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The Effect of Foreign Direct Investment, Exports and Employment on Economic Growth Model

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ABSTRACT
Economic growth is very important for a country's developing. In economics, there are many components that affect a country's economic growth. Malaysia has undergone some changes in the structure of the economy since attaining the status of developing countries from the third world status since 1970-an. Hence, this study is conducted to identify the relationship between economic growth and others macroeconomics variables in Malaysia. There are three variables selected in this study; foreign direct investment, exports and employment. While economic growth is represented by the gross domestic product (GDP) variable. The study adopted ordinary least squares (OLS) method in order to develop the estimating modelling. This study applies annual time series data starting 1982 until 2014. The result shows that, exports and employment variables are important in influencing the economic growth in Malaysian in the long term. In contrast, the foreign direct investment variables are not important in influencing economic growth in Malaysia. According to diagnostic testing, the result further suggest that, first model is suffer of serious multicollinearity problem and second model survive of all diagnostic testing. Therefore the estimating models proposed in this study are robust.

KEYWORDS:
Foreign Direct Investment, Economic Growth, Employment and Exports

1. INTORDUCTION

The growth of an economy depends on the income of a country. Thus, the Gross domestic product is a preferable indicator to measure the growth of the country. Many study was conducted in identify the factors that influencing the economic growth in the long term. According to previous literature, the economic growth is influenced by many factors. Among others variables, the foreign direct investment, exports and employment is important component in explanatory the economics of the country. So this study is conducted to

understand in detail the relationship of the variable; foreign direct investment, exports and employment in influencing the economic growth in Malaysia.

Many previous researches conducted, to investigate the relationship between the macroeconomic variables and the economic growth. For instance, research by Boustead, 1998 claimed that, different components of GDP have a different impact on the economic growth of a country. In addition, economic growth involves a long and complicated relationship in policy variables. Moreover, according to Ibrahim (2002), a country that wants to build must have a focus and narrow the scope of their objectives for the county to archive. For example, if someone has too many proposals or goal in life, he most likely cannot meet all of these goals. So for the country, therefore, must have optimistic and realistic goals to achieve.

Broadly discuss of this topic covered from the previous researcher, namely, Emery (1967), Balassa (1978, 1985), Darrat (1987), Kunst and Marin (1989), Ghartey (1993), Jin (1995), Jin and Yu (1996), among others. For more recent studies, for example, Hooi (2008), Maneschiold (2008), Ibrahim (2002), and Ahmad (2001). For more specific to Malaysia cases, some from the earlier to current researcher provided empirical results to support this hypothesis, mainly, Dodaro (1993), Fuso (1990,1996), Doraisami (1996), Riezman (1996), Shan (1998a,1998b), Al-Yousif (1999), Ibrahim (2002).
For instance, Riezman et al. (1996) has investigated the validity of the export–led growth hypothesis for over 126 countries, running annually data from 1965 to 1999. This study is different from previous study in the same field which is they had included the variable of the real import as one of the explanatory variables in the estimation modelling. The inclusion of import variable is about to avoided the spurious estimation in modelling. Result suggests mild relationship between export and growth. Moreover, Al-Yousif (1999) has evaluated the robustness of the correlation between exports and economic growth in the context of a single country. Applying cointegration and vector error correction modelling, he document further evidences supporting the export led growth hypothesis for the Malaysia cases. In contrast, Jung and Marshall (1985), Dorado (1993), Sengupta and Espana (1994) claimed that export growth has had a negative (rather than negative) effect on the Malaysian economic growth. The most interesting economic phenomenon suggests a two ways causal relationship among growth and trade. Among others, Doraisami (1996) using annually data from 1963 to 1993 found bi-directional relationship between Malaysia export and growth performance.

3. METHODOLOGY

This study employs secondary data from Department of Statistics and Website the global economy. Data of gross domestic product, foreign direct investment and exports are in US dollars, while employment is in the form of the number of employees in Malaysia. The data is in time series data and the length of time the data were starting from 1982 until 2014. All the variables have been changed to the natural logarithm form. The study estimated two models in order to capture the robust model. The study also adopted the Ordinary Least square (OLS)

modelling for analysis purposes. Foe each estimated model, the testing procedure are conducted in three criteria, namely; economics criteria, statistic criteria and econometrics criteria. The general model with OLS method has been established as follows:

$$KDNK_t = f(FDI_t, X_t, PER_t) \quad (1)$$

Based on previous studies, the estimation modelling is as follows;

$$\ln KDNK_t = \beta_0 + \beta_1 FDI_t + \beta_2 X_t + \beta_3 PER_t + u_t \quad (2)$$

Where,

$KDNK_t$ = Gross domestic product in the year t

FDI_t = Foreign direct investment in the year

X_t = Export in the year

PER_t = Rate of employment growth in the year

u_t = The random error in the year

4. EMPIRICAL FINDING

In this section, the finding will discuss in two part; First model and Second Model. The second model are better than the first model, by omitted the exports variable that cause multicollinearity problem in the first model. The purposes to estimated two models are for robust procedure.

Estimating the First Model

The model is formed of the theory and some previous studies is as follows:

$$KDNK_t = -8.563 + 0.02 FDI_t + 0.429 X_t + 1.236 PER_t \quad (3)$$

Statistics Criteria

There are two types of statistical tests that were carried out, namely the importance of testing ($t-$test) and test the goodness of fit model ($F-$test). The $t-$test results show whether accept the hypothesis null (H_0) or H_0 is rejected. Where, $H_0 : \beta_1 = 0$ and $H_0 : \beta_1 \neq 0$. Critical Area 2 tail is ±2.045. Value of t^* for FDI is 0.6452, then 2.045 < t^* < 2.045. H_0 is accepted, so FDI is not

important in explaining GDP. Value of t^* for export is 3.1314, then t^* > 2.045. H_0 is rejected and export important to explaining GDP. While the value of t^* for labor is 2.611, grater then 2.045. H_0 is rejected, so labor is important to explaining GDP. Result test the goodness of fit model indicate whether accept H_0 or reject H_0. Where, $H_0 = \beta_1 = \beta_2 = \beta_3 = 0$ and $H_1 \neq \beta_1 \neq \beta_2 \neq \beta_3 \neq 0$. Critical Area $f-$test is 2.935. Value or f^* is 244.7196, then f^* > 2.935. Result show reject H_0, matching this model is well and good.

Economic Criteria

There are two types of testing procedure under this criteria, namely; sign analysis and elasticity analysis. According to the results, it is found that positive relationship between FDI and GDP. This decision is consistent with finding by Choo (2003) which states that FDI can be a favorable effecting the economic growth. Also, the exports also showed a positive relationship between Exports and GDP. Results are consistent with the theory De Mello LR (1999) which states have policies that encourage exports catalyze economic growth. Not only that, the PER also showed a positive correlation with GDP. Elasticity analysis results are as follows. Results elasticity of FDI is 0.0046. This means that an increase of one unit of FDI increased GDP can lead to 0.0046 units. Results elasticity of exports is 0.4126. This means that the increase one unit in exports cause GDP increased by 0.4126 units. Results elasticity of employment is 2.4906. One unit increase in employment could lead to a rise in GDP of 2.4906 units.

Diagnostic Testing Procedure

There are three types of econometric tests that have been carried out, namely; autocorrelation test, test and test multicollinearity heteroscedasticity, and autocorrelation test.

For Multicollinearity testing procedure, the results suggest following outcome;

R^2 (0.958) > Corr $\left(\ln FDI_t, \ln X_t\right)$ = 0.613
R^2 (0.958) > Corr $\left(\ln FDI_t, \ln PER_t\right)$ = 0.601
R^2 (0.958) > Corr $\left(\ln X_t, \ln PER_t\right)$ = 0.976

The independent variables of foreign direct investment, exports and employment $\left(FDI_t, X_t, PER_t\right)$ connected to each other with a confidence level of 99 percent. Based on the results, the relationship between variables FDI_t with X_t shows that there have not serious multicollinearity problem because, R^2 >Corr$\left(\ln FDI_t, \ln X_t\right)$. Also, the relationship between

variables FDI_t with PER_t, shows no serious multicollinearity problem between the variables since, R^2 >Corr$(\ln FDI_t, \ln PER_t)$. However, the relationship between X_t with PER_t indicate problems or serious multicollinearity perfect because R^2> Corr$(\ln X_t, \ln PER_t)$.

Under heteroscedasticity testing procedure, two others model has estimated, namely Park and Glejser model (Gujarati, 2005).

Origin Model (First Model):

$$KDNK_t = -8.563 + 0.02FDI_t + 0.429X_t + 1.236PER_t \quad (3)$$

New Model (Park Test):

$$\ln \hat{u}_i^{\,2} = -0.933 + 0.003FDI_t - 0.029X_t + 0.12PER_t \quad (4)$$

New Model (Glejser Test):

$$|u_i| = -4.338 - 0.013FDI_t - 0.127X_t + 0.555PER_t \quad (5)$$

Table 1: Test the importance of individual (Heteroscedasticity) for the first model

Model	Variable	Hypothesis	Accept /Reject	Outcomes Important/Not Important
ORIGIN MODEL	FDI_t	$H_0 : \beta_1 = 0$ $H_0 : \beta_1 \neq 0$	Reject H_0	Important
	X_t	$H_0 : \beta_2 = 0$ $H_0 : \beta_2 \neq 0$	Reject H_0	Important
	PER_t	$H_0 : \beta_3 = 0$ $H_0 : \beta_3 \neq 0$	Accept H_0	Not Important
PARK MODEL	FDI_t	$H_0 : \beta_1 =$ non-existent problem heteroscedasticity	Accept H_0	Non-existent problem heteroscedasticity
	X_t	$H_0 : \beta_2 =$ non-existent problem heteroscedasticity	Accept H_0	Non-existent problem heteroscedasticity
	PER_t	$H_0 : \beta_3 =$ non-existent problem heteroscedasticity	Accept H_0	Non-existent problem

				heteroscedasticity
GLEJSER MODEL	FDI_t	$H_0 : \beta_1 =$ non-existent problem heteroscedasticity	Accept H_0	Non-existent problem heteroscedasticity
	X_t	$H_0 : \beta_2 =$ non-existent problem heteroscedasticity	Accept H_0	Non-existent problem heteroscedasticity
	PER_t	$H_0 : \beta_3 =$ non-existent problem heteroscedasticity	Reject H_0	Existent problem heteroscedasticity

Table 1, shows the results of heteroscedasticity testing procedure. The results suggest that, the first model is free from heteroscedasticity problem. Finally, the results form Durbin Watson, a testing procedure for autocorrelation suggest of no problem of error in estimating modelling at 1% and 5% significant level.

Estimating the Second Model

Due to the existence of multicollinearity problem in the first estimating model, changes have been made and produce a second estimating model. Here is the second model;

$$KDNK_t = -19.604 + 0.035FDI_t + 2.66PER_t \qquad (6)$$

Statistic Criteria

There are two types of statistical tests that were carried out, namely the importance of testing ($t-$test) and test the goodness of fit model ($f-$test). The $t-$test results show whether accept the hypothesis null (H_0) or reject H_0. Where, $H_0 : \beta_1 = 0$ and $H_0 : \beta_1 \neq 0$. Critical Area 2 tail is ±2.045. Value of t^* for FDI is 0.0996, then 2.045< t^*>2.045. H_0 is accepted, so FDI is important to explaining GDP. While the value of t^* is 18.277, grater then t^*>2.045. H_0 is rejected and labour is important to explaining GDP. Result test the goodness of fit model indicate whether accept H_0 or reject H_0. Where, $H_0 = \beta_1 = \beta_2 = \beta_3 = 0$ and $H_1 \neq \beta_1 \neq \beta_2 \neq \beta_3 \neq 0$. Critical Area $f-$test is 3.32. Value or f^* is 279.118, then f^*> 2.935. Result show H_0 is rejected, so the model fulfills the testing requirement.

Economic Criteria

According to the results, it is shows that a positive relationship FDI with GDP. This decision is consistent with the finding of De Mello LR (1999), stated that the flow of FDI can be a favourable effects the economic growth. The employment also showed a positive correlation with GDP. This results consistent with finding by Norimah & Podinsky (2013). According to Norimah et al. (2013), exports effect the economic growth positively in the long term. In overall the sign analysis finding are consistent with the first estimating modelling. Results further suggests that, the elasticity of FDI is 0.008. This means that one unit increase in FDI will lead to GDP increase of 0.008 units. Results elasticity of employment is 5.360. One unit increase in employment can cause an increase in GDP of 5.360 units.

Econometrics Criteria

The Multicollinearity tests results are as follows:

R^2 (0.958) > Corr $\left(\ln FDI_t, \ln PER_t\right)$= 0.601

The independent variables of foreign direct investment and employment $\left(FDI_t, PER_t\right)$connected to each other with a confidence level of 99 percent. The relationship between variables FDI_t with ER_t, indicates that have not serious multicollinearity problem because R^2 > Corr$\left(\ln FDI_t, \ln PER_t\right)$. The study also suggest for no autocorrelation problem in the estimating model at 1% and 5% significant level.

Heteroscedasticity tests were also performed. The Heteroscedasticity tests procedure suggests that there is no existing of this problem in the model.

Origin Model (First Model):

$$KDNK_t = -19.604 + 0.035FDI_t + 2.66PER_t \quad (6)$$

New Model (Park Test):

$$\ln \hat{u}_i^{\,2} = -0.196 - 0.004FDI_t + 0.025PER_t \quad (7)$$

New Model (Glejser Test):

$$|u_i| = -1.081 - 0.018FDI_t + 0.136PER_t \quad (8)$$

Table 2: Test the importance of individual (Heteroscedasticity) for the second model

Model	Variable	Hypothesis	Accept/ Reject	Outcomes Important/ Not Important
ORIGIN MODEL	FDI_t	$H_0 : \beta_1 = 0$ $H_0 : \beta_1 \neq 0$	Accept H_0	Not Important
	PER_t	$H_0 : \beta_2 = 0$ $H_0 : \beta_2 \neq 0$	Reject H_0	Important
PARK MODEL	FDI_t	$H_0 : \beta_1 =$ non-existent problem heteroscedasticity	Reject H_0	Non-existent problem heteroscedasticity
	PER_t	$H_0 : \beta_2 =$ non-existent problem heteroscedasticity	Accept H_0	Non-existent problem heteroscedasticity
GLEJSER MODEL	FDI_t	$H_0 : \beta_1 =$ non-existent problem heteroskedasticity	Reject H_0	Non-existent problem heteroskedasticity
	PER_t	$H_0 : \beta_2 =$ non-existent problem heteroscedasticity	Accept H_0	Non-existent problem heteroscedasticity

CONCLUSION

In the nutshell, it is show that, in both estimating model, the macroeconomics variables plays different effect on economic growth in Malaysia. According to data, for instance, the foreign direct investment variable should play an important role in the first model. However, because of the presence of serious multicollinearity problem in the model, thus the estimated model is spurious. No national policy development can be made according to the model. However, through the second estimating model, the result is robust. This model has fulfilled the goodness of model criteria (Anuar Amin, 1988 & Greene, 2005). Hence, this model is preferable for national policy development.

REFERENCES

Akinlo T, Akinsokeji RA and Oziegbe TR (2013) Determinant of foreign direct investment in ten African countries: A panel data analysis. Asian Journal of Business and Management 1(5): 232–237.

Akinlo Taiwo Adeyemi & Simon-Oke O. Olayemi . 2015. Re-examine foreign direct investment and economic growth: Panel co-integration and causality tests for sub-Saharan African countries. International Area Studies Review 2015, Vol. 18(1) 73–86

Ahmad, J., 2001. Causality between Exports and Economic Growth: What do the Econometrics Studies Tell Us? Pacific Economic Review 6(1), 147-167.

Ahmad, J. And Harnhirun, S., 1992. The Causality between Export and Economic Growth in the ASEAN countries: Cointegration and Error Correction Model Approach. Concordia University, Department of Economics working paper DP 9212, Montreal, Canada.

_____,1995. Unit Roots and Cointegration in Estimating Causality between Exports and Economic Growth: Empirical Evidence from the ASEAN countries. Economics Letter 49, 329-334.

_____,1996. Cointegration and Causality between Exports and Economic Growth: Empirical Evidence from the ASEAN Countries. Canadian Journal of Economics 32, 413-416.

Ahmad, J. And Kwan, A.C.C., 1991. Causality between Exports and Economic Growth: Empirical Evidence from Africa. Economics Letters 37, 243-248.

Ahmad, J., Harnhirun, S. and Yang, J., 1997. Exports and Economic Growth in the ASEAN Countries: Cointegration and Causality Tests. *Rivista Internazionale Di Scienze Economiche E Commerciali XLIV*, 419-430.

Afxentiou, P.C. and Serletis, A., 1991. Exports and GNP Causality in the Industrial Countries: 1950-1985. Kyklos 44(2), 167-179.

Aghion, Ph., Bacchetta, Ph., Ranciere, R. and Rogoff, K., 2006. Exchange rate Volatility and Productivity Growth: The Role of Financial Development. Seminar paper: Pompeu Fabra, PSE, Lausanne, and Zurich.

Akaike, H., 1969. Fitting Autoregression for Prediction. Journal of the Institute of Statistical Mathematics 21, 203-217.

Akaike, H., 1974. A New Look at the Statistical Model Specification. IEEE Transactions on Automatic Control AC-19, 716-723.

Al-Yousif, Y. K. 1997. Exports and Economic Growth: Some Empirical Evidence from the Arab Gulf Countries. Applied Economics 29(6), 693-697.

Al-Yousif, Y. K. 1999. On the Role of Exports in the Economic Growth of Malaysia: A Multivariate Analysis. International Economic Journal 13, 67-75.

Amirkhalkhali, S., and Dar, A.A., 1995. A Varying-coefficients Model of Export Expension, Factor Accumulation and Economic Growth: Evidence from Cross-Country, Time Series Data. Economic Modelling 12(4), 435-441.

Arnade, C., and Vasavada, U., 1995. Causality between Productivity and Exports in Agriculture: Evidence from Asia and Latin America. Journal of Agricultural Economics 46, 174-186.

Awokuse, T.O., 2004. In The Export-led Growth Hypothesis Valid for Canada?. Canadian Journal of Economics 36, 126-136.
Bende-Nabende A (2002) Foreign direct investment determinants in Sub-Saharan Africa: A co-integration analysis. Economics Bulletin 6(4): 1–19.
Bende-Nabende A and Ford JL (1998) FDI, policy adjustments and endogenous growth: Multiplier effects from a small dynamic model for Taiwan, 1959–1995. World Development 26(7): 1315–1330.
Bende-Nabende A, Ford J, Santoso B and Sen S (2003) The Interaction between FDI, output and the spillover variables: Cointegration and VAR analyses for APEC, 1965.99. Applied Economics Letters 10(3): 165–172.
Bogahawatte C and Balamurali N (2004) Foreign direct investment and economic growth in Sri Lanka. Sri Lankan Journal of Agricultural Economics 6(1): 37–50.
Breitung J (2000) The local power of some unit root tests for panel data. In Baltagi B (ed.) Advances in Econometrics, Vol. 15: Nonstationary Panels, Panel Cointegration, and Dynamic Panels. Amsterdam: JAI Press, pp. 161–178.
Baharumshah, A.Z., and S. Rashid, 1999. Exports, Imports, and Economic Growth in Malaysia: Empirical Evidence Based on Multivariate Time Series. Asian Economic Journal 13(4), 389-407.
Bahmani-Oskooee, M., 1991. Is there a long-run relation between the trade balance and real effective exchange rate of LDCs?. Economic Letters 36, 403-407.
Bahmani-Oskooee, M. and Alse, J., 1993. Export Growth and Economic Growth: An Application of Cointegration and Error Correction Modelling. Journal of Developing Areas 27(4), 535-542.
Balassa, B., 1978. Exports and Economic Growth: Further Evidence. Journal of Development Economics 5(2), 181-189.
Balassa, B., 1985. Exports, policy choices, and economic growth in developing countries after the 1973 oil shock. Journal of Development Economics 18, 23-35.
Begum, S. and Shamsuddin, A.F.M., 1998. Exports and Economic Growth in Bangladesh. Journal of Development Studies 35(1), 89-114.
Biswal, B. And Dhawan, U., 1998. Export-led Growth Hypothesis: Cointegration and causality Analysis for Taiwan. Applied Economic Letters 5, 699-701.
Brada, J.C. and Mendez, J.A., 1988. Exchange Rate Risk, Exchange Rate Regime and the Volume of International Trade, Kyklos 41(2), 263-280.
Burney, N.A., 1996. Exports and Economic Growth: Evidence from Cross-country Analysis. Applied Economic Letter 3(6), 369-373.
Chan, S., Clark, C. And Davis, D.R., 1990. State Entrepreneurship Foreign Investment Export Expansion and Economic Growth: Granger Causality in Taiwan's Development. Journal of Conflict Resolution 34 (1), 102-109.
Charette, D. E., 2006. Malaysia in the Global Economy: Crisis, Recovery, and the Road Ahead. New England Journal of Public Policy.
Chee, W.H., Hui, B.T., and Annuar, M.N., 2004. Risk Sensitivity of Bank Stock in Malaysia: Empirical Evidence across the Asian Financial Crisis. Asian Economic Journal 18(3), 261-276.

Chow, P.C.Y., 1989. Causality between Export Growth and Industrial Development: Empirical Evidence from the NICs. Journal of Development Economics 26(1), 55-63.
Choong, C.K., Yusop, Z. and Khim-Sen, V.S., 2003. Export-Led Growth Hypothesis in Malaysia: An Application of Two-Stage Least Square Technique. New Economics Paper: International Finance, No. 0308002.
Colombatto, E., 1990. An Analysis of Exports and Growth. Kyklos 43(4), 579-597.
Darrat, A.F., 1987. Are Exports an Engine of Growth? Another look at the Evidence. Applied Economics 19(2), 277-283.
Demirguc-Kunt, A., and Levine, R., 2008. Finance, Financial Sector Policies, and Long-Run Growth. Commission on Growth and Development 11.
De Mello LR (1999) Foreign direct investment-led growth: Evidence from time series and panel data. Oxford Economic Papers 51: 133–151.
De Mello LR (1997) Foreign direct investment in developing countries and growth: A selective survey. Journal of Development Studies 34: 1–34.
De Mello LR (1999) Foreign direct investment-led growth: Evidence from time series and panel data. Oxford Economic Papers 51: 133–151.
De Mello L (2008) Local government finances: The Link between intergovernmental transfers and net worth. In: Ingram GK and Hong YH (eds), Fiscal Decentralization and Land Policies. Lincoln Institute: Cambridge, MA.
Dickey, D. A. (1976). Estimation and Hypothesis Testing for Nonstationary Time Series,Unpublished Ph. D. Dissertation, Iowa State University, Ames, IW.

Dickey, D.A. and Fuller, D.A., 1979. Distributions of the Estimators for Autoregressive Time Series with a Unit Roots. 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.
Domac, I., Peters, K. and Yuzefovich, Y., 2004a. Does the Exchange Rate Regime Matter for Inflation? Evidence from Transition Economics. Policy Research Working Paper, 1-29.
Domac, I., Peters, K. and Yuzefovich, Y., 2004b. Does the Exchange Rate Regime Affect Macroeconomic Performance? Evidence from Transition Economics. Policy Research Working Paper, 1-76.
Doraisami, A., 1996. Export Growth and Economics Growth: A Re-examination of Some Time Series Evidence of Malaysian Experience. Journal of Developing Area 30, 233-240
Dutt, S.D., and Ghosh, D., 1994. An Empirical Investigation of the Export Growth- Economic Growth Relationship. Applied Economics Letters 1, 44-48.
Dutt, S.D., and Ghosh, D., 1996. The Export Growth-Economic Growth Nexus: a causality analysis. Journal of Developing Area 30(2), 167-181.
Emery,R.F., 1967. The Relation of Exports and Economic Growth. Kyklos 20(2), 470-486.
Engle, R. F. and Granger, C. W. J. G., 1987. Cointegration and Error Correction: representation, estimation, and testing. Econometrica 55.
Fajana, O., 1979. Trade and Growth: The Nigerian Experience. World Development 7(1), 73-78.

Feder, G., 1983. On Exports and Economic Growth. Journal of Development Economics 12(2), 59-73.
Fuso, A.K., 1990. Exports and Economics Growth: The African case. World Development 18, 831-835.
Fuso, A.K., 1996. Primary Exports and Economic Growth in Developing Countries. World Economy 19, 465-475.
Gandolfo, G., 1981. Qualitative Analysis and Econometric Estimation of Continuous Time Dynamic Models. Amsterdam: North-Holland.
Ghartey, E.E., 1993. Causal Relationship between Exports and Economic Growth: Some Empirical Evidence in Taiwan, japan and the US. Applied Economics 25(9), 1145-1152.
Ghosh, A.R., Ostry, J.D., Gulde, A.M. and Wolf, H.C., 1997. Does the Exchange Rate Regime Matter for Inflation and Growth? IMF Economic Issue 2, 1-19.
Giles, D.E.A., Giles, J.A. and McCann, E., 1992. Causality, Unit Roots, Export-led Growth: The New Zealand Experience. Journal of International Trade and Economic Development 1, 195-218.
Gordon, D.V. and Sayki-Bekoe, K, 1993. Testing the Export-Growth Hypothesis: Some Parametric and Non-Parametric Results for Ghana. Applied Economics 25, 553-563.
Granger, C. W. J., 1969. Investigating causal relations by econometric models and cross spectral methods. Econometrica 40, 424-438.
Granger, C. W. J., 1986. Developments in the study of cointegrated economic variables. Oxford Bulletin of Economics and Statistics 48**,** 213-228.
Granger, C.W.J., 1988. Some Recent Developments in a Cobcept of Causality. Journal of Econometrics 39, 199-211.
Greenway, D. and Sapsford, D., 1994. What does Liberalisation do for Exports and Growth. Weltwirtschaffliches Archiv 130(1), 152-174.
Gujarati, D., 1995. Basic Econometrics, 3rd Edition, McGraw-Hill, New York.
Habibullah, M.S., and Kee, E.Y., 2006. Does Financial Development Cause Economic Growth? A Panel Data Dynamic Analysis for the Asian Developing Countries. Journal of the Pacific Economy 11(4), 377-393.
Heller, P.S. and Porter, R.C., 1978. Export and Growth: An Empirical re-investigation. Journal of Development Economics 5(2), 191-193.
Henriques, I. and Sadorsky, P., 1996. Export-led Growth-driven Exports? The Canadian case. Canadian Journal of Economics 29(3), 541-555.
Henry, D., 1986. Econometrics modelling with cointegrated variables. Oxford Bulletin of Economics and Statistics 48.
Hooi, T.S., Habibullah, M.S., and Baharumshah, A.Z., 2008. On Engine of Growth in Malaysia: Export-Led, Financial-Led or Investment-Led?. International Journal of Business and Society.
Hooi, T.S., Habibullah, M.S., Azali, M. Baharumshah, A. Z., 2007. Testing for Financial-Led, Export-Led and Import-Led Growth Hypothesis on Four Asian Emerging Economies. International Journal of Economics and Management 1(3), 307-335.

Ibrahim, M., 2002. An Empirical Note on the Export-Led Growth Hypothesis; The Case of Malaysia. Economic Analysis and Policy 32(2), 221-232.
Islam, M.N., 1998. Exports Expansion and Economic Growth: Testing for Cointegration and Causality. Applied Economics 30(3), 4154-425.
Jin, J.C., 1995. Export-led Growth and the Four Little Dragons. Journal of International Trade and Economic Development 4(2), 203-425.
Jin, J.C. and Yu, E.S.H., 1995. The causal Relationship between Exports and Growth. Journal of Economic Development 20, 131-140.
Jin, J.C. and Yu, E.S.H., 1996. Export-led Growth and the US economy: another look. Applied Economics Letters 3(5), 341-344.
Johansen, S., 1988. Statistical Analysis of Cointegration Vectors. Journal of Economic Dynamics and Control 12**,** 231-254.
Johansen, S. and Juselius, K., 1990. Maximum Likelihood Estimation and Inference on Cointegration with Applications to the Demand for Money. Oxford Bulletin of Economics and Statistics 52**,** 169-210.
Jung, W.S. and Marshall, P.J., 1985. Exports, Growth and Causality in Developing Countries. Journal of Development Economics 18(1), 1-12.
Kavoussi, R.M., 1984. Export Expansion and Economic Growth: Further Empirical Evidence. Journal of Development Economics 14, 241-250.
Khan, A.H. and Saqib, N., 1993. Exports and Economic Growth: The Pakistan Experience. International Economic Journal 7(3), 53-64.
Kovocic, Z.I. and Djukic, D., 1990. Export Expansion and Economic Growth in Yugoslavia: Some Empirical Evidence. Economic Analysis and Worker's Management 15(2), 95-113.
Kravis, I.B., 1970. Trade as a Handmade of Growth. Similarities between the Nineteenth and Twentieth Centuries. Economic Journal 80(320), 850-870.
Kravis, I.B., 1973a. A Reply to Mr.Adams. Economic Journal 83(329), 212-217.
Kravis, I.B., 1973b. A Reply to Mr.Crafts' Note. Economic Journal 83(331), 885-889.
Kugler, P., 1991. Growth, Exports and Cointegration: An Empirical Investigation. Weltwirtschaffliches Archiv 127, 152-174.
Kugler, P. And Dridi, J., 1993. Growth and Exports in LDCs: A Multivariate Time Series Study. Revista Internazionale Di Scienze Economiche e Commerciali 40, 759-767.
Kunst, R.M. and Martin, D., 1989. On Exports and Productivity: A Causal Analysis. Review of Economics and Statistics 71, 699-703.
Kwan, A.C.C., Cotsomitis, J.A. and Kwok, B.K.C., 1999. Exports, Economic Growth and Structural Invariances: Evidence from some Asian NICs. Applied Economics 31(4), 493-498.
Kwan, A.C.C., and Kwok, B., 1995. Exogeneity and the Exports-Led Growth Hypothesis: The case of China. Southern Economic Journal, 1158-1166.
Kwan, A.C.C., Cotsomitis, J.A. and Kwok, B., 1996. Exports, Economic Growth and Exogeneity: Thaiwan 1953-88. Applied Economics 28, 467-471.
_____, 1999. Exports, Economic Growth and Structural Invariance: Evidence from some Asian NICs. Applied Economics 31, 493-498.

Lee, F.Y. and Cole, W.E., 1994. Simultaneity in the Study of Exports and Economic Growth. International Economic Journal 8(1), 33-41.
Levy-Yeyati, E. and Sturzenegger, F., 2003. To Float or to Fix: Evidence on the Impact of Exchange Rate Regimes on Growth. American Economic Review 93(4), 1173-1193.
Love, J., 1994. Engines of Growth: The Export and Government Sectors. The World Economy 17(2), 203-218.
Lussier, M., 1993. Impacts of Exports on Economic performance: A Comparative Study. Journal of African Economies 2(1), 106-127.
Maneschiold, Per-Ola, 2008. A Note of the Export-Led Growth Hypothesis: A Time Series Approach. Cuadernos De Economia 45, 293-302.
Marin, D., 1992. Is The Export-led GrowthHypothesis Valid for Industrialized Countries?. Review of Economics and Statistics 54, 678-688.
McKinnon, Ronald and Schnabl, G., 2003. The East Asian Dollar Standard, Fear of Floating, and Original Sin. Macroeconomic Stability, Financial Markets, and Economic Development, Bank of Mexico.
Michaely, M., 1977. Export and Growth: An Empirical Investigation. Journal of Development Economics 4(1), 49-53.
Moschos, D., 1989. export Expansion and the Level of Economic Development: An Empirical Analysis. Journal of Development Economics 30 (1), 93-102.
Norimah and Jan M. Podivisnky. 2013. A Study of Exogeneity Tests on Exports Led-Growth Hypothesis: The Empirical Evidence on Post Crisis Exchange Rate Regime in Malaysia. International Business Education Journal (MRJ). Vol 6(1). UPSI
Ng, T.H., 2006. Foreign Direct Investment and Productivity: Evidence from the East Asian Economics. United Nations Industrial Development Organization. Research and Statistics Branch. Working Paper No.3.
Nilsson, K. and Nilsson, L., 2000. Exchange Rate Regimes and Export Performance of developing Countries. Blackwell Publishers, 331-349.
Osterwald-Lenum, M., 1992. A Note with Quartiles of Asymptotic Distribution of the Maximum Likelihood Cointegration Rank Test Statistics. Oxford Bulletin of Economics and Statistics 53, 461-472.
Oxley, L., 1993. Cointegration, Causality and Export-led Growth in Portugal, 1965-1985. Economics Letters 43, 163-166.
Petreski, M., 2009. Exchange rate Regime and Economic Growth: A Review of the Theoretical and Empirical Literature. Open-Assessment E-Journal. No.2009-31.
Ram, R., 1985. Exports and Economic Growth: Some Additional Evidence. Economic Development and Cultural Change 33 (2), 415-425.
Ram, R., 1987.Exports and Economic Growth in Developing Countries: Evidence from Time Series and Cross-Section Data. Economic Development and Cultural Change 35 (1), 51-63.
Riezman, R.G., Summers, P.M., and Whiteman, C.H., 1996. The Engine of Growth or its Handmaiden? A Time Series Assessment of Export-Led Growth. Empirical Economics 21, 77-113.

Salvatore, D. And Hatcher, T., 1991. Inward and Outward Oriented Trade Stategies. Journal of Development Studies 27, 7-25.
Sengupta, J.K., 1991. Rapid Growth in NICs in Asia: Tests of New Growth Theory for Korea. Kyklos 44 (4), 561-579.
Sengupta, J.K. and Espana, J.R., 1994. Exports and Economic Growth in Asian NICs: An Econometric Analysis of Korea. Applied Economics 26(1), 41-51.
Serletis, A., 1992. Export Growth and Canadian Economic Development. Journal of Development Economics 38 (1), 133-145.
Serven, A.K., 1968. The Relation of Exports and Economic Growth: Comment. Kyklos 21(3), 546-548.
Shan, J. and Sun, F., 1998a. Export-Led Growth Hypothesis for Australia: An Empirical Re-Investigation. Applied Economics Letters 5, 423-428.
Shan, J. and Sun, F., 1998b. On the Export-Led Growth Hypothesis: The Econometric Evidence from China. Applied Economics 30, 1055-1065.
Sharma, S.C., Norris, M. and Cheung, D.W.W, 1991. Exports and Economic Growth in Industrialized Countries. Applied Economics 23, 697-708.
Sheehey, E.J., 1993. Exports as a factor of Production: A Consistency Test. World Development 21 (1), 155-160.
Sims, C. A., 1972. Money, Income, and Causality. American Economic 62**,** 540-552.
Sims, C.A., Stock, J.H., and Watson, M.W., 1990. Inference in Linear Time Series Models with Unit Roots. Econometrica 58, 113-144.
Suliman, O.T., Mengistu, R., Lorente, R. and Ghebreyesus, G.S., 1994. Export Growth and Industrial Development: Evidence from South Korea. Economia Internazionale XLVII (1), 84-91.
Syron, R.F. and Walsh, B.M., 1968. The Relation of Exports and Economic Growth: A Note. Kyklos 20(3), 541-545.
Thornton, J., 1997. Exports and Growth: Evidence from 19th Century Europe. Economic Letters 55, 235-240.
Tiwari, R., 2003. Post-Crisis Exchnage Rate Regimes in Southeast ASIA: An Empirical Survey of De-Facto Policies. Working Paper (University of Hamburg).
Todo, H.Y. and Phillips, P.C.B., 1993. Vector Autoregressions and Causality. Econometrica 61, 1367-1393.
Tyler, W.G., 1981. Growth and Export Expension in Developing Countries: Some Empirical Evidence. Journal of Development Economics 9 (1), 121-130.
Ukpolo, V., 1994. Export Composition and Growth of Selected Low-Income African countries: Evidence from Time Series Data. Applied Economics 26(5), 445-449.
Vahid, F. and Engle, R.F., 1993. Common Trends and Common Cycles. Journal of Applied Econometrics 8, 341-360.
Van den Berg, H. and Schmidt, J.R., 1994. Foreign Trade and Economic Growth: Time Series Evidence from Latin America. Journal of International Trade and Economic Development 3 (3), 121-130.

Xu, Z., 1996. On the Causality between Export Growth and GDP Growth: An Empirical Re-investigation. Review of International Economics 4(2), 172-184.
Yamada, H., 1998. A Note on the Causality between Export and Productivity: An Empirical Re-examination. Economics Letters 61, 111-114.