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The Quality of Institutions and Foreign Direct Investment (FDI) in Malaysia

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ABSTRACT

Since the 1990's, institutional factors have been regarded as playing important roles in stimulating foreign direct investments (FDI). However, empirical studies on their importance in affecting FDI are still lacking, especially in regards to small open economies. This paper attempts to investigate the role of institutions in regards to the inflow of FDI in Malaysia's small open economy of Malaysia. Using the bounds testing approach (ARDL model), empirical findings reveal that a long-run relationship exists between FDI and institutional variables. Several institutional variables are found to play prominent roles in influencing the inflow of FDI, namely governmental stability, bureaucracy and corruption. Thus, providing and maintaining the quality of domestic institutions alongside the implementation of FDI friendly policies would be beneficial to Malaysian economic growth stemming from foreign investment.

Keyword: Institutions; Foreign Direct Investment (FDI); ARDL

INTRODUCTION

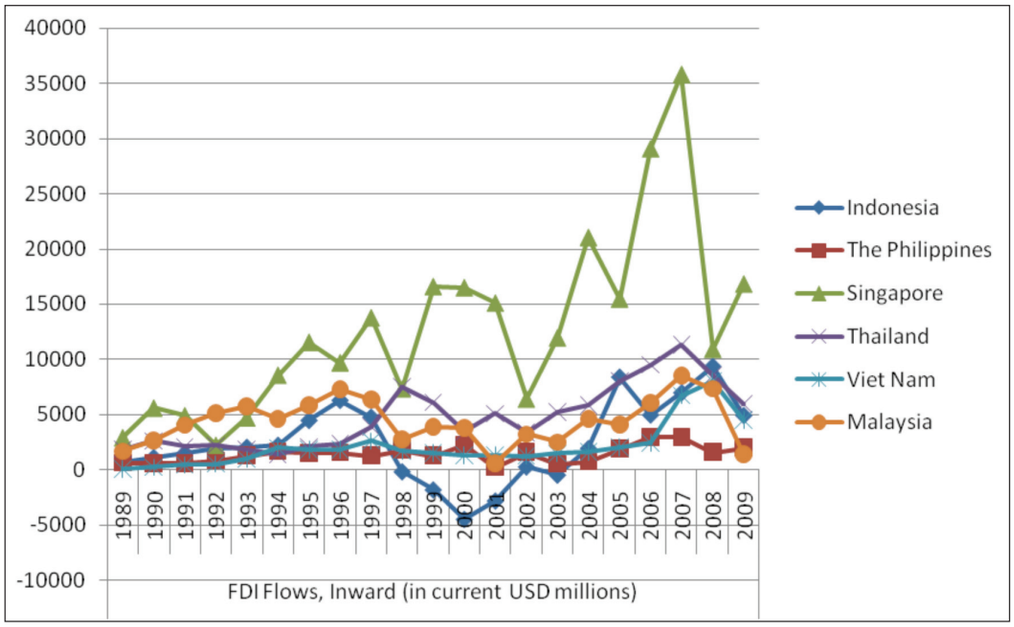
It is generally accepted that Foreign Direct Investment (FDI) is a key driver in promoting long-term economic growth, particularly in less-developed countries (LDC's) that have experienced a shortage of capital accumulation for their development. Verdier (2008) argues that domestic savings are linked to capital inflows where low savings rates attract more inflows of capital. Indeed, most of the LDC's that have effectively attracted more FDI have consistently experienced economic growth. Thus, most of the LDC's are highly dependent on FDI as a mechanism of economic growth and have been trying to attract foreign investors, particularly Multinational Enterprises (MNE's), by reducing barriers to FDI and offering various tax incentives and subsidies (Herzer 2008). As a result, most LDC's have been competing with each other in order to attract investment from MNE's, particularly the foreign investors from developed countries.

There is consensus among academic economists that FDI has a positive effect on economic growth. The significant effect of FDI on economic growth has motivated many researchers to study the main factors that generally determine the inflow of FDI into countries. The most important factors that determine the inflow of FDI are domestic market size; trade openness; cost of labour; persistency in economic growth; and low taxes and tariffs (Ang 2008).

However, most of the prior studies have not taken into account the role of institutions on FDI. Since the late 1990's, the literature on FDI has begun to focus on the quality of institutions as one of the key factors in explaining the inflow of FDI. Quere et al. (2007) provides three reasons why the quality of institutions may matter for attracting FDI. First, by raising productivity prospects, good governance and infrastructure may attract foreign investors. Second, poor institutions can bring additional costs to FDI (for example, in the case of corruption). The third reason stems from sunk costs, where FDI is particularly vulnerable to uncertainties arising from poor governmental efficiency; policy reversals; and general weaknesses regarding the enforcement of property rights and the domestic legal systems. Essentially, by maintaining quality governmental institutions, more investments can be attracted and the economic growth process can be expedited.

In the Malaysian economy, FDI has been seen as a key driver in promoting economic growth in export-oriented industries. Policy reforms – including the introduction of the Investment Incentive Act in 1968, the establishment of free trade zones in the early 1970s, and the provision of export incentives alongside the acceleration of open economy in the 1980s – led to a surge in FDI in the late 1980s (Ang 2008, 2009). Aside from policy factors, it is generally believed that sound macroeconomic management, sustained economic growth, the presence of a well functioning system, political stability, relatively low set-up costs, and a sufficiently trained labour force have made Malaysia an attractive prospect for FDI.

As can be seen in Figure 1, Malaysia experienced large FDI inflows in comparison to neighbouring countries during the early 1990's. Policy reforms, beginning as early as 1968, contributed to Malaysia's success in attracting FDI. In 1992, Malaysia received large amounts of FDI, even higher than Singapore. However, following the 1997-1998 Asian financial crisis, Malaysia began to receive less FDI in comparison to neighbouring countries. Initially, Thailand overtook Malaysia in regards to the receipt of FDI in 1998, followed by Indonesia in 2005. By 2009, all of Malaysia's neighbouring countries had become more successful in attracting FDI.



Source: United Nations Conference on Trade and Investment, Foreign Direct Investment Database.

FIGURE 1. FDI Inflows of Malaysia and Neighbouring Countries, 1989 – 2009 (USD Mil.)

In term of macroeconomic conditions, Malaysia is relatively better than neighbouring countries, with the exception of Singapore. This indicates that policy variables and sound macroeconomic conditions are inadequate in explaining the inflow of FDI. Indeed, good institutions are believed to have positive influences on economic development through the promotion of domestic as well as foreign investments. Thus, it is expected that the quality of institutions play a vital role in attracting the inflow of FDI into Malaysia.

This paper contributes to the existing literature in three ways. First, this paper examines the determinants of FDI inflow in Malaysia by focusing on several institutional variables, namely law and order, governmental stability, corruption, bureaucracy, and investment profile. Although Ang (2008) and Marial and Ngie (2009) study the determinants of FDI in Malaysia, none of them consider the role of institutional variables in their models. A better understanding of the role of institutions would be helpful to Malaysian leaders and policy makers when determining the appropriate actions to be taken to sustain and encourage the inflow of MNEs. Second, this paper uses a recent econometric technique, namely ARDL or the bounds testing procedure, proposed by Pesaran et al. (2001). The method is sufficient to deal with a small sample size and allows a mixture of the time series variables I(0) and I(1) to be collectively estimated. Third, many previous studies investigate the role of institutions by using cross sectional data or panel data methodology (see Busse and Hefeker (2007); and Quere et al. (2007)). These techniques, however, limit our understanding of the effect of institutions in an individual country. Thus, our study on Malaysia will shed some light on the importance of institutions in attracting FDI to a small open economy. Our findings reveal that a long-run relationship exists between FDI inflows and institutional variables. Several institutional variables – such as governmental stability, bureaucracy, and corruption – are found to play important roles in influencing the inflow of FDI.

The structure of this paper is organized as follows. Section 2 provides a short review of the literature by focusing on the effects of institutional variables on FDI. Section 3 presents the econometric methodology, focusing on definitions of the variables of interest as well as the ARDL model. The empirical results are discussed in Section 4, and, finally, Section 5 summarizes and concludes the study.

LITERATURE REVIEW

The literature relating to institutions and FDI is mainly connected to the study of the impact of the quality of institutions on FDI inward flows. An early study by Wheeler and Mody (1992) examines this issue in relation to U.S. firms. The investigation of 13 risk factor components (including bureaucracy, political stability, corruption, and the legal system quality) does not find that the quality of institutions significantly impacts the location of U.S foreign affiliates. According to Schmieding (1993), institutions encompass not only bureaucracies and administration, but also, more importantly, the entire body of formal laws, rules and regulations, as well as the informal conventions and patterns of behaviour that constitute the non-budgetary constraints under which economic agents can pursue their own individuals ends. In addition, the quality of institutions is closely related to reducing information asymmetries, as high quality institutions can channel information about

market conditions, goods and participants, which in turn encourages investment, either domestic or foreign. Indeed, the deeper understanding of the role of institutions in stimulating the inflow of FDI is pivotal for developing countries in order to design an appropriate FDI-friendly policy.

Other empirical studies have supported the affect of institutional variables on FDI. Wei (1997; 2000) for instance, finds that uncertainty in regards to corruption has negative effects on locations chosen for FDI. This is due to the fact that corruption involves additional costs for doing business because the investors have to bribe officials in order to get licenses and permits. Besides corruption, Busse and Hefeker (2007) also find that governmental stability; internal and external conflict; ethnic tensions; law and order; democratic accountability of government; and the quality of bureaucracy are highly significant in determining FDI inflows in the sample of 83 developing countries. Kaufman et al. (1999) demonstrate that political instability and violence; governmental effectiveness; regulatory burden; rule of law; and graft play a vital role in attracting inward FDI. Brunetti and Weder (1998) argue that there is a negative link between institutional uncertainty and private investment. In comparison, Lee and Mansfield (1996) find a positive relationship between FDI and intellectual property protection. Du et al. (2008) argue that U.S.-based MNE's prefer to invest in regions in China that have better protection of intellectual property rights; a lower degree of governmental intervention in business operation; a lower level of governmental corruption; and better contract enforcement. Using a wider range of institutional variables, Daude and Stein (2007) demonstrate that inward FDI is significant influenced by the quality of institutions.

A recent study by Du et al. (2012) examines the roles of economic institutions and cultural distances on FDI locations in the Chinese mainland. The findings indicate that the foreign invested enterprises (FIEs) from the source countries/areas that are culturally more remote from China often exhibit a stronger aversion to regions with weaker economic institutions. Daniele and Marani (2011) find that there is a negative relationship between organized crime (an indicator of quality of institutions) and FDI in Italy. The study demonstrates that crime is a deterrent for foreign investors, suggesting that a high level of crime is indicative of an unfavourable local socio-institutional environment for FDI.

In the Malaysian context, studies relating to the determinants of FDI have been done by Ang (2008), and Marial and Ngie (2009). Ang (2008) finds that increases in the level of financial development, infrastructure, and trade openness promote FDI. On the other hand, higher statutory corporate tax rate and appreciation of the real exchange rate appear to discourage FDI inflows. The results also suggest that higher macroeconomic uncertainty induces further FDI inflow. In comparison, Marial and Ngie (2009) find that the inflow of FDI in Malaysia is positively influenced by real exchange rate, GDP growth, and infrastructure; and negatively influenced by exports.

Despite the numerous studies on the determinants of FDI in Malaysia, none of them have considered the effects of institutional variables on the inflow of FDI. We provide a novel contribution to the existing literature by presenting the first empirical evidence relating to a small open economy (i.e. Malaysia). Specifically, we investigate the effects of several aspects of institutional quality on the inflow of FDI, specifically law and order; governmental stability; bureaucracy; corruption; and investment profile.

Estimation Methods

DATA AND THE DEFINITION OF VARIABLES

The data used in this study consists of yearly frequency spanning from 1984 until 2009. The aggregate inflow of FDI data set is collected from *International Financial Statistics* (IFS) database, while the data for institutional variables are from the International Country Risk Guide (ICRG) database. The data concerning FDI is transformed into natural logarithms, whereas the data of institutional variables are represented by percentage points (in level form).

We do not include the common factors that influence FDI identified by Ang (2008) and Marial and Ngie (2009) for two reasons. First, our concern is specifically on the role of institutions on FDI inflow that were previously ignored. The importance of the common factors is well established. Second, analyzing all other variables together with institutional factors may cause multi-collinearity problems in instances where the institutional variables may be correlated with other macroeconomic variables, such as high levels of human capital, open market and advanced financial intermediaries (Papaioannou 2009).

INSTITUTIONAL VARIABLES

This study considers five political risk components: governmental stability; investment profile; corruption; law and order; and bureaucracy quality in the investigation of the effects of institutional variables on the inflow of FDI into Malaysia. These variables are measured using a points system. Each indicator is scaled either from 0 to 12 points, 0 to 6 points, and 0 to 4 points Higher value indicates better institutions and less political risks and vice versa. Specifically, the detailed definition and the explanation of the institutions variables are as follow:

GOVERNMENTAL STABILITY-12 POINTS

This measures an assessment both of the government's ability to carry out its declared program, and its ability to stay in office. The risk rating assigned is the sum of the three components, each with a maximum score of four points and a minimum score of 0 point. A score of

four points equates to very low risk, while a score of 0 points indicates a very high risk. The subcomponents are governmental unity, legislative strength, and popular support.

INVESTMENT PROFILE – 12 POINTS

This is an assessment of factors affecting the risk to investment that are not covered by other political, economic and financial risk components. The risk rating assigned is the sum of three subcomponents, each with a maximum score of four points and minimum score of 0 points. A score of 4 points equates to very low risk, while a score of 0 points indicates a very high risk. The subcomponents are contract viability/expropriation, profits repatriation and payment delays.

CORRUPTION - 6 POINTS

Corruption is a threat to foreign investment for several reasons. First, it distorts the economic and financial environment. Second, it reduces the efficiency of government and business by enabling people to assume positions of power through patronage rather than ability. Finally, it introduces inherent instability into political processes. Corruption can make it difficult to conduct business effectively and, in some cases, may force the withdrawal or withholding of an investment. Six points indicate less corruption, while 0 points indicate a significant political risk to the investors.

LAW AND ORDER – 6 POINTS

To assess the 'law' element, the strength and impartially of the legal system is considered, while the 'order' element is an assessment of popular observance of the law. Thus, a country can enjoy a high rating of '3' in terms of its judicial system, but a low rating of '1' if it suffers from a very high crime rate as a result of the law being routinely ignored due to ineffective enforcement.

BUREAUCRACY QUALITY – 4 POINTS

The institutional strength and quality of the bureaucracy is another factor that reflects the tendency of governments to minimize revisions of policy upon a transfer of power, usually following an election. Therefore, high points are given to countries where the bureaucracy has the strength and expertise to govern without drastic changes in policy or interruptions in government services. In these low risk countries, the bureaucracy tends to be somewhat autonomous from political pressure and to have an established mechanism for recruitment and training. Countries that lack the cushioning effect of a strong bureaucracy receive low points because a change in government tends to be traumatic in terms of policy formulation and day-to-day administrative functions.

ECONOMETRIC MODELING

In order to examine the long-run relationship and dynamic interaction between FDI and institutions, this study employs an ARDL model. In general, there are three steps in estimating the model. The first step is to estimate the long-run relationship among the variables. This is done by testing the significance of the lagged levels of the variables in the error correction form of the underlying ARDL model. Our ARDL model can be written as follows;

$$\Delta LFDI_t = \alpha_0 + \beta_1 LFDI_{t-1} + \beta_2 LAWOR_{t-1} + \beta_3 CORRUPT_{t-1} + \beta_4 BEREAU_{t-1} + \beta_5 GSTAB_{t-1} + \beta_6 INVPRO_{t-1} + \sum_{i=1}^{p} \delta_1 \Delta LFDI_{t-i} + \sum_{i=0}^{q} \delta_2 \Delta LAWOR_{t-i} + \sum_{i=0}^{r} \delta_3 \Delta CORRUPT_{t-i} + \sum_{i=0}^{s} \delta_4 \Delta BUREAU_{t-i} + \sum_{i=0}^{t} \delta_s \Delta GSTAB_{t-i} + \sum_{i=0}^{u} \delta_6 \Delta INVPRO_{t-i} + \varepsilon_t \quad [1]$$

where, LFSI is log of FDI, *LAWOR* is law and order, *CORRUPT* is corruption, *BUREAU* is bureaucracy, *GSTAB* is governmental stability, and *INVPRO* is the investment profile. The selection of the optimum lagged orders of the ARDL model are based on Akaike information criteria. In order to test cointegration among the variables, the Wald F-statistics for testing the joint hypotheses has to be compared with the critical values as tabulated by Pesaran et al. (2001).

The joint hypotheses to be tested are;

$$H_0 : \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0$$
$$H_1 : \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq 0$$

If the F-statistics is higher than the upper bound critical value, the null hypothesis (H_0) is rejected, indicating that there is a long run relationship between the lagged level variables in the model. In contrast, if the F-statistic falls below the lower bound, then the H_0 cannot be rejected and no long run relationship exists. However, if the F-statistics falls in between the upper bound and lower bound critical values, the inference is inconclusive. At this condition, the order of integration of each variable should be determined before any inference can be made.

In the second step, once the cointegration is established, the conditional *ARDL (p,q,r,s,t,u)* long-run model of the determinants of the $LFDI_t$ can be estimated as below:

$$LFDI_T = \alpha_0 + \sum_{i=1}^{p} \beta_1 LFDI_{t-i} + \sum_{i=0}^{q} \beta_2 LAWOR + \sum_{i=0}^{r} \beta_3 CORRUPT_{t-i} + \sum_{i=0}^{s} \beta_4 BUREAU_{t-i} + \sum_{i=0}^{t} + \beta_5 GSTAB_{t-i} + \sum_{i=0}^{u} \beta_6 INVPRO_{t-i} + \varepsilon_t \quad [2]$$

In the final step, we obtain the short-run dynamic parameters by estimating an error correction model *(ECM)* associated with the long-run estimates. This is specified as follows:

$$\Delta LFDI_t = \alpha_0 + \sum_{i=1}^{p} \beta_1 LFDI_{t-i} + \sum_{i=0}^{q} \beta_2 LAWOR_{t-i} + \sum_{i=0}^{r} \beta_3 CORRUPT_{t-i} + \sum_{i=0}^{s} \beta_4 BUREAU_{T-I} + \sum_{i=0}^{t} + \beta_5 GSTAB_{t-i} + \sum_{i=0}^{u} \beta_6 INVPRO_{t-i} + \varepsilon_t \quad [3]$$

where, ϕ_1, ϕ_2, ϕ_3, ϕ_4, ϕ_5, ϕ_6 are the short-run dynamic coefficients of the model's convergence to equilibrium, and *v* is the speed of adjustment. The expected signs for all the institutional variables are positive, which indicates that better quality institutions will stimulate more foreign investment.

EMPIRICAL RESULTS

In this section, we report the results of long-run relationship of the ARDL model (Table 1 and 2) as well as the long-run and short-run determinants of FDI (Table 3 and 4). The empirical results are crucial in explaining the effects of the institutional variables on FDI inflow in Malaysia.

Table 1 shows the estimation results of equation (1) using *ARDL (2,2,1,1,2,2)*. The R-square indicates that 83.6 percent of the variation in the response variables can be explained by the institutional variables. The robustness of the model is confirmed by several diagnostic tests, such as the Breusch-Godfrey serial correlation LM test; the ARCH test; the Jacque-Bera normality test; and the Ramsey RESET specification test. All tests reveal that the model has the desired econometric properties, insofar as it has a correct functional form and the model's residuals are serially uncorrelated, normally distributed and homoscedastic. Therefore, the results reported are valid for reliable interpretation.

TABLE 1. Estimation of Model

I. Estimated Model

Variable	Coefficient	t-Statistic	Probability
$LFDI_{t-1}$	*2.236*	*1.936**	*0.094*
$LAWOR_{t-1}$	-3.553	-3.088**	0.018
$CORRUPT_{t-1}$	0.874	2.415**	0.046
$BEREAU_{t-1}$	6.656	2.751**	0.028
$GSTAB_{t-1}$	-1.034	-2.366**	0.049
$INVPRO_{t-1}$	-1.937	-2.018*	0.083
$\Delta LFDI_{t-1}$	-2.594	-3.163**	0.016
$\Delta LFDI_{t-2}$	-1.370	-2.427**	0.046
$\Delta LAWOR_{t-1}$	1.154	0.742	0.164
$\Delta LAWOR_{t-2}$	4.336	3.362**	0.012
$\Delta CORRUPT_{t-1}$	4.116	3.270**	0.014
$\Delta BEREAU_{t-1}$	-0.912	-1.373	0.212
$\Delta GSTAB_{t-1}$	0.751	2.404**	0.047
$\Delta GSTAB_{t-2}$	0.596	1.481	0.182
$\Delta INVPRO_{t-1}$	0.304	0.999	0.351
$\Delta INVPRO_{t-2}$	-0.081	-0.361	0.728

II. Model Criteria/Goodness of Fit

$R^2 = 0.836$ Adjusted $R^2 = 0.484$ F-statistics = 5.64(0.034)**

III.Diagnostic Checking

AR(2) = 0.678(0.545) AR(4) = 0.378 (0-775)
ARCH (2) = 2.288 (0.130) ARCH (4) = 1.935 (0.160)
JB = 2.723 (0.255) RESET = 3.072 (0.153)

Note: * and ** indicate significance at 10% and 5% significance levels respectively. Probability values are quoted in brackets. AR(i) and ARCH (i) for i=2,4 denote LM-type Breusch-Godfrey Serial Correlation LM and ARCH test respectively to test for the presence of serial correlation and ARCH effects at lag i. JB and RESET stand for Jarque-Bera normality test, and Ramsey Regression specification error test respectively.

In Table 2, the results of the bound cointegration test show that the null hypothesis of H_0: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0$ against its alternatives H_0: $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 = \beta_6 = 0$ is rejected at the 10 percent significance level. The computed F-statistics of 3.54 is greater than the upper bound value of 3.23 at 10 percent significance level. This indicates that there exists a long-run relationship between FDI and the institutional variables (law and order, corruption, governmental stability, investment profile, and bureaucracy).

The second step is to estimate the long-run model of the determinants of FDI. Table 3 reports the estimation results. As can be seen, three institutional variables – corruption, governmental stability, and bureaucracy – are positively and statistically significant, at least at 5 percent significance level, in influencing the inflow of FDI. This indicates that the level of corruption, governmental stability, and bureaucracy in Malaysia would affect the inflow of FDI to Malaysia. These findings have important policy implications for leaders and policy-makers in Malaysia as it indicates an imperative for offering better quality domestic institutions by minimizing the element of corruption, maintaining or increasing governmental stability, and reducing governmental bureaucracy in order to attract a greater inflow of FDI.

TABLE 2. Bounds Test for Cointegration Analysis

Critical Value (k=6)	Lower Bound Value, I(0)	Upper Bound Value, I(1)
10%	2.12	3.23
5%	2.45	3.61
1%	3.15	4.43

Notes:
The computed F-Statistics in the estimation model in equation (1) is 3.54 (significant at 10 percent significance level). Critical values are cited from Pesaran et al. (2001), Table CI(iii), Case III (unrestricted intercept and no trend).

TABLE 3. Estimation of Long-run Coefficients

Regressors	Coefficient	Standard Error	t-ratio	Probability
$LFDI_{t-1}$	0.110	0.210	0.523	0.607
$\Delta LFDI_{t-1}$	0.343	0.214	1.597	0.127
$\Delta LAWOR_{t-1}$	0.570	0.243	2.333**	0.031
$\Delta CORRUPT_{-1}$	1.198	0.364	3.288***	0.004
$\Delta BEREAU_t$	0.134	0.063	2.130**	0.047
$\Delta INVPRO_t$	0.128	0.152	0.839	0.412
R-square	0.692			
Durbin-Watson	2.193			
F-statistics	6.745			
Prob (F-Statistics)	0.000			

Note:
ARDL (1,1,1,1,0,0) lag for each variable is selected based on AIC. Dependent variable is LFDI
***, **, * represent a significance level of 1%, 5%, and 10% respectively. The results of unit root tests are discussed in the appendix.

TABLE 4. Estimation of Short-Run (VECM) Model

Regressors	Coefficient	Standard Error	t-ratio	Probability
ECM_{t-1}	-1.253	0.293	-4.265***	0.001
$\Delta LFDI_{t-1}$	0.107	0.214	0.500	0.623
$\Delta LAWOR_{t-1}$	-0.273	0.234	-1.169	0.260
$\Delta CORRUPT_{-1}$	0.779	0.537	1.451	0.166
$\Delta BEREAU_t$	1.049	0.500	2.098*	0.052
$\Delta GSTAB_t$	0.264	0.100	2.641**	0.018
$\Delta INVPRO_t$	-0.193	0.143	-1.351	0.195
R-Square	0.678			
Durbin-Watson	1.937			
F-Statistic	4.816			
Prob (F-statistics)	0.004			

Note:
ARDL (1,1,1,0,0,0) lag for each variable is selected based on AIC. Dependent variable is ΔLFDI
***, **, * is significance level at 1%, 5%, and 10% respectively.

Table 4 reports the estimation results of the short-run model using *ARDL (1,1,1,1,0,0)*. As shown, only two variables, bureaucracy and governmental stability, are positively and statistically significant with at least a 1 percent significance level in influencing the inflow of FDI. The *error correction model* (ECM) variable, which explains the speed of the adjustment, is also significant at a 1 percent significance level. This indicates that there is a long-run causality from institutional variables to the inflow of FDI.

CONCLUSION

Although the determinants of FDI have been examined extensively in previous studies, less attention has been given to examining the role of institutional variables upon FDI inflows, particularly in a small open economy such as Malaysia. This paper expands the existing literature by providing new empirical evidence concerning the role of quality institutions in regards to the inflow of FDI. Specifically, we examine institutional factors that affect the inflow of FDI into Malaysia, namely corruption, governmental stability, bureaucracy, law and order, and investment profile. Considering the short annual sample size, the ARDL, or bound testing procedure, is used to examine the long-run relationship and the causality direction (long-run, and short-run) among the variables of interest.

The main findings can be summarized as follows. First, there is a long-run relationship between institutional variables and FDI inflow to Malaysia. Second, in the long-run and short-run, several institutional variables are statistically significant in influencing the inflow of FDI, namely governmental stability, the level of corruption and bureaucracy.

The findings provide three important policy implications for Malaysian leaders and policy makers. First, maintaining governmental stability must be a high priority as this not only leads to better management of the country, but also attracts foreign MNEs to make investments in Malaysia. Such a strategy is necessary for supporting long-term economic growth in Malaysia. Second, the Malaysian government must work towards the elimination of corruption in the country since high levels of corruption have been proven to deter foreign investment. Third, working towards eliminating bureaucracy that hinders the prospects of FDI growth in Malaysia is another strategy that may be implemented. In summary, providing quality institutions in Malaysia should be a priority as the existence of such institutions creates a FDI-friendly environment and, in turn, will stimulate continuous inflows of FDI. With Malaysia lagging behind its neighbours in relation to attracting FDI, the above mentioned actions appear to be urgent.

This study possesses two principal limitations. First, as mentioned earlier, explaining the determinants of FDI inflow usually involves macro variables, such as a well-developed financial system (financial deepening); favourable growth performance; high trade openness; excellent infrastructure development; and low country risk, as well as attractive fiscal and monetary incentives. We do not include these variables in our analysis as the use of these variables will only increase the number of independent variables. Using too many parameters in the model will result in the loss of degree of freedom. In addition, this study does not take into account other important institutional variables which can also influence behaviour relating to foreign investment. For instance, good property rights protection, a good quality of education system, no risk of expropriation and dimensions of market efficiency are also important and should be considered in the formulation of policy by the government.

Second, an institutional variable is often inadequate to explain the behaviour of MNE's. Therefore, good interaction between institutional variables and other macro variables, such as a well-developed financial system (financial deepening); favourable growth performance; high trade openness; excellent infrastructure development; and low country risk, as well as attractive fiscal and monetary incentives, are also vital in attracting greater levels of inflow of FDI to the host countries. In fact, these variables are complementary to each other. For instance, the existence of quality institutions means very little if the host countries (particularly LDC's) do not have well-developed financial systems, excellent infrastructure and other macro variables that help to maintain the inflow of foreign investment. Therefore, further studies should consider testing the hypothesis that the interaction between institutional quality and other macro variables has a separate influence on the FDI inflow to the host countries.

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APPENDIX

TABLE A1. Results of the Unit Root Tests

Panel A: Level form, I(0)				
	ADF		Philip-Perron (PP)	
Variable	Constant and no trend	Constant and with trend	Constant and no trend	Constant and with trend
LFDI	-2.026 (1)	-3.109 (4)	-2.234 (2)	-2.177 (1)
CORRUPT	-1.694 (1)	-2.247 (2)	-1.439 (2)	-2.080 (2)
LAWOR	-4.863*** (3)	-4.711*** (3)	-2.163 (3)	-2.092 (2)
BUREAU	-1.520 (4)	-3.586* (3)	-1.559 (2)	-2.142 (1)
GSTAB	-3.209*** (5)	-2.264 (2)	-1.680 (2)	-1.641 (1)
INVPRO	-1.973 (1)	-4.307** (1)	-1.639 (2)	2.922 (2)
Panel B : First Difference, I(1)				
LFDI	-3.522** (2)	-3.602* (1)	-5.718*** (2)	-5.720*** (1)
CORRUPT	-3.284** (1)	-2.498 (2)	-4.576*** (1)	-4.643*** (1)
LAW	-2.965* (1)	-6.235*** (4)	-3.156** (3)	-3.195 (1)
BUREAU	-3.052** (2)	-3.142 (1)	-4.326*** (1)	-4.364** (1)
GSTAB	-3.640** (1)	-3.646 (1)	-3.638** (2)	-3.680** (1)
INVPRO	-4.033*** (1)	-3.943** (2)	-3.892*** (2)	-3.859** (2)

Note: Number in parenthesis is the optimum lag based on Akaike information criteria (AIC). The null hypothesis is that the series is non-stationary, or contains a unit root. The rejection of the null hypothesis for both ADF and PP tests is based on the MacKinnon (1994) critical value. Critical values for the ADF and PP test without a trend are: -3.75, -3.00 and -2.62 at 1%, 5% and 10% significance levels respectively. Critical values for the ADF and PP test with a trend are: -4.38, -3.60 and -3.24 at 1%, 5% and 10% significance levels respectively. ***, **, and * denote the rejection of the null at 1%, 5%, and 10% respectively.

Table A1 reports the results of unit root tests of Augmented Dickey-Fuller (ADF) and Philips-Perron (PP). Based upon the ADF test, three institutional variables are stationary at level form at least at 5 percent significance level: law and order (LAWOR), governmental stability (GSTAB), and investment profile (INVPRO). However, based on PP, all variables are non-stationary at level form. All series are stationary at first difference form, with either the ADF or PP test. Based upon ADF test results, applying the Johansen procedure to cointegration would not be possible as there is a mixture of I(0) and I(1) series. This provides a rationale for us to use the bound test approach, or ARDL model, proposed by Pesaran et al. (2001).