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Outward FDI and Institutional Factors: Malaysian Experience

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Abstract

This paper aims to investigate the role of home country institution in affecting outward FDI from Malaysia using data spans from 1980 to 2012. The model specification is examined in autoregressive distributed lag (ARDL) bounds testing framework. The empirical evidence reveals that GDP, exchange rate, openness to trade, and corporate tax rate are the key drivers of outward FDI from Malaysia. This portrays that internationalization strategy of firms is not only relied on home macroeconomic environment, but also home institution. More importantly, corporate tax rate, as one of the institution factors, is positively related to outward FDI which signifies that high tax rate would prompt local firms to engage in investment abroad as a sign of escape response. This reflects that international expansion appears to be exit strategy from home country instead of entry strategy into foreign markets. The findings have some important implications on internationalization strategy of firms.

Keywords: Outward FDI; Institution; Escape Response; ARDL; Malaysia

1. Introduction

Malaysia, a small Asian developing country, has always been the top recipient of FDI among neighbouring countries. A conductive investment environment such as good infrastructures, educated workforces and supportive government policies are among the factors that attract the FDI influx. The spur of FDI to Malaysia greatly complements domestic investment that allowing the country to experience resilient economic growth and high employment rates. Nonetheless, in recent years, the trend of FDI in Malaysia has changed. The country's competitiveness in hosting FDI was deteriorating where FDI inflows to Malaysia began to decline. One of major reasons is due to the emergence of new attractive locations such as China and India that enrich with low-cost factor of production and huge markets size (Goh and Wong, 2011). While the inflow of FDI is growing at slower pace, the outward FDI

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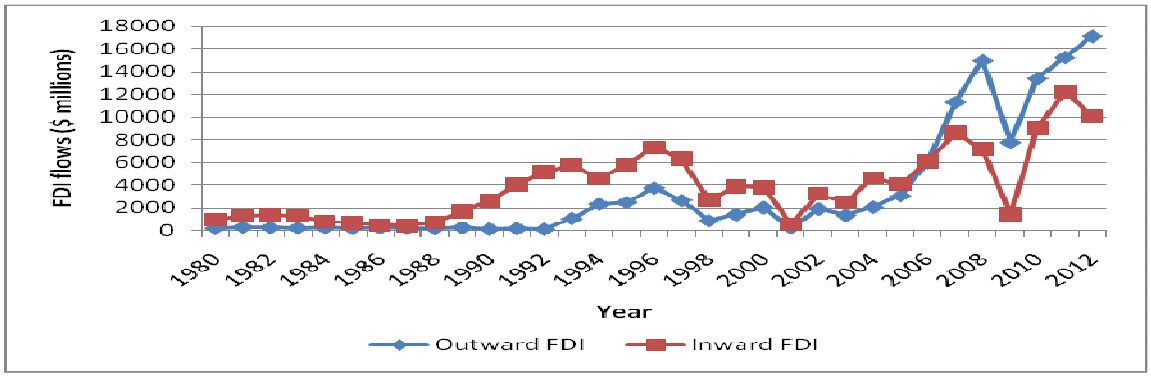
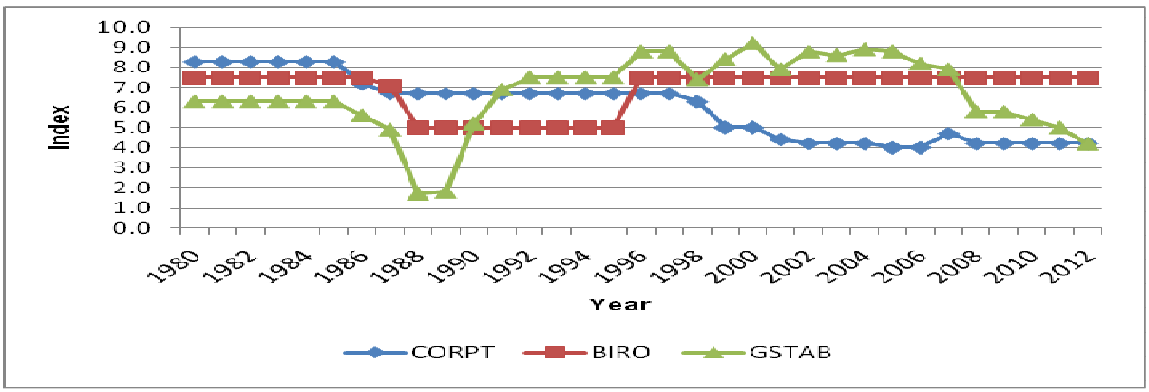
of Malaysia demonstrates an upward trend. Furthermore, the outward FDI is even greater than inward FDI. Figure 1 exhibits the trends of inward and outward FDI of Malaysia from 1980 to 2012. As shown in Figure 1, Malaysian outward FDI remained low in 1980s with a negligible amount. The amount of FDI outflows reached the peak at almost $4000 millions in 1996. It shrunk substantially in 1998 in respond to Asian financial crisis. Starting from year 2003 capital outflows recorded a continuous upward trend till 2012, except a downturn in 2009. Interestingly, thereafter 2007, a visible shift has struck the FDI landscape of Malaysia where outward FDI has exceeded inward FDI. The changing trend of FDI has transformed the country which was initially a capital importer to a capital exporter and also the net capital exporter in ASEAN region (Menon, 2012). Witness this transformation, we are curious to explore what are the factors that lie behind the rise of Malaysian outward FDI.



Source: UNCTAD, FDI database

Fig. 1. Inward and outward FDI flows of Malaysia, 1980-2012

In the meantime, the report of 10th Malaysia Plan 2011-2015 (Economic Planning Unit, Malaysia) reveals that Malaysian firms encounter a tangle of regulations that impede innovation and growth. Figure 2 illustrates the selected institutional indicators of Malaysia. We observe that the quality indexes for corruption and government stability are sliding down in recent years.



Source: ICRG

Notes: CORPT is corruption; BIRO is bureaucracy; GSTAB is government stability. These indicators are adjusted to 10 points as maximum value. A higher point indicates better governance.

Fig. 2. Selected institutional indicators of Malaysia, 1980-2012

Furthermore, the Global Competitiveness Report 2009-2010 (The World Economic Forum) identified that inefficient government bureaucracy, corruption and policy instability are the challenges for doing business in Malaysia. Besides, corporate tax rate in Malaysia is relatively high in the East Asian region. It can be seen from Table 1, as at 2010, Thailand corporate tax rate is higher than Malaysia. Malaysia, China and Vietnam shared the same tax rate. However, Thailand and Vietnam had gradually reduced their corporate tax rate. This left Malaysia and China with the highest corporate tax rate in the region. High tax rate is a cost disadvantage to the business firms that may reduce competitiveness of Malaysia in attracting and sustaining both domestic and foreign investments.

Table 1. Corporate tax rate in selected countries, 2010-2014.

Countries /Year	Corporate tax rate (%)				
	2010	2011	2012	2013	2014
Malaysia	25	25	25	25	25
Cambodia	20	20	20	20	20
China	25	25	25	25	25
Thailand	30	30	23	20	20
Vietnam	25	25	25	25	22
Singapore	17	17	17	17	17

Source: http://www.kpmg.com/global

Following the tremendous increase in outward FDI and unfavourable institutional environment, it is doubtful whether Malaysian firms engaging in outward FDI as a sign of escape response to shun away from institutional burdens. Therefore, it is our interest, from both the theoretical and policy perspectives, to examine how the home country institution affects Malaysian outward FDI.

There are numerous literatures study the determinants of inward FDI in Malaysia (Ang, 2008; Choong and Lam, 2010; Hasli et al., 2015). However, a few have explored the determinants of outward FDI from Malaysia. To our best knowledge, only Kueh et al. (2009) as well as Goh and Wong (2011) have investigated the determinants of outward FDI from Malaysia. Both studies used vector error-correction model (VECM) framework. This study differs from Kueh et al. (2009) as well as Goh and Wong (2011) by considering home institutional factors and using different estimation methods. This paper provides new evidence that highlights the role of home country institution in affecting Malaysian outward FDI. The home institutional issues addressed in this paper add more insight in explaining outward FDI from Malaysia as earlier studies[†] were mainly focused on the trends, the patterns and the determinants of outward FDI at firm-level.

In striking contrast to the previous literatures, the current study employs institutional factors in addition to macroeconomic factors. The findings of this study have some implications for policy. If the findings show that outward FDI from Malaysia is driven by escape response, perhaps policy makers should propose measures to strengthen institutional quality to improve the efficiency of government services and assistances as well as reduce the regulatory pressures to increase participation of private sectors in economy. Otherwise, expansion abroad will turn into exit strategy from home country instead of entry strategy into foreign markets. Eventually, this will result in a shifting of headquarter operations in home country to overseas that will hamper economic development. This paper is crucially important and it extends the existing literatures in three directions. First, this study is among a few that takes a

[†] Ragayah (1999), Zainal (2005) and Tham (2007) conducted qualitative studies based on firm-level due to lack of secondary data. Ariff and Lopez (2008) studied the overall outward FDI from macro level without empirical estimations.

closer look at home institutional factor in explaining empirically outward FDI. Second, the study on development of outward FDI from Malaysia is relatively limited in comparison to other developing countries such as China. Third, we employ autoregressive distributed lag (ARDL) estimation instead of VECM which is more appealing for small sample size.

The rest of this paper is structured as follows. Section 2 provides some reviews on theoretical and empirical studies. Section 3 lays out the model specification and methodology. Section 4 reports the empirical results. Section 5 contains conclusion and policy implications.

2. Literature Review

We used Investment Development Path (IDP) theory developed by Dunning (1981) to explain the factors that drive a country to engage in outward FDI. According to IDP, the trends of inward and outward FDI are affected by the changes in the home macroeconomic environment as an economy develops. In this context, a country undergoes five stages of economic development depending upon its pattern of inward and outward investment. In stage one, there is a little inward and outward FDI in the least developed countries. In stage two, there is a rise in inward FDI into the country. Nonetheless, the outward FDI remains insignificant. ln stage three, the growth rate of inward FDI begins to decline while outward FDI experiences a rapid rise. In stage four, outward FDI demonstrates an upward trend to the extent of exceeding or equaling to the inward FDI. ln final stage, the net FDI positions fluctuate around zero, indicating that inward and outward FDI are likely to be increasing at the same rate. As a consequent, a country will experience an evolution from the role as a net recipient of FDI to a net contributor of FDI, owning to the competitive advantages of firms that are improving along these paths. Therefore, it makes a nation develops from 'the least developed' to 'developed' economy.

The rapid rise of outward FDI from developing countries in recent years has questioned the applicability of IDP in developing countries. Many of the low- and middle-income developing economies such as Brazil, China, and India, which are in stage one and stage two of IDP, are investing abroad substantially. The fundamental economic factors are insufficient to explain the rapid emergence of investment abroad undertaken by these economies. Hence, it poses a concern over the role of home country institution in propelling outward FDI which is not embedded in IDP theory (Peng et al., 2008; Stoian, 2013). Intuitively, home country institution can be classified as institutional support and institutional escapism. Institutional support indicates good governance that promotes competitive advantages of firms and it also reduces the transaction cost to the firms. These advantages ease the firms' overseas investment. On one hand, poor institution pushes firms invest abroad as a mean to avoid home country institutional burden. This leads to an escape response of firms. The escape response takes place when there is a misalignment between firms' strategic needs and home country institutional constraints that incurs extra cost to the firms (Witt and Lewin, 2007). Table 2 summarizes some reviews that relate to outward FDI as escape response. These studies pointed out that high tax rate and adverse institution environment are the factors that contribute to escape response.

Buckley et al. (2007) are among the earliest empirical works that include home institutional factor in Chinese outward FDI. In their study, Deng Xiaoping's South China Tour in 1992 was used as a dummy variable to capture China institutional liberalization towards outward FDI. The findings revealed that FDI liberalization policy has positive impact in motivating Chinese outward FDI. Similarly, Yan et al. (2010) also examined the impact of home institution on outward FDI of China non-financial enterprises. The study used state ownership control in the firms to reflect policy support from home government. The empirical findings indicated that outward FDI of China is government-led, in particular for resource and R&D-based foreign investment.

On the other hand, Kalotay and Sulstarova (2010) examined the association between home institution and outward FDI from Russia. The institution factor is represented by the change of presidency between Boris Yeltsin (1991-1999) and Vladimir Putin (1999-2008) to mirror the increasing state participation in some large MNCs. The study asserted that institution plays a significant role in determining Russian outward FDI. Likewise, Goh and Wong (2011) assessed the impact of home government policy on outward FDI of Malaysia. It is evident that Malaysian overseas investment is supported by central bank's large holding of international reserves. Stoian (2013) incorporated institution reformation in examining the linkage between governmental policies and outward FDI from Central and Eastern European (CEE) post-communist countries. The study alleged that outward FDI from CEE is driven by reformation in institution and competition policy that improve the economic development and market competition. Subsequently, domestic firms develop competitive advantages that allow them to venture abroad. Overall, these empirical studies claimed that outward FDI in developing economies is primarily driven by institutional support.

Table 2. Previous literature conceptualizing outward FDI as escape response

Author(s)	Mechanism driving escape	Evidence
Caves (1996)	Home country factors such as high tax rates can increase outward FDI.	Evidence summarized from previous studies.
Gordon and Hines (2002)	Firms may relocate their domicile to avoid high home country taxes.	Review of previous works on international taxation.
Schoppa (2006)	Outward FDI is in part an escape response to a burdensome home country institution environment.	Qualitative analysis of aggregate time series data of outward FDI trends in Japan; review of escape responses as conceptualized in political science.
Tallman(1988)	Home country political instability mediates outward FDI to the USA by companies in industrialized economies (Europe, Canada and Japan).	Pooled time-series cross-sectional regression of FDI investments in the USA from 14 industrialized countries, 1974-1980.

Source: Adapted from Witt and Lewin (2007)

3. Model Specification and Methodology

To examine the effects of home country institution on Malaysian outward FDI, we specify the model that incorporates macroeconomic determinants and institution variables which is expressed as:

$$\ln OFDI_t = \alpha + \beta_1 \ln GDP_t + \beta_2 \ln EX_t + \beta_3 \ln OPEN_t + \beta_4 \ln INST_t + \varepsilon_t \quad (1)$$

where t is time period and ε is error term. The annual data were collected from 1980 to 2012. *OFDI* denotes real outward FDI flows of Malaysia. The macroeconomic variables consist of real gross domestic product (*GDP*), real effective exchange rate index (EX), and openness to trade (OPEN). We use real GDP to measure the level of economic development. Economic development is the fundamental factor that is framed in the IDP theory. To avoid possible omitted variables bias, we include controlled variables that comprise exchange rate and trade openness which are mostly used in the previous literatures. The focal variable in this analysis is the institution (INST) factor. Institution factors encompass corporate income tax rate (*TAX*) and institutional indicators to represent institutional quality. The institutional indicators consist of bureaucracy quality (*BIRO*), corruption (*CORPT*), and government

stability (*GSTAB*). Each institution factor is tested separately in the regression as each variable measures different aspect of institution so that we can take care of each aspect and to reduce the problem of degree of freedom. Institution indicators are scaled from 0 to 10 where lower scores signify poor institutional quality and vice versa. All the variables are expressed in natural logarithm, except corporate tax rate.

Prior to estimating regression equation (1), we conduct unit root test on each of the variable by applying augmented Dickey and Fuller (1981) (ADF) unit root test and Philip and Perron (1988) (PP) unit root test to identify the order of integration. The hypothesis of ADF unit root test and PP unit root test are same where null hypothesis is nonstationary. If null hypothesis is rejected, then it is said that the variable does not contain unit root and it is stationary. To conduct cointegration test, we employ autoregressive distributed lag (ARDL) bounds test proposed by Pesaran et al. (2001). The ARDL bounds test has several advantages. First, the ARDL estimation is relevant for studies with small sample size such as in this study that covers 33 observations. Second, the ARDL bounds test does not restrict the underlying variables must be integrated of same order, says I(1). Instead, ARDL approach is applicable to variables irrespective of whether they are integrated of order zero [I(0)],order one [I(1)], or mutually cointegrated. To implement bounds test in ARDL framework, equation (1) is developed into unrestricted error correction model (UECM) as follow:

$$\begin{aligned}\Delta \ln OFDI_t = {} & \phi_0 + \theta_1 \ln OFDI_{t-1} + \theta_2 \ln GDP_{t-1} + \theta_3 \ln EX_{t-1} + \theta_4 \ln OPEN_{t-1} \\ & + \theta_5 \ln INST_{t-1} + \sum_{i=1}^{n} \gamma_{1i} \Delta \ln OFDI_{t-i} + \sum_{i=0}^{n} \gamma_{2i} \Delta \ln GDP_{t-i} \\ & + \sum_{i=0}^{n} \gamma_{3i} \Delta \ln EX_{t-i} + \sum_{i=0}^{n} \gamma_{4i} \Delta \ln OPEN_{t-i} + \sum_{i=0}^{n} \gamma_{5i} \Delta \ln INST_{t-i} + \varepsilon_{1t} \qquad (2)\end{aligned}$$

where Δ is first difference operator, n is optimal lag length and ε_t is white noise error term. To ascertain the presence of long-run equilibrium in the model, the ARDL bounds test uses joint F-test statistic that impose restrictions on joint significance of the coefficients on the lagged level of variables in equation 2. Hence, the null hypotheses of no cointegration is expressed as $Ho: \theta_1 = \theta_2 = \theta_3 = \theta_4 = \theta_5 = 0$ against alternative hypotheses of cointegration $Ho: \theta_1 \neq \theta_2 \neq \theta_3 \neq \theta_4 \neq \theta_5 \neq 0$.

The asymptotic distribution of F-test is nonstandard where it depends upon whether the corresponding variables are I(0) or I(1), the number of regressors, the sample size and whether intercept and/or a trend is included in ARDL framework. Pesaran et al. (2001) developed two sets of critical values where one set of critical values assume that all the underlying variables are I(0), while the other set assumes all variables are I(1). At the same time, I(0) is denoted as lower bound critical value and I(1) is denoted as upper bound critical value. If the computed F-test is greater than upper bound critical value, we reject the null hypothesis and indicate that exist cointegration among the variables. Likewise, if the computed F-test is smaller than lower bound critical value, we cannot reject null hypothesis of no cointegration. If the computed F-test falls within the upper and lower bound critical values, then the cointegration test is inconclusive.

Once cointegration is found in ARDL bounds test, we estimate the long-run coefficients of variables in equation 1 using ARDL $(s, r_1, r_2, r_3, r_4,)$ specification which is defined as:

$$\ln OFDI_t = \alpha_0 + \sum_{i=1}^{s} \alpha_1 \ln OFDI_{t-i} + \sum_{i=0}^{r_1} \alpha_2 \ln GDP_{t-i} + \sum_{i=0}^{r_2} \alpha_3 \ln EX_{t-i} + \sum_{i=0}^{r_3} \alpha_4 \ln OPEN_{t-i} + \sum_{i=0}^{r_4} \alpha_5 \ln INST_{t-i} + \mu_t \quad (3)$$

The optimal lag lengths s, r_1, r_2, r_3, r_4 in equation 3 are selected by the lowest value of Schwarz-Bayesian Criteria (SBC). To estimate the short-run dynamic coefficients of the variables, we specify error correction model that takes the following form:

$$\Delta \ln OFDI_t = \alpha_0 + \sum_{i=1}^{s} \alpha_{1i} \Delta \ln OFDI_{t-i} + \sum_{i=0}^{r_1} \alpha_{2i} \Delta \ln GDP_{t-i} + \sum_{i=0}^{r_2} \alpha_{3i} \Delta \ln EX_{t-i} + \sum_{i=0}^{r_3} \alpha_{4i} \Delta \ln OPEN_{t-i} + \sum_{i=0}^{r_4} \alpha_{5i} \Delta \ln INST_{t-i} + \phi ECM_{t-1} \quad (4)$$

where *ECM* is lagged error correction term with its coefficient of speed of adjustment (ϕ). The coefficient of the lagged *ECM* is expected to have negative sign and statistically significant to confirm that variables are adjusting back to long-run equilibrium following a disturbance in the model. We also examine the goodness of fit of the ARDL framework by performing diagnostic check of serial correlation test, functional form specification test, and heteroscedasticity test.

4. Empirical Results

4.1. Unit root and cointegration results

Table 3 shows the results of ADF and PP unit root tests. Both tests allow for a constant and deterministic trend. ADF and PP tests indicate that all variables are nonstationary at level and they become stationary after first differencing. Therefore, *GDP, EX, OPEN, TAX, BIRO, CORPT,* and *GSTAB* are integrated of order one, I(1).

Table 3. Unit root tests

Series	Level		First Difference	
	ADF	PP	ADF	PP
OFDI	-3.19	-3.18	-7.52***	-7.52***
GDP	-2.04	-2.11	-5.59***	-5.66***
EX	-2.10	-2.10	-5.21***	-5.23***
OPEN	-0.49	-0.41	-3.26*	-8.01*
TAX	-1.77	-1.87	-5.19***	-5.20***
BIRO	-1.87	-1.91	-5.36***	-5.36***
CORPT	-2.19	-2.37	-5.86***	-5.86***
GSTAB	-1.63	-2.05	-5.95***	-4.89***

Notes: For ADF, SBC is used to select the optimal lag length. The maximum number of lags is set to be 8. For PP, Barlett Kernel is used as the spectral estimation method. The bandwidth is selected using the Newey-West method. The asterisks ***, ** and * denote significant at 1%, 5% and 10% level, respectively.

We apply ARDL bounds test for cointegration with a maximum lag length of 2. Table 4 reports bounds cointegration test. The computed *F*-statistics for all models are greater than upper bound critical value at their respectively significance levels, indicating the existence of long-run equilibrium relationship between outward FDI and its determinants.

Table 4. ARDL bounds test for cointegration

Model for estimation	*F*-statictics	Lower-upper bound at 1%	Lower-upper bound at 5%	Lower-upper bound at 10%
Model 1; OFDI= f(GDP, EX, OPEN, TAX)				
F(OFDI/GDP EX OPEN TAX)	6.789***	4.768-6.670	3.354-4.774	2.752-3.994
Model 2: OFDI= f(GDP, EX,OPEN,BIRO)				
F(OFDI/GDP EX OPEN BIRO)	4.924**	4.768-6.670	3.354-4.774	2.752-3.994
Model 3: OFDI= f(GDP, EX,OPEN,CORPT)				
F(OFDI/GDP EX OPEN CORPT)	4.396*	4.768-6.670	3.354-4.774	2.752-3.994
Model 4: OFDI= f(GDP, EX,OPEN,GSTAB)				
F(OFDI/GDP EX OPEN GSTAB)	5.769**	4.768-6.670	3.354-4.774	2.752-3.994

Notes: ***, **and * denotes 1%, 5% and 10% significance level, respectively. The critical values are extracted from Narayan (2005), using Case III.

4.2 Long-run estimates

Table 5 presents the long-run estimates for the respective models. GDP and exchange rate are statistically significant in all models. The results show that a percentage increase in GDP leads to 4.39%-7.48% increase in outward FDI. The result is coherent with the findings of Gao et al. (2013), Kueh et al. (2009), and Stoain (2013), suggesting that the relationship between home country development and outward FDI is robust as projected in IDP theory. Specifically, this has proven that resilient economic growth is an essential state for firms to invest abroad. The positive relationship between exchange rate and outward FDI indicates that strong currency facilitates foreign acquisitions and capital financing thus increases the propensity of firms to invest abroad. The study of Fung et al. (2009), Goh and Wong (2011), and Kyrkilis and Pandelidis (2003) also demonstrated the same findings. Openness to trade is statistically significant at 5% in Model 1 and carries the expected sign of positive which is consistent with Goh and Wong (2011) as well as Kueh et al. (2009). Outward-oriented policy is always a favourable regime of Malaysian government to promote trade openness. Openness to trade is a platform for firms to change the strategy from exporting to investing abroad. Corporate tax rate is found to have positive association with outward FDI. Given a percentage point increase in corporate tax rate, the outward FDI would increase by 0.29%. In line with the study of Caves (1996) and Gordon and Hines (2002), firms undertake outward FDI as a platform to evade from high tax rate. Furthermore, Ang (2008) and Lucas (1993) also claimed that corporate tax rate is a deterrent in attracting FDI inflows to Malaysia.

Thus, high tax rate is not only a burden to domestic firms that resulting in an escape response, but also daunting foreign firms from investing in Malaysia. The institutional quality, i.e. bureaucracy (*BIRO*), corruption (CORPT), and government stability (*GSTAB*) carry negative signs. Nonetheless, they are statistically insignificant. Therefore, we found no empirical evidence that institutional quality is statistically significant in explaining outward FDI of Malaysia.

Table 5. ARDL estimates of long-run elasticities

Dependent variables: *Outward FDI*	Model 1 (1,2,1,0,1) Coefficients	Model 2 (1,2,1,0,0) Coefficients	Model 3 (1,1,2,1,2) Coefficients	Model 4 (1,0,2,2,1) Coefficients
Intercept	-141.605	-96.439	-92.834	-83.089
GDP	7.484***	5.038***	4.905***	4.388***
EX	9.225***	8.654***	7.989*	7.396**
OPEN	3.124**	1.669	0.7542	1.563
TAX	0.294*			
BIRO		-0.832		
CORPT			-0.193	
GSTAB				-0.235
Adjusted R^2	0.933	0.884	0.827	0.824
DW statistics	2.659	2.018	1.776	2.101

Notes: ***, ** and * denote 1%, 5% and 10% significance level, respectively.

4.2. Short-run and diagnostics

The short-run dynamic analysis is exhibited in Table 6. The coefficient of error correction term (ECM) is negative and statistically significant at 1% level in all models. This means that short-run deviation is corrected in the long-run equilibrium at a rate of 74% to 84% in the next period. The results of diagnostic tests for the reliability of the estimated coefficients show that at a 5% significance level, the *F*-statistics found no evidence of serial correlation, functional form misspecification, and heteroscedasticity.

5. Conclusion

This paper inspects the relationship between home country institution and outward FDI from Malaysia during the period 1980-2012. The motivation arises in correspond to the conceptual literatures which discuss the issue of outward FDI as an escape response from home country institutional constraints. Since 2007, Malaysia experienced a remarkable shift in FDI landscape where outward FDI has surpassed inward FDI that transformed the economy from capital importer to capital exporter. Furthermore, Malaysian firms encounter a tangle of regulations that hamper innovation and growth. Given this situation, we are prompted to investigate whether escape response is present in Malaysia. The findings of this paper could add to the existing literatures since empirical studies in this context is still lacking. The results indicate that Malaysian outward FDI is driven by GDP, exchange rate, trade openness, and corporate tax rate. This implies that internationalization strategies of firms are not only relied on home macroeconomic environment, but also home institution. More importantly, our study discovers a new finding that home institution acts as institutional escapism instead of institutional support that generally

found in developing countries literatures. The significance of corporate tax rate in influencing outward FDI explains that high tax rate would be a regulatory burden to domestic firms which result in the escape response. This reflects that international expansion tends to be dominated by exit strategy from home country instead of entry strategy to global market. We fear that exit strategy would eventually result in the relocation of headquarter operations in home country to overseas that retard the economic growth and employment. On the whole, a revision on corporate tax rate or incentives could be feasible to further strengthen the internationalization strategy of Malaysian firms.

Table 6. Short-run error correction representation

Dependent variables: $\Delta OFDI$	Model 1 Coefficients	Model 2 Coefficients	Model 3 Coefficients	Model 4 Coefficients
Intercept	-109.142	-71.069	-71.844	-69.644
ΔGDP_t	13.358***	12.247***	9.506**	3.678***
ΔGDP_{t-1}	-9.990***	-7.753**		
ΔEX_t	0.471	-0.881	1.590	4.710*
ΔEX_{t-1}			-2.088	-2.787
$\Delta OPEN_t$	2.408**	1.229	2.145	3.839*
$\Delta OPEN_{t-1}$				-2.033
ΔTAX_t	-0.119			
$\Delta BIRO_t$		-0.613		
$\Delta CORPT_t$			0.156	
$\Delta CORPT_{t-1}$			-1.311	
$\Delta GSTAB_t$				-0.324
ECM_{t-1}	-0.771***	-0.737***	-0.773***	-0.838 ***
Adjusted R^2	0.759	0.582	0.364	0.348
DW statistics	2.659	2.017	1.775	2.065
F-statistics	16.696 [.000]	8.081[.000]	4.026[.005]	3.315[.013]
Diagnostic tests				
LM serial correlation	*F*(1,19) = 4.122[.057]	F(1,20) = 0.013[.908]	F(1,18) =0.154[.699]	F(1,17) =0.521[.480]
Ramsey's RESET functional form	*F*(1,19) =1.139[.299]	F(1.20) = 2.542[.127]	F(1,18) =1.417[.249]	F(1,17) =1.533[.232]
Heteroscedasticity	*F*(1,28) = 0.0141[.906]	F(1,28) =0.050 [.824]	F(1,29) = 0.268[.608]	F(1,28) =0.005[.944]

Note: ***, **and * represent 1%, 5% and 10% significance level, respectively. Diagnostic tests results are based on *F*-statistics. Figures in [ ] are probability values.

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