Pertanika J. Soc. Sci. & Hum. 21 (S): 159 - 172 (2013)

PERTANIKA JOURNALS

SOCIAL SCIENCES & HUMANITIES

Journal homepage: http://www.pertanika.upm.edu.my/

International Evidence on the Link between Foreign Direct Investment and Economic Freedom

W. N. W. Azman-Saini*, Yin-Li Tun and Saifuzzaman Ibrahim

Department of Economics, Faculty of Economics and Management, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia

ABSTRACT

Foreign direct investment (FDI) by multinational enterprises (MNEs) is considered as one of the key ingredients that drives the development process in many countries . However, the distribution of FDI across countries has not been uniform as only few countries have the ability to attract the bulk of FDI. In an effort to further understand the evolution in MNEs' locational decision and their changing need, this paper examines whether economic freedom plays an important role in attracting FDI inflows. Hypothesis was tested based on the data gathered from 75 countries over the period 1981 to 2005 — using a system generalised method of moment (GMM) panel estimator. The result of this study shows the importance of economic freedom in attracting FDI inflows is undisputable. Furthermore an improvement in the freedom of economic provides a more enabling business environment.

JEL Classification codes: F21, N20

Keywords: Foreign direct investment, economic freedom, Generalised Method of Moment

INTRODUCTION

It is well known that foreign direct investment (FDI) by multinational enterprises (MNEs) is regarded as one of the important components for development strategies especially in developing countries. FDI plays an important role in enabling host countries to access new technologies available at the world's frontier because MNEs make huge investment in research and development (R&D) activities (Azman-Saini *et al.*, 2101b). Similarly, MNEs mainly hire large number of professional and technical employees (Markusen, 1995). In addition, they undertake substantial efforts in improving the quality of their workforce through extensive trainings (Fosfuri *et al.,* 2001). In short, MNEs have always been

ARTICLE INFO

Article history:
Received: 21 May 2012
Accepted: 31 July 2013

E-mail addresses:
wazman@upm.edu.my (W. N. W. Azman-Saini),
saifuzzaman@upm.edu.my (Saifuzzaman Ibrahim)
* Corresponding author

ISSN: 0128-7702

associated with superior technologies, patents, trade secrets, brand names, management techniques and marketing strategies (Dunning, 1993). Once MNEs have invested in host countries, they may not be able to internalize all of its advantages and thus spill over to domestic firms which would eventually expand their business activities[1]. Therefore, FDI is viewed not only as a source of finance and employment but also a channel for host countries to widen the access of new technologies that are available at the world's frontier[2].

Since MNEs are expected to bring numerous benefits to host countries, many countries have removed laws and regulations that hinder free flow of capital. According to the *World Investment Report* by UNCTAD (2009), a yearly average of 175 changes in FDI laws was recorded in the period of 2000 – 2008 and most of these changes (i.e. 88 per cent) were favourable to FDI. In response to these efforts, MNEs has increased their investments significantly over the past few decades. Global FDI inflows increased from $57 billion in 1982 to $1271 billion in 2000 and reached its peak of $2099 billion in 2007 (UNCTAD, 2001, 2009). In fact, the growth rate of world FDI has surpassed the growth rates of both international trade and gross domestic product (GDP) over the past few decades. Although total FDI have increased significantly, its distribution has not been uniform across countries and few countries have, however been able to attract more FDI.

Given this scenario, it is natural to ask whether it is possible to identify a set of policies that might enhance the attractiveness of host countries as destinations for MNEs. Therefore, it is important for policymakers to know the evolution in MNEs locational decision and understand their changing need as part of their global integration strategies. In line with this development, this paper investigates the importance of freedom of economic activity as an attribute to attract FDI. It is well known that higher level of economic freedom (hereafter, EF) provides free and competitive markets which allow greater business opportunities for entrepreneurs. There are at least three reasons to believe why the level of EF in the host countries is an important determinant of MNEs locational decisions. Firstly, the extent of regulations in a host country is a crucial determinant of transaction or production cost. Conventional wisdom suggests that a highly regulated country (i.e. less freedom) will not bean economically attractive location for MNEs due to high cost of doing business. Secondly, as investment involves a large amount of money, investors become very sensitive to stability and insecurity. Therefore, information about the quality of investment environment is vital because incomplete information is risky. Lastly, high level of EF provides better legal

[1]Recently, several studies show that the growth-effect of FDI exists only under certain circumstances. See for example, Azman-Saini *et al.*, 2010a,b; Alfaro *et al.,* 2004; Borenzstein *et al.,* 1998; among others.

[2]FDI is a more useful source of capital to finance current account deficits than other types of capital like portfolio investment because it is less volatile.

protection of assets, and thus reduces the chance of expropriation of a firm's assets, hence make investment more likely.

The findings in this study are related to the findings from previous studies Bengoa and Sanchez-Robles (2003) and Quazi (2007) which assess the impact of promoting economic freedom on FDI inflows. Bengoa and Sanchez-Robles (2003) employ fixed and random effect estimators and document that FDI inflows are positively associated with EF in ten Latin American countries. Meanwhile, using random effects and generalized least square estimators, Quazi (2007) shows that EF positively affects FDI inflows into East Asian countries. This study differs from the above-mentioned studies in three important aspects . Firstly, this paper utilizes a larger sample of 75 countries covering both developed and developing countries across all regions. The inclusion of developed countries in the analysis of FDI is very important because most of FDI inflows are between developed countries. Secondly, this paper uses a recent panel technique which is able to address some of the limitations associated with previous studies. Specifically, this paper uses generalized method of moments (GMM) which is not only able to accommodate heterogeneity in country-specific effects but also problems associated with and simultaneity bias. Thirdly, this study assesses the impact of outliers on the estimation results to ensure that the relationship between FDI and EF is robust. The importance of addressing outliers was emphasized in Azman-Saini *et al.* (2010b) who show that the failure to formally address outliers in the analysis of FDI may lead to incorrect conclusions.

Literature has also highlighted several other important determinants of FDI inflows. This includes human capital (Glass and Saggi, 2002, Noorbakhsh *et al.,* 2001), market size (Ramirez, 2006; Quazi, 2007), quality infrastructure (Asiedu, 2002), and also the past value of FDI (Noorbakhsh *et al.,* 2001)[3]. The quality of human capital is important for FDI inflows because high-tech MNEs' productions require skilled labour (Borensztein *et al.*, 1998). MNEs are known to be among the most technologically advanced firms as they are responsible for a large part of the world's R&D expenditures. Therefore, they require high skilled labours with the ability to adapt new technologies easily. In addition, market size in the sense of a larger population implies more potential consumption and thus more opportunity for business. Therefore, countries with larger consumer market should receive more FDI than that of smaller ones (Desmet & Parente, 2010; Wadhwa & Reddy, 2001). The availability of good quality physical infrastructure may improve the investment climate for MNEs by subsidizing their cost of total investment and thus raising the rate of return. The importance of infrastructure availability in influencing MNEs' locational decision was corroborated by Asiedu (2002) and Ang (2008), among many other researchers. The existing level of FDI is an important attracting factor for MNEs. This is because past FDI embodies information on operating conditions in the host country (Noorbakhsh *et al.,* 2001). This information

[3]Refer Blonigen (2005) for a survey of the literature on FDI determinants.

shapes perception about a country and may influence potential investor to view a particular location favourably. Also, an investment by MNEs requires time to adjust to desired levels as MNEs normally stagger their investments in a new market. By and large, it should be noted that the impact of the above-mentioned factors on FDI inflows are still inconclusive as some studies in this literature have found no such evidence (Singh *et al.*, 2008; Cheng and Kwan, 2000; Na and Lightfoot, 2006).

The remainder of this paper is structured as follows. Section of Model Specification outlines the model specification followed by research methodology. Subsequent section highlights the data. Section of Empirical Results reports the empirical results and their interpretation and concluding remarks are provided in the last section.

MODEL SPECIFICATION

The objective of this study is to test whether EF plays a significant role in influencing FDI inflows. To this end, this study utilize a specification which is widely used in the literature (e.g. Bengoa and Sanchez-Robles, 2003; Quazi, 2007)[4] FDI is expressed as a function of EF and other factors as follows:

$$\mathrm{FDI}_{i,t} = \alpha \mathrm{FDI}_{i,t-1} + \alpha_1 \mathrm{EF}_{i,t} + \alpha_2 \mathrm{X}_{i,t} + \eta_i + \varepsilon_{i,t} \quad (1)$$

where *i and t* are respectively country and time index. The main variables in this study are FDI and EF. FDI is expressed as net FDI inflows over GDP while EF is represented by the index of economic freedom. X is a set of other conditional variables which are usually included in the analysis of FDI determinant, η_i is time invariant unobserved country—specific effect term, and $\varepsilon_{i,t}$ is the usual disturbance term. The selection of other determinants is guided by past literature on FDI[5]. It consists of variables that are robustly related to FDI inflows which includes population size (i.e. proxy for market size), telephone line (i.e. proxy for infrastructure development), and life expectancy (i.e. proxy for human capital). All of these determinants are expected to carry positive signs. Within this specification, if the estimated coefficient on EF is found to be positive and significant, this would indicate that EF is an important attracting factor for MNEs locational decisions. This would suggest that efforts to promote freedom of economic activity will translate into more FDI inflows.

METHODOLOGY

To test the hypothesis outlined in the previous section, this study uses a system GMM panel estimator as proposed by Holtz-Eakin *et al.* (1988) and improved by Arellano and Bond (1991), Arellano and Bover (1995), and Blundell and Bond (1998). This estimator is chosen as it has several advantages over other estimation techniques. In the present context, this estimator can alleviate bias introduced by the presence of unobserved country-specific

[4]Both Bengoa and Sanchez-Robles (2003) and Quazi (2007) focus on economic freedom as the core determinant for FDI inflows in Latin Americas and Asian countries, respectively.

[5]See for example, Bengoa and Sanchez-Robles (2003); Quazi (2007); Kok and Ersoy (2009); Asiedu (2002).

effects. Moreover, the GMM estimator can control simultaneity bias induced by the possibility that some of the explanatory variables are endogenous. For instance, FDI and EF may be simultaneously determined because MNEs may ask for improvement in the protection of property right (which is an important element of economic freedom).

In the literature, there are two variants of GMM estimator which are widely used namely, difference-GMM (D-GMM) and system GMM (S-GMM). The D-GMM estimator uses a first-difference transformation of Equation (1) to eliminate bias triggered by the presence of country-specific effects. The model can be expressed as follows:

$$\begin{aligned}\mathrm{FDI}_{i,t} - \mathrm{FDI}_{i,t-1} &= \alpha(\mathrm{FDI}_{i,t-1} - \mathrm{FDI}_{i,t-2}) \\ &+ \beta_1(\mathrm{EF}_{i,t} - \mathrm{EF}_{i,t-1}) + \beta_2(\mathrm{X}_{i,t} - \mathrm{X}_{i,t-1}) \\ &+ (\varepsilon_{i,t} - \varepsilon_{i,t-1})\end{aligned} \tag{2}$$

Within this specification, there are two issues that need to be addressed. First is the endogeneity of explanatory variables. Second issue is the correlation between $(\mathrm{FDI}_{i,t-1} - \mathrm{FDI}_{i,t-2})$ and $(\varepsilon_{i,t} - \varepsilon_{i,t-1})$. In order to address these issues, Arellano and Bond (1991) suggest using higher-order lags of explanatory variables as instruments. This estimation strategy however requires two important assumptions. First, the error terms in Equation (2) must not serially correlated and secondly, the instruments used (i.e. the lag of explanatory variables) must be weakly exogenous. Following the suggestion in Arellano and Bond (1991), the following moment conditions are employed:

$$\begin{aligned}&\mathrm{E}[\mathrm{FDI}_{i,t-s} \cdot (\varepsilon_{i,t} - \varepsilon_{i,t-1})] \\ &= 0 \text{ for } s \geq 2; t = 3, \ldots, \mathrm{T}\end{aligned} \tag{3}$$

$$\begin{aligned}&\mathrm{E}[\mathrm{EF}_{i,t-s} \cdot (\varepsilon_{i,t} - \varepsilon_{i,t-1})] \\ &= 0 \text{ for } s \geq 2; t = 3, \ldots, \mathrm{T}\end{aligned} \tag{4}$$

$$\begin{aligned}&\mathrm{E}[\mathrm{X}_{i,t-s} \cdot (\varepsilon_{i,t} - \varepsilon_{i,t-1})] \\ &= 0 \text{ for } s \geq 2; t = 3, \ldots, \mathrm{T}\end{aligned} \tag{5}$$

Although this strategy could handle problems caused by the presence of country-specific effects and the possibility that the explanatory variables are endogenous, it poses one limitation. As discussed in Alonso-Borrego and Arellano (1999), and Blundell and Bond (1998), instruments are weak if the explanatory variables show some level of persistency (i.e. they move slowly over time). This is particularly relevant for EF index as the quality of institution is a deep factor and moves slowly over time. The authors show that weak instruments could result in biased parameter estimates and inflated variances. As a solution, Arellano and Bover (1995) propose an alternative estimator known as S-GMM estimator which combines both Equations (1) and (2) in one system. Blundell and Bond (1998) show that this alternative estimator performs well in reducing biases and imprecision linked to the D-GMM estimator. This estimation strategy requires additional moment conditions as below:

$$\begin{aligned}&[\mathrm{FDI}_{i,t-s} - \mathrm{FDI}_{i,t-s-1} \cdot (\eta_i + \varepsilon_{i,t})] \\ &= 0 \, for \; s = 1; t = 3, \ldots \mathrm{T}\end{aligned} \tag{6}$$

$$\begin{aligned}&[\mathrm{EF}_{i,t-s} - \mathrm{EF}_{i,t-s-1} \cdot (\eta_i + \varepsilon_{i,t})] \\ &= 0 \, for \; s = 1; t = 3, \ldots \mathrm{T}\end{aligned} \tag{7}$$

$$[X_{i,t-s} - X_{i,t-s-1} \cdot (\eta_i + \varepsilon_{i,t})] = 0 \; for \; s = 1; t = 3, \ldots T \quad (8)$$

The consistency of outputs obtained from S-GMM estimations depends on the validity of assumption made regarding error term in Equation (2) and instruments. Thus, two specification tests are used. The first test assesses the null of no second-order serial correlation in Equation (2) (Arellano & Bond, 1991). The second test is Hansen's over-identifying restrictions test used to evaluate whether the instruments used are valid. If we fail to reject both nulls this would imply that our estimated model is correctly specified and the instruments used are valid.

Both of the D-GMM and S-GMM estimators can be applied in one- and two-step approaches (Arellano & Bond, 1991). Theoretically, the two-step estimator was shown to be more efficient than its one-step counterpart because it utilizes optimal weighting matrices. Nevertheless, the use of two-step estimator in a small sample may lead to several problems such as biased standard errors and estimated parameters (Windmeijer, 2005). Moreover, Bowsher (2002) reveals that this may result in weakened over identification test. Recently, Roodman (2009) shows that these problems are triggered by the proliferation of instruments and the author further suggests reducing the dimensionality of the instrumental variable matrix as a solution.

In this paper, the moment conditions presented in Equations (3)–(8) and the two step estimator are used.[6] The number of instruments is also reduced, using the approach suggested by Roodman (2009).

DESCRIPTION OF DATA

This study employs panel observations of 75 countries (which includes both developed and developing nations) for the period of 1981–2005[7]. The countries were selected based on the availability of reliable data over the sample period. FDI data is obtained from the *World Development Indicators* database (WDI) and measured in term of FDI inflows over GDP (i.e. FDI/GDP). The data set for EF index is taken from the Fraser Institute due to its greater coverage than other alternative sources. This index measures EF in five areas, namely; 1) size of government in terms of expenditures, taxes, and enterprises, 2) legal structure and security of property rights, 3) access to sound money, 4) freedom to trade internationally, and 5) regulation of credit, labour and business. This index is scaled from 0–10 with 10 representing the greatest level of freedom. Other control variables used are life expectancy, infrastructure, population, and the lag value of FDI. Life expectancy and telephone line (measured as per 100 people) are respectively used to measure the quality of human capital and infrastructure development. Both data were taken from the WDI database whereaspopulation was taken from the PWT database. Several other

[6]All estimations were implemented using the **xtabond2** routine developed by Roodman (2009).

[7]Refer to Appendix A for country list.

studies on FDI determinants have included other macroeconomic variables such as trade openness, government size, and inflation. However, this study does not include these variables because they are already included in the computation of the EF index. Also, the inclusion of these variables together with the EF index may introduce multicollinearity problem in the model.

This study employs panel dataset for 75 countries. However, the use of time series dimension shows at a glance, that FDI data are highly volatile and observations for few years are missing. This problem of large fluctuations in FDI series may distort the true effects of EF and other determinants on FDI inflows. In order to address this issues, we use data based on five-year averages (1981–1985, 1986–1990, …, 2001–2005). Moreover, this strategy is able to reduce some of the business cycle effect (Azman-Saini *et al*., 2010a; Alguacil *et al.,* 2011).

EMPIRICAL RESULTS

The purpose of this paper is to test whether EF has any influence in attracting FDI inflows. The first step of the analysis is visual inspection of the data. All data are plotted against FDI inflows and displayed in Fig.1. The figure shows that life expectancy, telephone line and EF are positively associated with FDI inflows. However, population is negatively related to FDI inflows. It is worth noting that in all cases the correlation coefficients are low which range from 0.065 (life expectancy) to -0.240 (population).

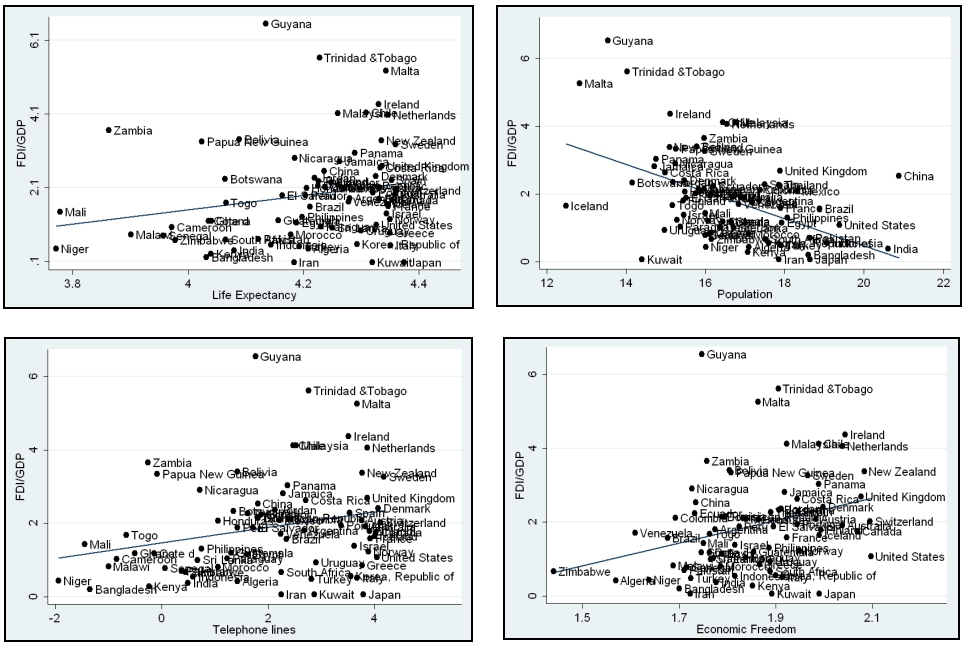

Fig.1: Scatter plot of FDI versus its determinants

The next step of the analysis is to evaluate the central issue in this study which is to test the importance of EF in attracting FDI inflows. Utilizing the EF index obtained from the Fraser Institute, Equation (1) is estimated using the two-step S-GMM estimator and results are reported in Table 1. The results presented shows that EF appears to be important FDI determinants at the 10% significant level. This indicates that an improvement in freedom of economic activity will attract more FDI inflows. This is in line with the argument that MNEs are much more likely to invest in countries which provide stimulating environment for business and investment activities because promotion of freedom improves productivity prospects and reduces the cost of doing business and cost of uncertainty. In the case of other FDI determinants, only the coefficient on lagged value of FDI is found to be positive and statistically significant. This suggests that the past value of FDI provides an important signal for future investment by MNEs. This outcome is consistent with the argument that MNEs are much more likely to choose countries that already have accumulated sizable amount of FDI. The success of MNEs in the host countries is a strong attracting factor for new investments by foreign firms. The finding for population is consistent with Ali *et al*. (2010) who also found that market size is not an important attracting factor for MNEs locational decisions. One possible reason for this outcome is that most of the FDI are export-oriented in nature and rely more on foreign markets than domestic markets. Finally, the coefficients on life expectancy and telephone line are also insignificant. Since the *p*-values of testing for Hansen over identification test (0.133) and *AR*(2) (0.115) are high, the null of both tests cannot be rejected. Hence this provides support for

TABLE 1
FDI Determinants (Dependent Variable = FDI/GDP)

Regressor	Coeff.	S.e.	*p*-value
$(FDI/GDP)_{t-1}$	0.620***	0.137	0.000
Life Expectancy (log)	-3.330	3.007	0.268
Population (log)	-0.103	0.397	0.794
Telephone Line (log)	-0.122	0.262	0.640
Economic Freedom (log)	5.714*	3.033	0.060
Constant	6.125	11.374	0.590
AR(2) test (*p*-value)		0.115	
J-test (*p*-value)		0.133	
Number of Observation		294	
Number of Countries		75	

Note: *, ** , and *** denote the 10%, 5%, and 1% level of significance respectively. Relevant *p*- values are in parenthesis. *AR(2)* is a test of second-order residual serial correlation. *J*-test is the Hansen over identification test. Time dummies are included to capture period-specific effect but are not reported. Lag 2 and earlier are used as instruments for the equation in first-differences, while lag 1 in first-differences are used as instrument for the equation in levels. Moreover, collapsing instrument approach is adopted in the estimation.

the validity and reliability of the estimation results.

It should be highlighted that it is critically important to evaluate the impact of outliers in the analysis of FDI. It could be that the finding of a strong positive impact of EF on FDI inflows as presented in Table 1 may be driven by outlier observations. In a recent study, Azman-Saini *et al.* (2010b) show that the inclusion of China (i.e. an outlier) in their FDI-growth analysis appears to distort estimation results. In ensuring that the link between EF and FDI is robust and not affected by outlier observations, we formally identify outlier observations using the DFITS statistic proposed by Belsley *et al.* (1980). The test is computed as $DFITS_j = r_j\sqrt{h_j/(1-h_j)}$, where r_j is studentized residual given by $r_j = e_j/(s_{(j)}\sqrt{1-h_j})$ where $s_{(j)}$ is the root mean squared error (s) of the regression equation with j^{th} observation removed, and h is the leverage statistic. Following the suggestion by Belsley *et al.* (1980), outliers are considered as observation with the absolute value of the DFITS statistic greater than $2\sqrt{k/n}$, where k is the number of independent variables and n is the number of countries. The results of the DFITS test show that Ireland, Austria and Iceland are true outliers. Fig.2 shows the scatterplot of leverage point versus residual for all countries in the sample. The figure clearly shows that Ireland, Austria and Iceland fall relatively way above other observations as they have high combinations of residual and leverage.

Based on the results of the outlier test, we re-estimate Equation (1) by excluding Ireland, Austria and Iceland. The results reported in Table 2 show that the importance of EF as an attractor for FDI remains intact as the *p*-value for the coefficient on EF is less than the 10% level. More importantly, both of the Hansen and AR(2) tests indicate that the model is adequately specified and

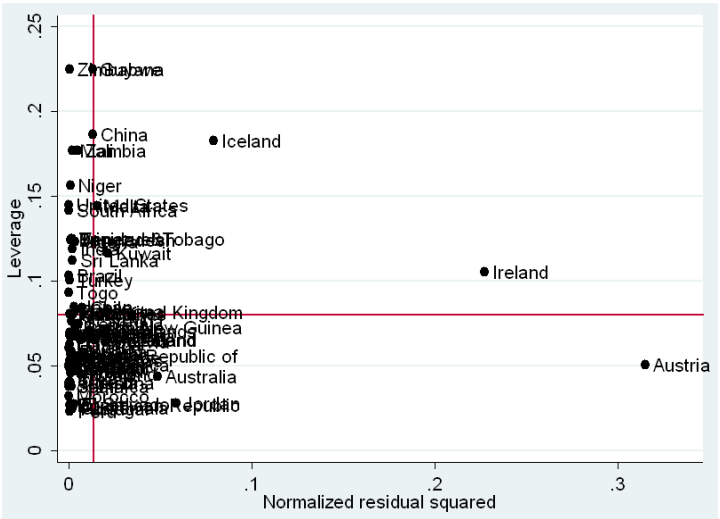

Fig.2: Residual Versus Leverage

TABLE 2
Robustness Check (Dependent Variable = FDI/GDP)

Regressor	Coeff.	S.e.	*p*-value
$(FDI/GDP)_{t-1}$	0.559***	0.142	0.000
Life Expectancy (log)	–3.377	2.567	0.188
Population (log)	–0.184	0.407	0.651
Telephone Line (log)	–0.074	0.228	0.746
Economic Freedom (log)	5.386**	2.513	0.032
Constant	8.307	9.100	0.361
AR(2) test (*p*-value)		0.141	
J-test (*p*-value)		0.171	
Number of Observation		282	
Number of Countries		72	

Note: *, **, and *** denote the 10%, 5%, and 1% level of significance respectively. Relevant *p*- values are in parenthesis. *AR(2)* is a test of second-order residual serial correlation. *J*-test is the Hansen over identification test. Time dummies are included to capture period-specific effect but are not reported. Lag 2 and earlier are used as instrument for the equation in first-differences, while lag 1 in first-differences are used as instrument for the equation in levels. Moreover, collapsing instrument approach is adopted in the estimation.

the result is not affected by simultaneity bias. Therefore, our previous interpretation on the importance of promoting economic freedom in an effort to attract more FDI inflows remains unchanged. The link between EF and FDI is robust and not affected by outlier observations. The finding is in accordance with Bengoa and Sanchez-Robles (2003) and Quazi (2007) who find that improvements in the quality of EF is an important pre-condition for FDI inflows for Latin American and Asian countries, respectively.

CONCLUSION

FDI has been viewed as an effective channel to transfer new technologies across countries. Accordingly, many countries, especially developing ones, compete against each other in order to attract more FDI. In an effort to further understand the nature of MNEs locational decisions, this paper draws from recent literature that emphasises on the importance of institutional quality in the development process. This paper argues that improvement in economic freedom has an important influence in attracting FDI because economic freedom creates more conducive environments for investors in terms of lower cost of doing business, lower uncertainty and better prospect for productivity improvement. To test the hypothesis, this study employs a Generalized Method of Moment panel estimator and data obtained from 75 countries over the period of 1981– 2005. Consistent with our argument, the results reveal that improvement in EF is an important pre-condition for host countries to have more FDI. Importantly, this finding is robust and not driven by biases due to endogeneity, weak instrument, or outliers' presence.

The findings of this paper clearly suggest that the policies formulated towards attracting FDI should emphasize more on promoting EF as higher level of EF which is likely to foster a healthy economic environment that is ready to attract more FDI inflow. EF can be further improved by promoting personal choice, voluntary exchange coordinated by markets, freedom to enter and compete in global markets, and protection of persons and their property from aggression by others. However, these efforts may be politically unpopular but the experiences of countries that have already achieved high level of EF indicate that this strategy produces tremendous long-term economic growth.

REFERENCES

Ali, F. A., Fiess, N., & MacDonald, R. (2010). Do institutions matter for foreign direct investment? *Open Economies Review, 21*(2), 201–219.

Alguacil, M., Cuadros, A., & Orts, V. (2011). The role of macroeconomic and institutional environment. *Journal of Policy Modelling*, *33*(3), 481–496.

Alonso-Borrego, C., & Arellano, M. (1999). Symmetrically normalized instrument-variable estimation using panel data. *Journal of Business and Economic Statistic, 17*(1), 36–49.

Ang, J. B. (2008). Determinants of foreign direct investment in Malaysia. *Journal of Policy Modelling, 30*(1), 185–189.

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence with an application for employment equation. *Review of Economic Studies, 58*(2), 277–297.

Arellano, M., & Bover, O. (1995). Another look at the instrumental-variable estimation of error-components models. *Journal of Econometrics, 68*(1), 29–52.

Asiedu, E. (2002). On the determinants of foreign direct investment to developing countries: Is Africa different? *World Development, 30*(1), 107–119.

Azman-Saini, W. N. W., Baharumshah, A. Z., & Law, S. H., (2010a). Foreign direct investment, economic freedom and economic growth: International evidence. *Economic Modelling*, *27*(5), 1079–1089.

Azman-Saini, W. N. W., Law, S. H., & Ahmad, A.H. (2010b). FDI and economic growth: New evidence on the role of financial market. *Economics Letters*, *107*(2), 211–213.

Belsley, D., Kuh, E., & Welsh, R. (1980). *Regression diagnostics: Identifying influential data and sources of collinearity.* New York: Wiley.

Bengoa, M., & Sanchez-Robles, B. (2003). Foreign direct investment, economic freedom and growth: New evidence from Latin America. *European Journal of Political Economy, 19*(3), 529–545.

Blonigen, B. A. (2005). A review of the empirical literature on FDI determinants. *Atlantic Economic Journal*, *33*(4), 383–403.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics, 87*(1), 115–143.

Borensztein, E., Gregorio, J., & Lee, J. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics, 45*(1), 115–135.

Buckley, P. J., Clegg, L. J., Cross, A. R., Liu, X., Voss, H., & Zheng, P. (2007). The determinants

of Chinese outward foreign direct investment. *Journal of International Business Studies, 38*(4), 499–518.

Cheng, L. K., & Kwan, Y. K. (2000). What are the determinants of the location of foreign direct investment? The China experience. *Journal of International Economics*, *51*(2), 379–400.

Desmet, K., & Parente, S. L. (2010). Bigger is better: Market size, demand elasticity and innovation. *International Economic Review, 51*(2), 319–333.

Dunning, J. (1993). *Multinational enterprises and the global economy*. Wokingham: Addison-Wesley Publishing Company.

Durham, J. (2004). Absorptive capacity and the effects of foreign direct investment and equity foreign portfolio investment on economic growth. *European Economic Review, 48*(2), 285–306.

Fedderke, J. W., & Romm, A. T. (2006). Growth impact and determinants of foreign direct investment into South Africa, 1956–2003. *Economic Modelling, 23*(5), 738–760.

Fosfuri, A., Motta, M., & Ronde, T. (2001). Foreign direct investment and spillovers through workers' mobility. *Journal of International Economics*, *53*(1), 205–222.

Glass, A., & Saggi, K. (2002). Multinational firms and technology transfer. *Scandinavian Journal of Economics*, *104*(4), 495–513.

Holtz-Eakin, D., Newey, W., & Rosen, H. S. (1988). Estimating vector autoregressions with Panel Data. *Econometrica, 56*(6), 1371–1395.

Kok, R., & Ersoy, B. A. (2009). Analyses of FDI determinants in developing countries. *International Journal of Social Economic*, *36*(1), 105–123.

Markusen, J. (1995). The boundaries of multinational enterprises and the theory international trade. *Journal of Economic Perspectives, 9*(2), 169–189.

Na, Lv., & Lightfoot, W. S. (2006). Determinants of foreign direct investment at the regional level in China. *Journal of Technology Management in China, 1*(3), 262–278.

Noorbakhsh, F., Paloni, A., & Youssef, A. (2001). Human capital and FDI inflows to developing Countries: New empirical evidence. *World Development, 29*(9), 1593–1610.

Quazi, R. (2007). Economic freedom and foreign direct investment in East-Asia. *Journal of the Asia Pacific Economy, 12*(3), 329–344.

Ramirez, M. D. (2006). Economic and institutional determinants of foreign direct investment in Chile: A time series analysis 1960–2001. *Contemporary Economic Policy, 24*(3), 459–471.

Roodman, D. (2009). A note on the theme of too many instruments. *Oxford Bulletin of Economics and Statistics*, *71*(1), 135–158.

Singh, R., McDavid, H., Birch, A., & Wright, A. (2008). The determinants of FDI in small developing nation states: An exploratory study. *Social and Economic Studies. 57*(3&4), 79–104.

UNCTAD (2001). World investment report: Promoting linkages. United Nations :

UNCTAD (2009). World investment report: Transnational corporations, agricultural production and development. United Nations

Wadhawa, K., & Reddy, S. S. (2011). Foreign direct investment into developing Asian countries: The role of market seeking, resource seeking and efficiency seeking factors. *International Journal of Business and Management, 6*(11), 219–226.

APPENDIX A

LIST OF COUNTRIES

Country	Country	Country	Country
Algeria	El Salvador	Korea, Rep.	Senegal
Argentina	Finland	Malawi	Singapore
Australia	France	Malaysia	South Africa
Austria	Ghana	Mali	Spain
Bangladesh	Greece	Malta	Sri Lanka
Bolivia	Guatemala	Mexico	Sweden
Botswana	Guyana	Morocco	Switzerland
Brazil	Honduras	Netherlands	Thailand
Cameroon	Iceland	New Zealand	Togo
Canada	India	Nicaragua	Trinidad &Tobago
Chile	Indonesia	Niger	Tunisia
China	Iran, Islamic Rep.	Norway	Turkey
Colombia	Ireland	Pakistan	United Kingdom
Costa Rica	Israel	Panama	United States
Cote d`Ivoire	Italy	Papua New Guinea	Uruguay
Denmark	Jamaica	Paraguay	Venezuela
Dominican Rep.	Japan	Peru	Zambia
Ecuador	Jordan	Philippines	Zimbabwe
Egypt	Kenya	Portugal	