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Trans-Pacific Partnership (TPP) Agreement: Comparative Trade and Economic Analysis for Malaysia

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Abstract: This study, focuses primarily on Malaysia's economic interests in the TPP agreement. It provides a comparative economic analysis of the countries currently in the TPP and describes the Malaysia trade flows with these countries at the bilateral level and in relation to the co untries' economic linkages with the rest of the world. It is also provides information on the existing trade agreements of TPP countries. As such, this study aims to explore the impact of Malaysia's international trade with TPP countries on the economic growth of Malaysia. To achieve this objective, this study applies three different variables, like, the Malaysian import from TPP countries, export to TPP countries and total trade with TPP countries. For this purpose, time series panel data from 2000-2014 have been utilized. The results of fixed effect model and random effect model suggest that imports from TPP countries negatively impact on economic growth of Malaysia. Whereas, exports and total trade with the rest of the world have contributed positively to the economic growth of Malaysia. Hence, the Malaysian government and policymakers should emphasise more on the pros and cons on Malaysian imports from TPP member countries. Moreover, there is a need to look more into boosting exports to TPP countries to stimulate economic growth of Malaysia.

Key words: International trade, Malaysia's trade, panel data, TPPA, countries

INTRODUCTION

International trade plays a significant role in the economic growth of a country. In past few years, there has been a revival of interest in the international trade, and a closer scrutiny of two propositions associated with its analysis of the principle of comparative costs (Lerner, 1952; Shaheen *et al*., 2011). The first is that the cause of international trade is to be found largely indifference between the factor endowments of different countries; the second that the effect of international trade is to tend to equalize factor prices as between countries thus serving to some extent as a substitute for mobility of factors. The results, very briefly has been to show that neither proposition is generally true, the validity of both depending on certain factual assumptions about either the nature of technology or the range of variation of factor endowment. Keeping in view the importance of international trade, countries made several free trade agreements such as among others:

- ASEAN China Free Trade Area (ACFTA)
- ASEAN Free Trade Area (AFTA)
- ASEAN India Free Trade Area (AIFTA)
- Common Market for Eastern and Southern Africa (COMESA)
- Asia-Pacific Trade Agreement (APTA)
- Dominican Republic Central America Free Trade Agreement (DR-CAFTA)
- Gulf Cooperation Council (GCC)
- Central American Integration System (SICA)
- G-3 Free Trade Agreement (G-3)
- Greater Arab Free Trade Area (GAFTA)
- Southern Common Market (MERCOSUR)
- North American Free Trade Agreement (NAFTA)
- Common Market for Eastern and Southern Africa (COMESA)
- Central European Free Trade Agreement (CEFTA)
- Dominican Republic Central America Free Trade Agreement (DR-CAFTA)
- Pacific Alliance
- South Asia Free Trade Agreement (SAFTA)
- Southern African Development Community (SADC)

Trans Pacific Partnership Agreement (TPPA): The Trans Pacific Partnership Agreement (TPPA) is also a free trade agreement which is suggested by Malaysia and then other countries. Currently, United States, Singapore,

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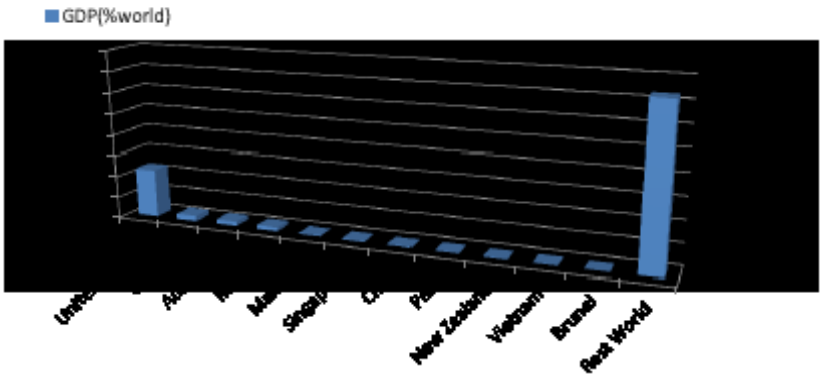

Fig. 1: World 's GDP contribution of TPP countries in 2014; World Bank (2014)

Table 1: Malaysia's Trade with TPP countries during 1980-2014 (billions$)

Country	1980	1990	2000	2010	2014	Total (1980-2014)
Australia	778.85	1498.28	4018.37	10656.34	14480.5	150107.9
Brunei	24.33	86.16	257.73	498.24	1146.84	9579.06
Canada	210.67	513.39	1180.37	1864.91	1807.79	31159.17
Chili	3.81	53.73	144.59	312.49	585.66	5705.6
Mexico	9.16	69.59	772.22	2006	1621.41	20820.86
New Zealand	158.21	268.9	656.11	1540.27	2250.23	23073.4
Peru	2.38	2.94	38.48	98.24	192.07	1683.39
Singapore	3744.69	11060.88	29813.4	45305.4	57416.6	800499.2
United States	3751.22	9930.35	33829.7	36512.8	35642.5	779487.7
Vietnam	0.33	51.79	930.22	6162.02	10257.76	60465.9

Direction of Trade Statistics (DOTS)

Australia, Mexico, Peru, Brunei, Chili, Canada, New Zealand and Vietnam are the members of TPP free trade agreement. The proposed TPPA is very important due to the economic significance of the Asia Pacific region for both Malaysia and the world. The members produce more than 30% of world's GDP, hold 20%of the global population and co ntain some of the fastest growing economies in the world. Figure 1 shows TPP members contribution in the world 's GDP. According to facts world leading country the US is the member of the group. The US ranked 1st, Canada ranked 2nd followed by Australia, Mexico, Malaysia, Singapore, Chili, Peru, New Zealand, Vietnam and last but least Brunei ranked 11th in the group.

The United States is the largest TPP market in terms of both GDP and population. In 2014, non-U.S. TPP partners collectively had a GDP of $5.7 trillion, 37% of the US level and a population of 346 million,slightly larger than the U.S.population. Japan 's entry would increase the economic significance of the agreement on both of these metrics. Unlike most previous U.S. FTA negotiations, the TPP involves countries with which the United States already has an FTA.

The U.S. has FTAs in place with Australia, Canada, Chile, Mexico, Peru and Singapore which together account for nearly 85% of U.S. goods trade with TPP countries. Malaysia and Vietnam are the largest U.S. trade partners among TPP members without an existing U.S. FTA. Table1 shows Malaysia 's trade with TPP member countries during 1980-2014.

Other TPP partners also have extensive existing FTA networks. The Association of Southeast Asian Nations (ASEAN), of which Brunei, Malaysia, Singapore and Vietnam are members and its collective FTAs with other countries, accounts for the bulk of this inter connectedness. Moreover, ASEAN agreements with larger regional economies (e.g., China, Japan and Korea) present a second possible avenue for Asia-Pacific economic integration; albeit one that currently excludes the United States. Malaysia has a number of objectives in the proposed TPP agreement; these include:

- Achieving a comprehensive and high standard regional FTA that eliminates and reduces trade barriers and increases opportunities for Malaysia trade and investment
- Allowing the Malaysia to play a role in developing a broader platform for trade liberalization, particularly throughout the Asia-Pacific region
- Providing the Malaysia with an opportunity to establish new rules on emerging trade issues, such as regulatory coherence, supply chain management, state-owned enterprises and increasing trade opportunities for small and medium-sized businesses

This study focuses primarily on Malaysia economic interests in the TPP agreement. It provides a comparative economic analysis of the countries currently negotiating the TPP and describes the Malaysi a trade flows with these countries at the bilateral level and in relation to the countries ' economic linkages with the rest of the world. It also provides information on the existing trade agreements of TPP countries. As such, this study aims to explore th e impact of Malaysia 's international trade with TPP countries on the economic growth of Malaysia. To achieve this objective this study will make three different variables such as Malaysian import from TPP countries, export to TPP countries and total trade (import + export) with TPP countries.

Literature review: Theoretical opinions with regard to trade-growth nexus are vague. There are explanations to consider that enlarged international competition might also accelerate productivity growth as competition increases efficiency or impede that growth if the economy is not well organized for competition (Giles and Williams, 2000; Ahmed and Sattar, 2003; Awokuse, 2007; Dritsaki *et al*., 2004; Nasreen, 2011). To emerge the positive effect of trade openness associated policies may be beneficial and even essential (Rahman, 2006). Similarly empirical results on trade-growth nexus are also inconsistent. The studies such as Doller (1992), Frankel and Romer (1999), Dollar and Kraay (2001) explored that international trade stimulates economic growth. In addition, Wacziarg (2001) utilized panel data of 57 countries from 1979-1989 and suggested that international trade has a significant positive relationship with economic growth. Consistently, applying cross-country regression Frankel and Romer (1996) found that international trade has a significant, large and robust positive effect on income. However, 5 Greenaway and Sapsford (1994) by utilized production function approach and time series data of 19 counties found little support for an export-growth relationship.

Giles and Williams (2000) after survey more than 150 research papers suggested that there is bidirectional causality between exports and economic growth. In contrast, Alycy and Ucal (2003) explore unidirectional causality in Turkey during quarterly data from 1987.1-2002.4, however, Dritsaki *et al*. (2004) explored bidirectional causality between export and economic growth in case if Greece. Cuadros, Orts and Alguacil (2004) applied quarterly data from 1970.1-2000.4 and investigate that there is unidirectional causality from exports to real GDP in Argentina and Mexico and unidirectional causality from real GDP to exports in case of Brazil. Nasreen (2011) found similar results for selected Asian developing countries. In addition, Ahmad *et al*. (2003) used annual time series data from 1972-2001 and found unidirectional causality from export to real GDP in the case of Pakistan. Similar results have been found by Shirazi and Manap (2005), Ullah *et al*. (2009) and Shahbaz (2012) in the case of Pakistan.

In contrast, Darrat (1986) conduct a study on Taiwan, Hong Kong, South Korea and Singapore and found no evidence of causality from exports to economic growth. Chimobi (2010) explored the casual relationship between international trade and economic growth in Nigeria from 1970-2005. The results of Johansen multivariate approach suggested that there is no relationship between international trade and economic growth during this time period. In addition, imports also play a significant role in the economic growth of a country. Thus, the significance of imports, particularly when imports institute capital and middle inputs, need to draw consideration as a source of economic growth (Din, 2004). Damooei and Tavakoli (2006) conducted a study of 47 manufacturing sectors of Mexico for the time period 1973-1990 and stated that there is a positive relationship between imported inputs and productivity growth. Furthermore, Thangavelu* and Rajaguru (2004) found evidence of import-led growth nexus in the case of Indonesia, India, Philippines, Malaysia, Taiwan and Singapore. Similar results also reported by Awokuse (2007) for Poland. Katircioglu *et al*. (2007) reported long run relationship between international trade, financial development and real GDP in the case of India. Nevertheless, there is evidence of bidirectional causality between real GDP and domestic credit. Shaheen *et al*. (2011) stated similar results in Pakistan. In another study Haseeb *et al*. (2014) investigate the export-led growth in Malaysia from 1971-2013. The study applied Auto Regressive Distributed Lag (ARDL) testing approach for cointegration and long run relationship.

The results of this study are in the favor of export-led growth in Malaysia and found bidirectional causality from exports to economic growth and vice versa. Abidin *et al*. (2014) examined exports led growth between Malaysia and TPP member countries from 1997 to 2012. The results of Fully Modify OLS (FMOLS) confirmed the long-run relationship between exports and economic growth. Whereas, economic growth led exports was reported by Granger causality test in Malaysia for the proposed time period. Similarly, Abidin *et al*. (2014) explore the trade relationship between Malaysia and 55 OIC member countries for the year 1995-2012. The study applied traditional gravity model to measure the trade Malaysian

potential with 55 OIC countries. The results suggested the trade led growth in Malaysia. Similar results have been found by Abidin *et al.* (2015) and Abidin and Haseeb (2015) in the case of Malaysia.

MATERIALS AND METHODS

Model specification: The core objective of this study is to examine whether Malaysian trade with TPP member 's countries will lead to economic growth of Malaysia. For more conclusive empirical results this study includes imports, exports and total trade with TPP countries independently and total Malaysian trade separately. Thus, results will explore not only GDP – trade (TPP) nexus but also GDP – imports (TPP), GDP – exports (TPP) and GDP – trade (TPP - total) nexus. The basic model of GDP – trade is following:

$$\ln(Y)_t = \alpha_0 + \alpha_1 \ln(IMP_{TPP})_t + \alpha_2 \ln(EXP_{TPP})_t + \alpha_3 \ln(TR_{TPP})_t + \alpha_4 \ln(TR_{REST})_t + \varepsilon_t \quad (1)$$

where:

IMPTPP = Malaysian imports with TPP member countries (Billion$)
EXPTPP = Malaysian exports with TPP member countries (Billion$)
TRTPP = Malaysian total trade with TPP member countries (Billion$)
TRREST = Malaysian total international trade – trade with TPP countries (Billion$)
ln = Natural log
ε = White noise error term

Data source: Annual time series data of Malaysian imports, exports and total trade with TPP countries from the year 2000-2014 has been taken from Direction of Trade Statistics, CD-ROM database and website of International Monetary Fund (IMF). Where, data total Malaysian trade except with TPP countries has been collected from World Development Indicator (WDI).

Estimation method: There are two types of panels like non- stationary panels traditional panels. Generally, non-stationary panel tests such as Fully Modify OLS (FMOLS), Dynamic OLS (DOLS) and Generalized Method of Movement (GMM) are used if a large number of observation and time interval. Whereas, traditional panel tests like Pooled, Fixed Effect Model (FEM) and Random Effect Model (REM) are utilized if the number of observation and short time interval. Since this study contains a small number of observations and short time interval, thus, will apply FEM and RFM simultaneously.

Fixed effects models: Following is basic FEM:

$$Y_{it} = \beta_1 X_{it} + \alpha_i + \mu_{it} \quad (2)$$

Where:

Y_{it} = Dependent variable 7
β_1 = Coefficient
X_{it} = Represented all independent variables
α_i = Intercept
μ_{it} = Error term

Random effects models: The REM assume that variation across different entities are uncorrelated with dependent and explanatory variables and this assumption is mostly wrong but due to large standard errors of FEM the REM are still desirable in some situations. IF theory behind the model indicates some impact of variation across entities on dependent variables then REM should be preferred. REM can include time-invariant variables as explanatory variables while FEM absorbs these effects in intercept term. The basic form of REM mentioned following in Eq. 3:

$$Y_{it} = \beta_1 X_{it} + \alpha + \mu_{it} + \varepsilon_{it} \quad (3)$$

where, μ_{it} is between entity errors while ε_{it} it is within identity error. The REM assumes that error between entities is not correlated to independent variables as a result the variables that are time invariant can play a role in the model.

RESULTS AND DISCUSSION

The empirical analysis is conducted by estimating a series of regression models under different assumptions about slope coefficients and dynamics. The first suite of results is for static models with homogeneous slope coefficients. Empirical results are presented for specifications estimated using pooled OLS with Panel Corrected Standard Errors (PCSE), Fixed Effects (FE) and Random Effects (RE) are reported in Table 2. The estimated coefficient on the IMPTPP variable is between -0.092 and 0.243 is negative and statistically significant. The estimated coefficient on the EXPTPP variable ranges between 0.971 and 1.887 is statistically significant. The estimated coefficient on the TRTPP variable under fixed effects or random effects is within the range of values reported by other studies (Cole and Neumayer, 2004; Martínez-Zarzoso and Maruotti, 2011). The estimated coefficient on the TRREST variable is positive and

Table 2: Pooled estimates (Static)

Variables	PCSE	FEM	REM
IMPTPP	-0.0921**	0.0511	0.214
	(-2.14)	(0.23)	(0.94)
EXPTPP	0.971*	1.887*	1.232*
	(121.77)	(7.21)	(11.56)
TRTPP	1.112*	1.144*	1.092
	(108.56)	(7.44)	(6.56)
TRREST	1.091*	0.812*	0.876*
	(74.12)	(4.83)	(4.91)
Constant	-11.51*	-31.62*	-21.55*
	(-107.12)	(-8.55)	(-8.09)
RMSE	0.234	0.131	0.131
Observations	165	165	165
Group	11	11	11
CD	-2.22**	-3.87*	-3.99*
CIPS	1.31	0.01	0.15

*Ddenoted $p<0.01$ and **$p<0.05$; t statistics in parentheses; Estimation is from an unbalanced panel of 11 emerging economies covering time; period 2000-2014

statistically significant. The results in Table 2 indicate that increase in imports from TPP countries does not contribute in the economic growth of Malaysia. However, exports to TPP countries and total trade with rest of the world stimulate economic growth of Malaysia. The residuals are tested for cross-sectional dependence using Pesaran (2004) CD test and stationarity is tested using Pesaran (2007) CIPS. It is important to test for stationarity in the residuals because residual stationarity is an important part of a good fitting econometric model. Applying the CD test to the regression residuals provides strong evidence of cross-section dependence in each specification. More troubling is the CIPS test indicates that all regressions have non-stationary residuals which indicate a poorly fitting model.

CONCLUSION

International trade has a significant role in economic growth and development. The main aim of this is to empirically investigate whether Malaysia 's import,export and total trade with TPP countries boost economic growth or international trade with rest of the world boost economic growth of Malaysia. For this purpose time series panel data from 2000-2014 has been utilized. The results of fixed effect model and random effect model suggested that imports from TPP countries negatively impact on economic growth of Malaysia. Whereas, exports and total trade with rest of the world contribute positively to the economic growth of Malaysia. Hence, Malaysian government and policy maker should emphasis on the pros and corns on Malaysian imports from TPP member countries. Moreover, increase the exports to TPP countries and international trade with rest of the world to stimulate economic growth of Malaysia.

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