ASEAN remained steady at about 23 percent during the same period. Malaysia began to source more imports from the US and Japan in 1970s. The share of imports from the US increased from 9% in 1970 to 17% in 1990 and remained at the same level in 2000. Malaysian imports from Japan was 17% of its total imports in 1970 but increased to 24 percent in 1990 and remained steady at about 21 percent 1990s. For East Asia: Taiwan, South Korea, China, and Hong Kong have become about equally important sources of Malaysian imports. As of 2000, Japan was the most important sources of Malaysian imports, followed by the USA, and Singapore.

In early 1980s Malaysia had begun her export-oriented development strategy focusing on the exports of manufactures. As she does not have abundant in raw materials and capital goods, Malaysia has to import more of the intermediate manufactured goods and the machinery and equipment from abroad. In 1970, Malaysia imported almost an equal proportion of food, beverages, tobacco, and fats at 21 percent; inedible crude materials, mineral fuels, and lubricants at 20 percent; intermediate manufactured goods at 25 percent; and machinery and transport equipment at 28 percent.

Japan has been one of the major sources of Malaysian imports. The structure of the imports from Japan has remained more or less the same where the intermediate manufactured goods and machinery and transport equipment accounted for more than 90% of the total imports over the 1970 – 2000 period. Nevertheless, there has been a significant shift from the import of intermediate manufactured goods towards the import of machinery and transport equipment. As a result, the share of intermediate manufactured goods imported fell from 49% in 1970 to 23% in 1993, while that of machinery and transport equipment rose from 42% to 68% in the same period. Most of the imports were intermediate manufactured goods and machinery and transport equipment which accounted for 91 percent of the imports in 1970. Beginning in 1980s, the imports of intermediate manufactured goods have begun to decline while that of machinery and equipment have started to increase. And by 2000, the imports of intermediate manufactured goods fell to 21 percent while that of machinery and equipment rose to 70 percent.

The structure of imports from Singapore has been quite diversified. The food, beverages, tobacco, inedible crude material and intermediate manufactured goods accounted for 78% of the imports in 1970. Beginning in 1990, there was a shift to import more of machinery and transport equipment accounted for 40 percent of the total imports from Singapore. Malaysian imports from Singapore are mainly raw materials and machinery and transport equipment. The imports of raw materials have been in the downward trends while that of machinery and equipment are in the upward trends. In 1970 Malaysia imported 32 percent of inedible crude materials, mineral fuels and lubricants, 26 percent intermediate goods and only 4 percent of machinery and transport equipment; by 2000 these have changed to 18 percent, 12 percent, and 61 percent respectively. In 1970 Malaysia also imported substantial amount of food, beverages, tobacco, oils and fats at 20 percent and final manufactured goods at 8 percent; by 2000 the import of these goods fell markedly and settled down at 1 percent and 5 percent respectively.

The United States has also been an important source of Malaysian imports, notably in intermediate manufactured goods and machinery and transport equipment. The imports of intermediate manufactured goods had declined from 16 percent in 1970 to 9 percent in 2000 while that of transport and equipment

increased from 59 percent to 76 percent in the same period. The imports from the USA were more diversified. In 1970, the import of food, beverages and tobacco, intermediate manufactured goods and machinery and transport equipment accounted for close to 90 percent of the total imports to Malaysia, with the latter forming the largest portion of imports at 59 percent. During the last 30 years, machinery and transport equipment remained the largest import category from the US and its proportion had increased from 59 percent in 1970 to 76 percent in 2000, reflecting mainly the increase in the imports of thermionic valves for the electronic industry.

EXPORTS, IMPORTS AND ECONOMIC GROWTH

This section discusses the hypothesis of export-led growth which suggests that export growth is an important determinant of the production and employment growth of an economy. It is argued that the export growth, through its foreign trade multiplier effect, results in an expansion of production and employment. Furthermore, the foreign exchange earnings generated by the export expansion can be then utilized to import more capital goods to help increase the domestic production capacity. The production and export expansion will allow the exportable sector to experience economies of scale and the use of more efficient technology. All these suggest that there exist causal relationships between imports, exports and economic growth. In order to test for the existence of a long-run or trend relationship among economic growth and export growth and import growth, the cointegration approach developed by Engle and Granger(1987), Johansen(1988) and Stock and Watson (1988) is employed in this study. To ward this end, we analyze quarterly data of Malaysia, using the multivariate cointegration technique proposed by Johansen to test for a long-run relationship between economic, export and import growth.

Empirical studies on the export growth – economic growth relationship uses either country cross-section data or time series data for a single country such as Jung and Marshall(1985) and Marin(1992). Country cross-sections studies tend to suggest that there is a strong relationship between economic and export growth rates. There are three possible relationships between exports and economic growth could be examined, namely the export-led growth, growth-driven exports, and the two-way causal relationships, termed as feedback. Studies on export-led growth by Michaely(1977), Feder(1982), Marin(1992), Thornton(1996) suggest that countries exporting a large proportion of their output tend to grow faster than others. The export expansion results in production expansion and therefore has the ability to create spin-off effects with the other sectors of the economy through the technological spillovers and other externalities. Models by Grossman and Helpman(1991), Rivera-Batiz and Romer(1991), Romer(1990) suggest that the expansion of international trade increases the number of specialized inputs which then causes economic growth as the domestic economies become more open to international trade.

A number of economists question the export-led growth hypothesis. Specifically, Bhagwati (1988) argues that an increase in economic growth may also lead to trade expansion. Furthermore an increase in exports could be due to the reduced in protectionism. Thus, there is a possibility of a two-way causal relationship between growth and trade. Bhagwati(1988) argues that an increase in trade produces more income which then facilitates more trade. This possibility has also been pointed out by Grossman and Helpman (1991) in their models of north-south trade. Before the financial crisis of 1997, the Malaysian economy grew quite rapidly and some argue that that was because of the success of the Malaysian export-oriented development strategy. But studies on the export-led growth(ELG) suggest mixed results on Malaysia. Dodaro(1993) finds that export growth has contributed negatively to the Malaysian economic development. Bahmani and Alse

(1993) concluded there is no long-run relationship between export growth and economic growth in Malaysia. But to the contrary, Doraisamy(1996) finds a bidirectional causality between export growth and economic development. A recent study by Yousif(1999) supports the ELG hypothesis.

Methodology

The issue as to whether export growth cause economic growth or economic growth causes export growth or whether a bidirectional relationship exists between export growth and economic growth should be verified empirically. This study begins by analysing the integration properties of the data. In order to investigate the stationarity properties of the data, a univariate analysis of each of the time series: real GDP represented by the industrial production index, real exports, and real imports is carried out by testing for the presence of a unit root using the familiar Augmented Dickey-Fuller (ADF) test, Dickey and Fuller(1979) and Phillips-Peron test, Phillips and Perron (1988).

If all or most of the variables have unit roots, then the likelihood ratio test is used to find out the number of cointegrating vectors. Therefore, if there is one or more than one co-integrating vectors, then there exist the long-run combination among the variables, even though they may drift apart in the short run. We shall employ the Johansen (1988, 1991) and Johansen and Juselius (1990) approach to test the cointegration among the variables in the model. If the variables are cointegrated, the the error-correction model(ECM) will be estimated to investigate the long-run and short-run dynamic relationships of the variables in the model. The error-correction terms(ECTs) are derived from the cointegrating vectors found through Johansen's multivariate cointegration test procedure. The ECM is then used as another channel to test Granger causality.

Following Engle and Granger (1987), the error-correction model (ECM) for the *i*-th country can be written as:

where Δ is the first-difference operator, YM is the domestic(Malaysia) income, X_i is the Malaysian exports to trading partner i, M_i is the Malaysian imports from i-th trading partner, YF_i is the income of the i-th trading partner, k represents the number of lags of the explanatory variables, ECM_i is the error-correction term generated from the Johansen multivariable process and ϵ_i is the disturbance term, i=USA, Japan, and Singapore. All the variables are in log transformed. The t-test is used to ascertain the significance of the variables in the short-run while the coefficient of the error correction term captures the short-run effects of the long-run dynamics. Since the variables are cointegrated, in the short run the deviations from this long-run equilibrium will feed back in the changes of the dependent variable forcing the movement of the variables towards the long-run equilibrium. Thus, the coefficient of the lagged error-correction term is a short-run adjustment coefficient representing the proportion by which the long-run disequilibrium in the dependent variable is being corrected in each period.

Sources of Data

In this study, the quarterly data were collected from Quarterly Bulletin of Bank Negara Malaysia and International Financial Statistics, IMF over the period 1974:1 to 2001:4. The data are the industrial production indices of Malaysia, the USA, Singapore, Malaysia; Malaysia's real exports to and real imports from the USA, Japan, and Singapore.

Empirical Results and Discussion

In this section we shall discuss the results of the unit root test, cointegration test, and Granger-causality test. The lags for the unit root test are set to 4 quarters as suggested by the Akaike Information Criteria, AIC. The lag length for the ADF tests was selected to ensure that the residuals are white noise. The estimated ADF and PP statistics against the corresponding critical values reveal that the null hypothesis of unit root of the variables on level cannot be rejected at the 5% level of significance. This implies that the variables are non-stationary on levels. But the ADF and PP tests using the first difference of the variables indicate that these test-statistics are individually significant at the 1% level suggesting that the variables are stationary on first difference, that is each of the series is integrated of order one.

The results of the Johansen cointegration test and the normalized estimates of the eigenvectors are reported in Table 1. The lag length of the level VAR system was determined by minimizing the Akaike Information Criterion, AIC. The null hypotheses of non-cointegration are rejected, suggesting that at least one cointegrating vector exists in each of the countries. The USA cointegration equation suggests that only the US income influences Malaysian income in the long run where it is significant at I percent level, while the exports and imports are not, although they all show the correct signs. In the case of Japan only the Japanese imports from Malaysia determines the Malaysian income where it is significant at 1 percent level, while Japanese income and exports to Malaysia are not significant. The cointegration equation of Singapore indicates that both Malaysian exports to Singapore and Singapore's income are significant at 5 percent level, while Singapore exports to Malaysia is insignificant.

TABLE 1 Johansen's Test for the Number of Cointegrating Vectors VAR with 4 lags

	α		. •
Act	Vtc	111C	tics

	<u>Maxim</u>	al Eigenvalue	Trac	ce
Null	Statistic	5% critical value	Statistic	5% critical valu
				Ţ
r = 0	30.5982 *	23.80	65. 0910**	45.58
r ≤1	7.9536	17.89	15.2108	29.75
r ≤2	5.7563	11.44	7.2571	16.31
r ≤3	1.5008	3.84	1.5008	6.51
'o-Integra	ation Equation			
		146997MUS + 0.856902 0.22052) (0.10547		
r=0	31.1090*	28.14	65.9185 **	53.12
≤1	17.6218	22.00	34.8095	34.91
_ ≤2	10.7743	15.67	17.1876	19.96
<u>-</u> - ≤3	6.4133	9.24	6.41330	9.24
o-Integra	tion Equation			
		41124MJ + 0.504593 YJ 0.15139) (0.332280)	- 2.381669 C (1.10928)	
SINGAPO	DE			

r = 0	25.8100*	28.14	65.0745**	53.12
r ≤1	19.0109	22.00	39.2644	34.91
r ≤2	14.0055	15.67	20.2535	19.96
r ≤3	6.24799	9.24	6.24799	9.24

Co-Integration Equation

$$YM = 2.790039 XS + 0.155237 MS + 5.392662YS - 0.215352 C$$

(1.10217) (0.73769) (1.94386) (2.30507)

Notes: * significant at 5 % level; ** significant at 1 % level, figures in parentheses are the standard errors;

GRANGER-CAUSALITY

The Granger Causality tests for Singapore, the United States, and Japan are given in Tables 2, 3, and 4. Generally, the results are not that encouraging. Specifically, in every case it is found that Malaysian exports to her traditional trading partners do not cause economic growth in Malaysia. But in all cases, it is found that it is the imports from the major trading partners that seem to cause economic growth in Malaysia. Furthermore, there is little statistical evidence to suggest that the US, Japan, of Singapore economic activities affect the performance of Malaysian economy.

In the case of Singapore, the results are somewhat interesting. In particular, the Malaysian imports from Singapore causes an increase in Malaysian income and the increase in imports from Singapore also causes an increase in Malaysian exports to Singapore. There is no statistical evidence to suggest that Malaysian exports to Singapore causes the Malaysian income to rise, but Malaysian exports have caused the imports from Singapore to increase. Thus, there exists a bidirectional relationship between Malaysian exports to and import from Singapore. The impact of an increase in Malaysian exports to Singapore on Malaysian income is rather indirect; that is an increase in exports to Singapore causes the imports from Singapore to rise, and this increases Malaysian income. Furthermore, an increase in Singapore economic activities causes Malaysian imports from Singapore to rise and consequently causes Malaysian economic activities to rise.

In the case of the United States, the results are less interesting. Both Malaysian imports from the US and the US income Granger-cause Malaysian income, but the impacts are rather weak since they are significant only at 6 percent level.

The results also suggest that the Japanese income or economic activities have significant impact on the performance of Malaysian economy. Specifically, Japanese exports to Malaysia causes Malaysian income to increase, while Japanese income cause both Malaysian exports to Japan and imports from Japan to increase. But again there is no direct link between Malaysian income and Malaysian exports to Japan.

TABLE 2 **Granger Causality Tests** Singapore

	YM^a	XS^a	MS^a	YS^a	ECM ^a		
	Wald Statistics						
YM	-	4.6046 (0.3303)	10.4246 (0.0339)	2.9543 (0.5655)	-0.0479 (-0.8471)		
XS	1.4467 (0.8360)	-	12.8589 (0.0120)	6.4863 (0.1657)	-0.2134 (-3.6691)		
MS	4.0506 (0.3992)	20.4208 (0.0004)	-	21.2669 (0.0003)	-0.1097 (-1.6857)		
YS	3.5713 (0.4671)	0.8782 (0.9277)	9.0292 (0.0604)	-	0.0379 (1.3216)		

Notes: ^aThe values in parentheses are the probabilities. ^bThe values in parentheses are the t-statistics.

TABLE 3 Granger Causality Tests
United States

	YM^a	XUS^a	MUS^a	YUS ^a	ECM^b
		V	Wald Statistics		
YM	-	0.6368 (0.7273)	5.4201 (0.0665)	5.5831 (0.0613)	-0.0144 (-0.4006)
XUS	2.8520 (0.2403)	-	4.2636 (0.1186)	4.4134 (0.1101)	0.0659 (1.0962)
MUS	3.7026 (0.1570)	2.2404 (0.3262)	-	0.7362 (0.6921)	-0.1457 (-2.4221)
YUS	0.7254 (0.6958)	0.4559 (0.7961)	2.4797 (0.2894)	-	0.0169 (1.8988)

Notes: ^aThe values in parentheses are the probabilities. ^bThe values in parentheses are the t-statistics.

TABLE 4 **Granger Causality Tests** Japan

	YM^a	XJ^a	MJ^a	YJ^a	ECM ^b
		Wald Statistics			
YM	-	1.1271 (0.8900)	11.4854 (0.0216)	6.8135 (0.1461)	-0.0710 (-1.4093)
XJ	2.9875 (0.5599)	-	5.4359 (0.2454)	11.8439 (0.0186)	0.1526 (0.0668)
MJ	3.7974 (0.4341)	7.3915 (0.1166)	-	9.6056 (0.0476)	0.0919 (1.5882)
YJ	1.1426 (0.8875)	5.4382 (0.2452)	6.1157 (0.1907)	-	0.0496 (3.2667)

Notes: ^a The values in parentheses are the probabilities. ^bThe values in parentheses are the t-statistics.

CONCLUSION

Though the structure of Malaysia's trade has changed fairly significantly over the last three decades, the direction of Malaysia's trade remains more or less the same. ASEAN, the EU, East Asia, the US and Japan continue to be Malaysia's major trading partners. Nevertheless, their relative importance as Malaysia's trading partners has changed. The most significant is the declining importance of the EU due to the slowdown in trade flows with the UK, Malaysian former colonial master. On the other hand, trade with the US and East Asia have strengthened, leading to their rising market shares in Malaysia's external trade.

The results of Granger-causality tests suggest that there is no direct causal links between Malaysian exports and economic growth. Japanese income unidirectionally causes Malaysian exports but the evidence does not indicate that the exports causes domestic income. On the other hand Malaysian imports from Japan causes Malaysian income. In the case of the United States both of the United States exports to Malaysia and Malaysian imports from the United States cause Malaysian domestic activities but they are significant only at 6 percent level. The results for Singapore indicate that Malaysian exports to Singapore causes the imports from Singapore to increase and this increases Malaysian domestic activities but the causality between exports and imports is bidirectional.

REFERENCES

Al-Yousif, Yousif K.1999. On the role of exports in the economic growth of Malaysia: a multivariate analysis. *International Economic Journal*, 13, 67 - 75.

Bhagwati, J., *Protectionism, Cambridge*, Massachusette, MIT Press, 1988.

Buffie, E., 1992. On the condition for export-led growth. Canada Journal of Economics. 25, 211-225.

Dickey, D., Fuller, W., 1979. Distribution of the estimators for autoregressive time series with a unit root. *Journal of American Statistical Association*. 74, 427-431.

Dodaro, S. 1993. Exports and growth: A reconsideration of causality. *Journal of Developing Areas* 27, 227-244.

Doraisami, A. 1996. Export growth and economic growth: a re-examination of some time series evidence of the Malaysian experience. *Journal of Developing Areas* 30, 223-233.

Eithier, W.J., 1982. National and international returns to scale in the modern theory of international trade. *American Economic Review* 72, 389-405.

Engle, R.F., Granger, C.W., 1987. Co-integration and error correction: representation, estimation and testing. *Econometrica* 55, 251-276.

Feder, G., 1982. On exports and economic growth. *Journal of Development Economics* 12, 59-73.

Grossman, G. and E. Helpman, *Innovation and Growth in the Global Economy*, Cambridge, Massachussette: MIT Press, 1991.

Johansen, S., 1988. Statistical analysis of cointegration vectors. *Journal of Economic Dynamic Control* 12, 231-254.

Johansen, S., Juselius, K., 1990. Maximum likelihood estimation and inference on cointegration with Application to the demand for money. *Oxford. Bulletin of Economic Statistics* 52, 169-210.

Jung, W.S., Marshall, P.J., 1985. Exports, growth and causality in developing countries. *Journal of Development Economics* 18, 1-12.

Marin, D., 1992. Is the export-led growth hypothesis valid for industrialized countries? *Review of Economics and Statistics* 74, 678-688.

Michaely, M., 1977. Exports and growth: an empirical investigation. *Journal of Development Economics* 40, 49-53.

Phillips, P., Perron, P., 1988. Testing for a unit root in time series regression. *Biometrika* 75, 335-346.

Rivera-Batiz, L., Romer, P., 1991. Economic integration and endogenous growth. *Quarterly Journal of Economics* 106,531-556.

Romer, P.M., 1986. Increasing returns and long-run growth. Journal of Political Economy 94, 1002-1037.

Romer, P., 1990. Endogenous technological change. Journal of Political Economy 98, 71-102.

Stock, J., Watson, M., 1988. Testing for common trends. *Journal of American Statistical Association* 83, 1097-1107.

Thornton, J., 1996. Cointegration, causality and export-led growth in Mexico. *Economic Letters* 50, 413-416.