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The Impact of Political Risk on Imports in Malaysia

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Abstract

This paper examines the impact of political risks on imports in Malaysia. A wide array of indicators for political risk is used to examine their relative importance on imports. The paper uses Fully-modified OLS regression technique and the findings reveal that several types of indicators namely socio-economic conditions, law and order, religion in politics, democratic accountability and bureaucracy quality seem to exert significant impact towards imports in Malaysia. The impact however, is relatively small. An important policy implication is that policy makers should account for political risks apart from other institutional risks such as the conventional economic and financial risks in the formulation of trade policies.

Keywords*: Imports, Political Risks, Fully-modified OLS*

1. INTRODUCTION

The advent of globalization gives rise to increased financial and trade liberalization in emerging markets and developing countries. However, along with globalization, there is increasing uncertainty and risks stemming from economic, financial and political factors due to the greater interdependence among countries. More frequent episodes of financial crises are among the many facets of the adverse side to globalization.

In Malaysia, more than forty percent of its total imports comprises of intermediate and capital goods that are used to fuel production for exports. Thus, the impact of risks on imports would have an indirect consequence on exports. Given that the country's economic growth has been very much export-led, the effects of risks on imports should be of primary concern to international businesses and policymakers. In general, a rise in the level of risks is often linked to an increase in overall trading costs.

Existing studies have generally focused on risks emanating from exchange rate fluctuations such as volatility and misalignment to portray the effect of risks on international trade. Results from such studies were mixed. Nevertheless, a majority of the studies show evidence of negative effects of exchange rate risks on imports. Of late, studies began to incorporate the role of institutional and geographical factors to further understand the behavior of imports. However, there is a huge concentration of study on the impact of these factors on economic growth and foreign direct investment (see Arbia, Battisti, and Di Vaio, 2010; Gallo and Dall'erba, 2006; Olsson and Hibbs, 2005; Ramajo, Marquez, Hewings and Salinas, 2008; Strulik, 2008; Busse and Hefeker, 2006). The present study makes a significant contribution to the body of knowledge in that it specifically focuses on political risks and their impacts on Malaysia's imports. To the best of our knowledge, there is no known work that examines the role of political risks in influencing imports.

A wide array of indicators for political risk is used to examine their relative importance on imports. Twelve elements of political risks were introduced. These risks are, as those defined by the International Country Risk Guide (ICRG) provided by the Political Risk Services (PRS) group for countries deemed important in international business. Based on the ICRG survey, the political risks elements are categorized as Government Stability (GS), Socioeconomic Condition (SC), Investment Profile (IP), Internal Conflict (IC), External Conflict (EC), Corruption (C), Military in Politics (MP), Religious Tensions (RT), Law and Order (LO), Ethnic Tensions (ET), Democratic Accountability (DA), and Bureaucracy Quality (BQ). We therefore empirically gauge whether changes in these twelve components of political risk increase or decrease imports significantly. The results show how different political risk elements have differential effects on imports.

Using the fully modified OLS method, results obtained show that political risk arising from socio-economic conditions, law and order, religion in politics, democratic accountability, and bureaucracy quality affect imports in the long run. Thus, the present study provides initial evidence that political risks do influence imports. The rest of the paper is structured as follows. The next section provides a brief discussion on some of the existing literature on the subject. In section 3, the differentiated import

model based on Flam and Helpman (1987) is discussed. The model is augmented to include the effect of political risk on imports. Section 4 summarizes the method used to estimate the effect of political risks on imports. Section 5 discusses and interprets the results of the empirical analysis. Lastly, section 6 provides some recommendations for trade policy-making.

2. REVIEW OF LITERATURE

As mentioned in the preceding section, a large body of literature has focused on the impact of exchange rate risks on imports while there is a dearth of literature on the effects of political risks on imports. The studies on exchange rate and imports capture risks in terms of volatility and misalignment. The earlier literature focuses on the impact of exchange rate volatility on exports and imports (see Kenen and Rodrick, 1986; Cushman, 1988; Koray and Lastrapes, 1989; and Chowdury, 1993; among many others) while more recent literature captures risk in terms of misalignment (see Toulaboe, 2006). A range of proxies has been used to capture volatility while several models have been developed to establish the real equilibrium exchange rate and subsequently, the degree of misalignment.

While there is a lack of studies that examine the impact of political risks on imports, there are a growing number of literatures on the effects of political risks on FDI. One such study by Busse and Hefeker (2006) which investigates investment flows to eighty three developing countries, finds that amongst the twelve indicators of political risk based on the ICRG, government stability, absence of internal and ethnic tensions, basic democratic rights and ensuring law and order affect FDI inflows positively. Clare and Gang (2010) find political stability increases FDI only in developing countries.

More recently, Baek and Qian (2011) find political risk significant in both industrialized and developing countries. All three studies measure political risk as decreasing when the index increases. On the other hand, Jimenez (2011) found contradictory results in which FDI flows from Southern European countries appear attracted to nearby developing regions such as North African and new European Union member states only when there is a greater level of political risk. The risk in

his study is measured through scales of political discretion, corruption, and economic freedom.

The studies discussed above demonstrate that there is a growing trend of incorporating political risk indicators in FDI studies. Nevertheless, the interest on imports and political risk nexus is still in its infancy. As barriers to trade fall, emerging markets become vulnerable to political risks that are mainly beyond their control. The increased presence of political risks would cause foreign transactions to be more complex compared to domestic trade. Studies by Anderson and Marcouiller (2002) and Meon and Sekkat (2004) as confirmed also by Moser, Nestmann and Wedow (2008), exhibit evidence that political risks and low quality institutions hinder the involvement of higher risk countries in international trade. Moser et al, however, examine the effect of political risk on trade but the focus is on exports.

Even though many businesses identify the influence of political risks as a major risk in foreign trade, they merely use 'intuition' to deal with the potential risks (Fitzpatrick, 1983). Thus, the need to have models that are capable of empirical evaluation is timely.

3. THEORETICAL MODEL

The following theoretical discussion uses Flam and Helpman (1987) as the underlying model to analyze the impact of risks on imports. The main objective in this section is to theoretically develop an import demand model, which incorporates the impact of risk on imports, instead of on an ad-hoc basis.

The utility function of an agent consuming *x* and *y* are given by,

$$U = u_x^{\alpha} c_y^{1-\alpha} \tag{1}$$

where u_x is the sub-utility level obtained through the consumption of various differentiated products and c_y represents the consumption of homogenous goods. The sub utility function u_x is modeled as a constant elasticity of substitution in the form,

$$u_x = \left[\sum_{i=1}^{n} d_i^{(1-1/\sigma)} + \sum_{i=1}^{n^*} d_{fi}^{(1-1/\sigma)} \right]^{1/(1-1/\sigma)} \quad (2)$$

where σ is the elasticity of substitution and $\sigma > 1$ so that marginal revenue is positive. *n* and *n** represent the number of varieties of the domestically produced and imported goods. d_i denotes the consumption of domestic product of variety *i* and d_{fi} shows the consumption of imported product of variety *i*. The demand function for differentiated products consisting of domestic and imported varieties based on (2) adapted from Dixit and Stiglitz (1977) are,

$$d_i = \frac{p_i^{-\sigma}}{\sum_{j=1}^{n} p_j^{1-\sigma} + \sum_{j=1}^{n^*} p_{fj}^{1-\sigma}} \alpha_i Y \quad \text{for} \qquad i = 1,2,.....,n \quad (3)$$

$$d_{fi} = \frac{p_{fi}^{-\sigma}}{\sum_{j=1}^{n} p_j^{1-\sigma} + \sum_{j=1}^{n^*} p_{fj}^{1-\sigma}} \alpha_i Y \quad \text{for} \qquad i = 1,2,.....,n^* \quad (4)$$

where homogenous good is considered the numeraire, $p_y = 1$, p_i is the consumer price of domestically produced variety i, p_{fi} is the consumer price of the imported variety i, p_j represents the consumer price of foreign variety j and Y is total spending of the country proxied by income. Next, $\alpha_i Y$ is spending on the different variety of the differentiated goods, x.

Assuming free trade in y, then $p_y = p_y^* = 1$. Similarly, the imported foreign varieties are equally prices as $p_{fi} = p_i^* = 1$. Hence, the risks (R) results in the price of imported variety as follows:

$$p_{fi} = (1+R)\, p_i^* = 1 + R \quad \text{for} \qquad i = 1,2,.....,n^* \quad (5)$$

where *R* captures the impact of risks. Then, the downward sloping for domestic and import demand curve is as follows,

$$d_i = \frac{p_i^{-\sigma}}{\sum_{j=1}^{n} p_j^{1-\sigma} + n*(1+R)^{1-\sigma}} \alpha_i Y \quad \text{for} \quad i = 1,2,.....,n \tag{6}$$

$$d_{fi} = \frac{(1+R)^{-\sigma}}{\sum_{j=1}^{n} p_j^{1-\sigma} + n*(1+R)^{1-\sigma}} \alpha_i Y \quad \text{for} \quad i = 1,2,.....,n \tag{7}$$

$$d\frac{d_{fi}}{R} = [\sigma(1+R)^{\sigma-1}(\sum_{j=1}^{n} \frac{1}{p_j^{\sigma-1}}) + n*]^{-2} \alpha_i Y \tag{8}$$

$$d\frac{d_{fi}}{Y} = \frac{1}{(1+R)^{\sigma}(\sum_{j=1}^{n} \frac{1}{p_j^{\sigma-1}}) + n* - n*R} \alpha_i \tag{9}$$

Since $\sigma > 1$, $d\frac{d_{fi}}{R} < 0$ and $d\frac{d_{fi}}{Y} > 0$ where an increase in income (*Y*) and risk indicator (*R*) will cause d_{fi} to increase.

Based on the above discussion, the aggregate import demand has the following separable form,

$$M = f(Y, P, Risk) \tag{10}$$

where *M* denotes real import, *Y* is real income, P represents import price, and *R* capture the risks. We expect real income to positively affect imports while increase in import price to decrease real imports. An increase in the political risk index indicates less risk and better institutions (Busse and Hefeker, 2006). Thus, in general, we predict all 12 indicators to be positively related to imports as less political risk and better institutions generate greater certainty in international trade transactions. This would increase imports in the nation.

4. ESTIMATION METHOD

The theory of time series econometrics model has developed a number of applicable methods for the estimation of parameters describing the long run relationships of the macroeconomic variables. Unit root testing and cointegration has long been recognized as mechanisms to calculate the parameters of the intended variables. In

general, any long run time series estimation is based on the work of Engle Granger (1987) [two-step cointegration], Phillips and Hansen (1990) [Fully Modified OLS], Johansen (1991) [multivariate vector error correction model], Stock and Watson (1993) [Dynamic OLS] and Pesaran et. al (2001) [Bounds Testing and ARDL approach]. This study relies on the fully modified OLS method.

A. Fully Modified OLS (FM-OLS)

Developed by Phillips and Hansen (1990), FM-OLS offers several advantages. First, it eliminates sample bias. Second, FM-OLS corrects for serial correlation and endogeneity. Third, FM-OLS is also superior in finite samples in terms of bias and mean square error and has been found to have good size and power properties (Chambers, 2011). Since FM-OLS is a single equation linear model, this technique should be adopted in the presence of one cointegration vector only and regressors are stationary at first differences, *I(1)*. To conserve space, a brief explanation is provided based on Phillips and Loretan (1993) as below.

A single equation method based on OLS is as follows.

$$y_{1t} = \beta' y_{2t} + u_{1t} \tag{11}$$

Let β^* be the OLS estimator of β in equation (11), where

$$\beta^* = (Y_2' Y_2)^{-1} Y_2' y_1 \tag{12}$$

then

$$T(\beta^* - \beta) \Rightarrow \left(\int_0^1 S_2 S_2'\right)^{-1} \left(\int_0^1 S_2' dS_1 + \sigma_{21}\right) \tag{13}$$

Written in Phillips (1989) Lemma 3.1,

$$S_1 = \sigma_{21}' \Sigma_{22}^{-1} S_2 + S_{1.2} \tag{14}$$

where the conditional variance of u_{1t} given u_{2t} is given by $S_{1.2}(r) = BM(\sigma_{11.2})$ and $\sigma_{11.2} = \sigma_{11} - \sigma_{21}^{'}\Sigma_{22}^{-1}\sigma_{21}$.

Hence, the limit variate for equation (13) is given by

$$\left(\int_0^1 S_2 S_2^{'}\right)^{-1}\left(\int_0^1 S_2 dS_{1.2}\right) + \left(\int_0^1 S_2 S_2^{'}\right)^{-1}\left(\int_0^1 S_2 dS_2^{'}\right)\sum_{22}^{-1}\sigma_{21}$$
$$+\left(\int_0^1 S_2 S_2^{'}\right)^{-1}\sigma_{21} \qquad (15)$$

To correct for serial correlation in σ_{21}, a consistent estimator $\hat{\sigma}_{21}$ for σ_{21} is introduced hence the OLS estimator is modified as below.

$$\beta^{**} = (Y_2^{'}Y_2)^{-1}(Y_2^{'}y_1 - T\hat{\sigma}_{21}) \qquad (16)$$

Next, to correct for endogeneity of y_{2t} in equation (11), the correlations between the Brownian motions S_1 and S_2 in equation (15) must be removed by constructing

$$y_{1t}^{+} = y_{1t} - \hat{\sigma}_{21}\hat{\Sigma}_{21}^{-1}\Delta y_{2t},$$
$$\hat{\delta}^{+} = \hat{\Delta}\begin{bmatrix} 1 \\ -\hat{\Sigma}_{22}^{-1}\hat{\sigma}_{21} \end{bmatrix} \qquad (17)$$

where $\hat{\Delta}$ is a consistent estimate of $\Delta = \sum_{k=0}^{\infty} E(u_{20}u_k^{'})$ and $\hat{\Sigma}$ is consistent with Σ.

Therefore, the fully modified OLS estimator which corrects for both endogeneity and serial correlation is written as

$$\beta^{+} = (Y_2^{'}Y_2)^{-1}(Y_2^{'}y_1^{+} - T\hat{\delta}^{+}) \qquad (18)$$

β^+ follows the same asymptotic behavior as the full systems of maximum likelihood estimation. Given these corrections, estimation of the long run equilibrium will be fully efficient and asymptotically unbiased.

B. Data and Definition of Variables

Sources of data and definition of variables are as follow. The data is annual, ranging from 1984 to 2011 with 28 observations.

Real Import (I) is Imports deflated using the consumer price index (CPI), producer price index (PPI) and GDP deflator. Results are almost similar, hence, imports deflated using CPI is chosen. Data is obtained from the Department of Statistics and the International Financial Statistics (IFS), International Monetary Fund (2012).

Real Income (Y) is calculated based on Malaysia's GDP deflated using the GDP deflator. Data on GDP and GDP deflator are obtained from Monthly Bulletin Statistics, Bank Negara Malaysia, Economic Planning Unit and Department of Statistics, Malaysia respectively.

Prices (P) is proxied by import price. Data is obtained from the Department of Statistics, Malaysia.

Risks (R) capture political risks. Political risks are as described in section 1. Data is obtained from ICRG, The PRS Group (2012). Each indicator ranges from 0 to 12.

5. RESULTS AND DISCUSSION

Thirteen models were estimated to gauge the influence of different types of political risks on Malaysia's imports (refer to Panels A and B). In all models, it can be observed that real income and import price are consistently significant. Furthermore, the coefficient values for each variable do not deviate much across the different models. Additionally, they exhibit the expected signs. Based on these results, we can conclude

that increases in real income and import price would increase and decrease real imports respectively.

TABLE 1: FM-OLS ESTIMATION – DEPENDENT VARIABLE : IMPORTS (1984-2011)

Panel A	1	2	3	4	5	6	7
Y	0.829***	0.712***	0.723***	0.843***	0.822***	0.945***	1.022***
	(0.0327)	(0.052)	(0.064)	(0.044)	(0.062)	(0.092)	(0.123)
P	-0.649***	-1.364***	-0.982***	-0.717***	-0.772***	-0.824***	-1.483***
	(0.228)	(0.229)	(0.202)	(0.234)	(0.232)	(0.209)	(0.469*)
D	-0.009	-0.013	0.001	-0.035	-0.013	-0.031	0.010
	(0.023)	(0.026)	(0.038)	(0.030)	(0.032)	(0.032)	(0.031)
C	-0.295	0.955	0.664	-0.478	0.012	-1.115	-0.501
	(0.387)	(0.489)	(0.528)	(0.568)	(0.710)	(0.857)	(0.510)
GS	0.006	-	-	-	-	-	-
	(0.006)						
SEC	-	0.042***	-	-	-	-	-
		(0.013)					
INV	-	-	0.029	-	-	-	-
			(0.013)				
IC	-	-	-	0.020	-	-	-
				(0.017)			
EC	-	-	-	-	-0..8	-	-
					(0.027)		
COR	-	-	-	-	-	0.055	-
						(0.038)	
RIP	-	-	-	-	-	-	-0.115
							(0.068)

Table 1: continued

Panel B	8	9	10	11	12	13
Y	0.815***	0.849***	0.822***	0.906***	0.756***	1.351***
	(0.042)	(0.071)	(0.043)	(0.029)	(0.073)	(0.199)
P	-0.814***	-0.937***	-1.360***	-1.001***	-1.401***	-1.848***
	(0.199)	(0.377)	(0.416)	(0.135)	(0.249)	(0.508)
D	0.014	-0.006	-0.018	0.030	0.020	-0.039
	(0.029)	(0.032)	(0.030)	(0.019)	(0.013)	(0.031)
C	0.144	-0.087	0.335	-0.053	1.209***	-2.808
	(0.447)	(0.473)	(0.525)	(0.277)	(0.382)	(1.083)
RIP	-	-	-	-	-	-0.170**
						(0.076)
LO	-0.033	-	-	-	-0.067***	0.117**
	(0.016)				(0.019)	(0.043)
ET	-	-0.009	-	-	0.0420	-
		(0.025)			(0.022)	
DA	-		0.037	-	0.061***	-
			(0.025)		(0.015)	
BQ	-		-	-0.163***	-0.119***	-
				(0.022)	(0.025)	

Notes: *** and ** denote 1% and 5% significance level. Abbreviations are as follows: Y - income, P – real price, D – crisis dummies, C – constant, GS – government stability, SEC – socio-economic conditions, INV – investment profile, IC- internal conflict, EC – external conflict, COR – corruption, MIP – military in politics, RIP – religion in politics, LO – law and order, ET – ethnic tension, DA – Democratic Accountability and BQ – Bureaucracy Quality. Standard errors are in parentheses.

Of the 7 models estimated in Panel A, only the variable socio-economic conditions (SEC) appear to exert a significant positive effect on imports. This means that an improvement in the nation's socio-economic condition which entails less political risk, leads to an increase in imports. In Panel B, religion in politics, law and order, democratic accountability, and bureaucracy quality are significant. Nevertheless, the values of their coefficients tend to be relatively small.

Results demonstrated by law and order variable are mixed as shown in models 12 and 13. Thus, solid conclusion of the actual effect of law and order on imports cannot be proposed and further tests need to be undertaken to ensure robustness of the results. The coefficient signs for bureaucracy quality and religion in politics are negative, which is counterintuitive. This implies that better condition in bureaucracy quality and religious harmony tends to deter imports. This is quite perplexing and worthy of extended investigation. As for democratic accountability, the positive sign obtained indicates that an improvement in accountability helps reduce economic instability, thus providing a more stable international business environment.

7. CONCLUSION AND IMPLICATIONS

In this paper, an empirical test of the augmented differentiated import model has been conducted to provide a preliminary assessment of the impact of political risk on imports in Malaysia. Out of the various components of political risk examined, only socio-economic conditions, law and order, religion in politics, democratic accountability, and bureaucracy quality have significant impact on imports. Furthermore, the coefficients are small inferring relatively low impact. In addition, not all aspects of political risk affect imports in the same way. This study provides some preliminary evidence that political risks do have an impact on imports in the long run. Hence, it is recommended that future studies should try to incorporate political risks as part of their analysis. As political risk influences imports, it is further recommended that the government reduce red tapes that could lead to a more conducive business environment. Socio-economic conditions, law and order, and accountability should be improved to further enhance trade.

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REFERENCES

G. Arbia, M. Battisti and G. Di Vaio, "Institutions and geography: Empirical test of spatial growth models for European regions". *Economic Modelling*, vol 27, pp. 12-21, 2010.

J. Le Gallo, and S. Dall'erba. " Evaluation gthe temporal and spatial heterogeneity of the European convergence process, 1980-1990", *Journal of Regional Science*, vol 46, pp. 269-288, 2006.

O. Olsson and D.A. Hibbs Jr. "Biogeography and long run economic development", *European Economic Review*, vol 49, pp. 909-938, 2005.

J. Ramajo, M.A. Marquez, G.J.D. Hewings and M.M. Salinas. "Spatial heterogeneity and interregional spillovers in the European Union: do cohesion policies encourage convergence across regions?, *European Economic Review*, vol. 52, pp. 551-567, 2008.

H. Strulik. "Geography, health and the pace of demo-economic development", *Journal of Development Economics*, vol 86, pp. 61-75, 2008.

H. Flam and E.Helpman, "Industrial Policy under Monopolistic Competition", *Journal of International Economics*, vol 22, pp. 79-102, 1987.

Busse, M and Hefeker, C. (2006). Political risk, institutions and foreign direct investment, *European Journal of Political Economy*, 23, 2, 397-415.

Clare, G. and Gang, I.N. (2010). Exchange rate and political risks, again, *Emerging Markets Finance & Trade*, 46, 3, 46-58.

Jimenez, A. (2011). Political risk as a determinant of Southern European FDI in neighboring developing countries, *Emerging Markets Finance & Trade*, 47, 4, 59-74.

P. Kenen and D. Rodrick, "Measuring and analyzing the effect of short term volatility on real exchange rates", *The Review of Economics and Statistics*, 68, 311-315, 1986.

D.O. Cushman, "US bilateral trade flows and exchange risk during the floating period", *Journal of International Economics*, 24, 317-330, 1988.

F. Koray and W. Lastrapes, "Real exchange rate volatility and US bilateral trade: A VAR approach", *Review of Economics and Statistics*, 71, 708-712, 1989.

A.R. Chowdhury, "Does exchange rate volatility depress trade flows? Evidence from error correction models", *Review of Economics and Statistics*, 75, 700-706, 1993.

D. Toulaboe, "Real Exchange Rate Misalignment and Economic Growth in Developing Countries", *Southwestern Economic Review*, 33(1), 57-72, 2006.

R.F. Engle and C.W.J.Granger, "Cointegration and Error Correction : Representation, Estimation and Testing", *Econometrica*, vol. 55 (2), pp. 251-276, 1987.

Phillips, P.C.B. and B.E. Hansen, (1990). Statistical Inference in Instrumental Variables with Regression with I(1) Process. *Review of Economic Studies*, 57, 99-125.

S. Johansen, "Likelihood analysis of seasonal cointegration", *Journal of Econometrics*, vol. 88 (2), 301-339, 1999.

Stock, J.H. and M.W. Watson, "A Simple Estimation of Cointegrating Vectors in Higher Order Integrated Systems", *Econometrica*, 61, p. 783-820, 1993.

M.H. Pesaran, Y. Shin, and R.J. Smith, " Bounds testing approach in the analysis of level relationships', *Journal of Applied Econometrics*, vol 16, pp. 289-326, 2001.

M.J. Chambers, "Cointegration and sampling frequency", *The Econometrics Journal*, vol 14(2), pp. 156-185, 2011.

P.C.B. Phillips and Loretan "Estimating long run economic equilibria", *Review of Economic Studies*, 58, 407-436, 1991.

M. Fitzpatrick, "The definition and assessment of political risk in international business: A review of the literature", *Academy of Management Review*, 8, 2, 249-254.

C. Moser, T. Nestmann and M. Wedow (2008). "Political risk and export promotion: Evidence from Germany", *The World Economy*, doi: 10.1111/j.1467-9701.2008.01102.x

K. Baek, and X. Qian, "An analysis on political risks and the flow of foreign direct investment in developing and industrialized economies", *Economics, Management, and Financial Markets*, vol 6(4), p. 60-91, 2011.