DETERMINANTS OF FOREIGN DIRECT INVESTMENT: DOES DEMOCRACY MATTER?

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Having access to foreign investment allows a country to acquire opportunities that otherwise could not be had. Many factors are important for attracting...
investment in developing countries, but there has been only a limited consensus on which factors play an unambiguous role. Using different econometric techniques for a data sample of 5 Asian developing countries and the period 1990 to 2012, we identify those factors that matter the most for explaining flows of foreign direct investment. Our results show that democracy positively affects investors’ decisions about where to locate capital. Also, we find that foreign direct investment measured by share on GDP is significantly associated with low corruption and inflation and high openness, literacy rate and infrastructure.

Key words: foreign direct investment, democracy, panel data.
JEL: C33, F21

1 INTRODUCTION

The past two decades have witnessed a substantial increase in the stock of foreign direct investment (FDI) around the world. In developing countries alone, the stock of FDI increased from about $10 billion in 1986 to over $99 billion in 1995 (UNCTAD 1997). However, a part of the FDI goes to developing democratic countries, while another part flows to developing autocratic states. This phenomenon has led scholars and policymakers to ask themselves an interesting question: “Does democracy facilitate foreign direct investment or does it hinder it?” To answer this question two perspectives exist about how democracy affects FDI. On the one hand, democratic institutions may have a positive effect on FDI because democracy provides checks and balances on elected officials, and this in turn reduces arbitrary government intervention, lowers the risk of policy reversal and strengthens property right protection (North and Weingast 1989, Li 2009). Olson (1993) stated that established democracies, through executive constraint and judicial independence, guarantee property rights which create a safe, stable and attractive environment for foreign investors to invest. According to Olson, democracy is more attractive to FDI than autocracy.

On the other hand, multinational corporations may prefer to invest in autocratic countries because of three reasons. First, democratic constraints over elected politicians tend to weaken their oligopolistic or monopolistic positions. Second, these constraints further prevent host governments from offering generous financial and fiscal incentives to foreign investors. Third, broad access to elected officials and wide political participation offer institutionalized avenues through which indigenous businesses can seek protection. In each case, the increased pluralism ensured by democratic institutions generates policy outcomes that reduce the multinational enterprises degree of freedom in the host developing country (Li and Resnick 2003). O’Donnell (1978) specified that investors share better with autocrats than with democratic leaders. Whilst both autocrats and democratic leaders may receive economic benefits from FDI, autocrats face lower constraints than democratic leaders if they choose to protect foreign investors and investments from pressures such as higher wages, labor
protection and unfriendly taxation schemes. According to O’Donnell, autocracy is more attractive to FDI than democracy.

While economic determinants of FDI flows to developing countries have already been analyzed to a considerable degree, it is rather astonishing that the importance of changes in democratic system in host countries has received relatively little attention. Papers like Wheeler and Mody (1992), Hines (1995) and Wei (2000) have studied the correlation between corruption and FDI. Brunetti and Weder (1998) found a negative link between institutional uncertainty and investment. Jun and Singh (1996) inspected the effect of an indicator for political risk on the value of foreign direct investment inflows. However, there is far less literature on FDI-democracy nexus and what is clear in these papers is that no consensus has been obtained about the effect of democracy on FDI. There appear to be three groups in the literature in this regard: those that claim a negative effect, those that claim a positive effect, and those that find no effect.

Asiedu and Lien (2011) argued there are only twelve published articles, which include democracy as a determinant of FDI. For instance, Resnick (2001) and Li and Resnick (2003) found that the level of democracy has a negative impact on foreign capital flows. However, they also found that property rights encourage FDI flows. In contrast, Li and Reuveny (2000) detected that FDI has a positive effect on democracy. Also, Rodrik (1996), Harms and Ursprung (2001), Jensen (2003), Busse (2004), Jakobsen (2006), Jakobsen and De Soysa (2006), Adam and Filippaios (2007) and Busse and Hefeker (2007) found that multinational corporations are more likely to be attracted by countries in which democracy is respected. Oneal (1994), Alesina and Dollar (2000) and Büthe and Milner (2008) did not find a significant relationship between democracy and FDI.

As can be seen there are very few theoretical or empirical papers studying the effect of democratic systems on FDI. Therefore, the overall effect of democracy on FDI has to be determined empirically. This paper tries to investigate the determinants of FDI for five developing countries in years 1990-2012. One of the independent variables used in the research is democracy.

The remainder of this paper is organized as follows. Section 2 offers a brief literature review. Section 3 presents the data used, introduces variables and creates the model. Section 4 contains empirical procedure and results. Finally, section 5 concludes and suggests policy recommendations.

2 LITERATURE REVIEW

As we have already mentioned, numerous economists and hundreds of studies have investigated what factors influence foreign direct investment. However, there have been remarkably few attempts to empirically investigate the role of democratic systems in absorbing FDI. Oneal (1994) as a pioneer of this approach studied how regime characteristics affect FDI. He examined whether foreign firms invest more and
collect more profit in authoritarian countries or in democracies. He found that the relationship between regime type and FDI flows is not statistically significant, and that returns on investment are best in developed democracies. On the other hand, he also showed that returns on investment are greater in authoritarian developing countries than in democratic ones.

Busse (2003) tried to examine empirically the complex relationship between democracy and FDI in a systematic way, using cross-sectional and panel data analysis. The results indicated that, on average, investments by multinationals are significantly higher in democratic countries, thereby refuting the hypothesis that political repression fosters FDI. However, this positive link did not hold for the 1970s. In that period multinational enterprises were much more likely to invest in countries with repressive regimes, and significantly lower political rights of and civil liberties for the population.

Jensen (2003) used both cross-sectional and time-series analysis to investigate determinants of FDI for more than 100 countries and concluded that democratic political systems attract higher levels of FDI inflows both across countries and within countries over time. Democratic countries are more appealing and attract as much as 70 percent more FDI than their authoritarian counterparts.

Busse and Hefeker (2007) explored the linkages among political risk, institutions and foreign direct investment inflows. For a data sample of 83 developing countries covering the period 1984-2003, they identified indicators that matter most for the activities of multinational corporations. The results showed that government stability, internal and external conflict, corruption and ethnic tensions, law and order, democratic accountability of government, and quality of bureaucracy are highly significant determinants of foreign investment inflows.

Asiedu and Lien (2011) examined whether natural resources in host countries alter the relationship between democracy and foreign direct investment. They estimated a linear dynamic panel-data model using data from 112 developing countries over the period 1982–2007. Results showed that the effect of democracy on FDI depends on the importance of natural resources in the host country's exports. Democracy facilitates FDI in countries where the share of natural resources in total exports is low, but has a negative effect on FDI in countries where exports are dominated by natural resources.

Nieman and Thies (2012) attempted to sort out the roles that democracy and property rights play in attracting FDI from 1970 to 2008 through careful theorizing and the use of a non-nested hierarchical modeling strategy. Their theoretical and empirical analyses demonstrated that the effect of property rights on attracting FDI is contingent on democratic institutions. That is, in the absence of democratic institutions, property rights protections actually exert a negative impact on FDI. However, as the level of democratic institutionalization improves, the effect of property rights on FDI becomes increasingly positive.
Mathur and Singh (2013) studied the relationship between foreign direct investment, corruption and democracy. They found foreign investors care about economic freedoms, rather than political freedoms, in making decisions about where to locate capital. Moreover, countries that are more democratic receive less foreign direct investment flows if economic freedoms are not guaranteed. One reason could be that democratizing developing economies are often unable to push through the kind of economic reforms that investors desire due to the presence of competing political interests.

3 MODEL, VARIABLES AND DATA

FDI is a popular subject in international business literature. To date, thousands of statistical and econometric analyses have explored factors, which play a role in explaining FDI. Modeling FDI is a complicated task, because so many variables intervene. From among all possible explanatory variables, many economic phenomena are not quantifiable and data are not available. In this paper we try to give a complete picture of how some important factors can affect FDI. Selection of the explanatory variables has been done on the basis of the existing literature and data availability. Our model takes the following form:

$$ FDI_{it} = \alpha_i + \gamma_t + \beta_1 Lit_{it} + \beta_2 InfR_{it} + \beta_3 Opn_{it} + \beta_4 Cor_{it} + \beta_5 Dem_{it} + \beta_6 InfS_{it} + \epsilon_{it} $$

Variables are expressed across a series of countries (i=1, ..., N) and time periods (t=1, ...,T). The first two terms on the right side of the equation are intercept parameters, which change among the various countries i and years t. They allow for specific effects across countries (\(\alpha_i\)) and across time (\(\gamma_t\)). \(\epsilon_{it}\) shows random disturbance. As a dependent variable we use FDI net inflows in current US dollars. Explanatory variables include the following:

- Lit – literacy rate,
- InfR – inflation rate,
- Opn – trade openness
- Cor – corruption,
- Dem – democracy, and
- InfS – infrastructure.

**Literacy rate:** The first independent variable used in our study is literacy. We include it in the regression in order to account for the notion that a higher level of education raises the productivity of capital and thus increases a country’s attractiveness for foreign investors. Since the literacy rate as a measure of a country’s human capital stock exhibits a strong positive correlation with per capita income, this variable also accounts for the fact that richer economies are better locations for market-seeking FDI (Harms and Ursprung 2001). In a recent paper, Mathur and Singh (2003) used literacy...
rate and concluded that it has positive and significant effect on FDI inflows. We expect to find a positive relationship between literacy rate and FDI in our research. Because of data scarcity, we use secondary education enrollment as a proxy for literacy rate.

Inflation rate: It is expected that high inflation rate deters foreign investors, since it affects the country’s overall financial performance and it relates to macroeconomic mismanagement, which inhibits inward FDI. Asiedu and Lien (2011) inferred lower inflation promotes FDI.

Trade openness: This indicator is measured as the sum of exports and imports divided by the country’s gross domestic product. According to our expectations, higher level of trade openness leads to a higher level of FDI inflows. It is likely that economic conditions for a better investment environment may overlap with conditions for a better international trade environment, or simply that trade flows correlate with investment flows (Ng 2010).

Corruption: High levels of corruption have been associated with low exposure to international trade, high tariff levels and dependence on natural resources, while corruption itself tends to slow economic growth and discourage investment (Larrain and Tavares 2004). There is an abundant literature on the effects of corruption on openness, particularly on how higher corruption leads to lower levels of foreign direct investment. Wei (2000) and Smarzynska and Wei (2000) found evidence that American and European investors are indeed averse to corruption in the host countries. Moreover, Mauro (1995) showed evidence that both economic growth and private investment are negatively affected by the extent of corruption.

Table 1: Summary of democracy measures

<table>
<thead>
<tr>
<th>Paper</th>
<th>Source of democracy measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrow (1994)</td>
<td>Gastil Index of Political Freedoms</td>
</tr>
<tr>
<td>Leblang (1996)</td>
<td>Polity II</td>
</tr>
<tr>
<td>Li and Resnick (2003)</td>
<td>Polity IV</td>
</tr>
<tr>
<td>Rana and Kebewar (2014)</td>
<td>Polity IV</td>
</tr>
</tbody>
</table>

Source: own investigation.

Democracy: While there are many sources that provide ratings on the level of democratization in various countries, it has been argued that none of the measures of democracy is perfect (Asideu and Lein 2011). For example, Poe and Tate (1994) stated that the Freedom House data on civil and political liberties, which is probably the most utilized data set in the profession, is biased in favor of Christian nations and Western democracies. Casper and Tufis (2003) also cautioned that different measures of
democracy, even those that are highly correlated with each other, might not be interchangeable, and as a result their use in analysis will deliver very different results.

Based on the literature, three common democracy measures exist: The first measure of democracy is derived from the data on political rights published by Freedom House. The second measure is derived from the democracy index published in the Polity IV data set. The third measure is the measure of democracy published in the International Country Risk Guide. Preliminary research shows that Polity Project data is the most commonly used (Table 1). Therefore, following other economists, we use an index derived from the democracy index published by Polity IV.

The Polity IV Project has rated the levels of democracy for each country and year using coded information on the general qualities of political institutions and processes, including executive recruitment, constraints on executive action, and political competition. These ratings have been combined into a single, scaled measure of regime governance: the Polity score. The Polity scale ranges from -10 for fully institutionalized autocracy, to +10 for fully institutionalized democracy.

Figure 1: Distribution of governance regimes in the global system


Infrastructure: Foreign investors prefer economies with a well-developed network of roads, airports, water supply, uninterrupted power supply, telephones, and internet access. Poor infrastructure increases the cost of doing business and reduces the rate of return on investment. Other things held constant, production costs are typically lower in countries with well-developed infrastructure than in countries with poor infrastructure. Countries with good infrastructure are therefore expected to attract more FDI (Onyeiwu 2003). Wheeler and Mody (1992) found that infrastructure quality is an
important variable for developing countries seeking to attract FDI from the United States. Using a self-reinforcing model of FDI, Cheng and Kwan (2000) found support for good infrastructure (density of roads) as a determinant of FDI into 29 Chinese regions. In this paper, we use internet penetration (internet users per 100 people) as a proxy for infrastructure quality. We expect the measure to be positively correlated with FDI.1

The data used in this paper has been sourced from the World Bank and Polity IV for five developing Asian countries for the period 1990-2012. The five countries are Malaysia, the Philippines, Singapore, Thailand and Turkey. These were the only Asian developing countries with democratic systems (Figure 1) and a general trend of rising FDI in the last two decades.

4 EMPIRICAL PROCEDURE AND RESULTS

The panel data analysis performed in this study consists of four steps. First, the stationarity of data is examined using panel unit root tests. Second, we test for cointegration in panel data employing the panel cointegration test developed by Pedroni (1999 and 2004). Third, Hausman and heteroskedasticity tests are used. Fourth, generalized least squares technique is employed to estimate parameters.

Table 2: Panel unit root tests

<table>
<thead>
<tr>
<th>Variable</th>
<th>LLC</th>
<th>IPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>-7.748</td>
<td>-6.485</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Lit</td>
<td>-2.081</td>
<td>-1.445</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
<td>(0.0742)</td>
</tr>
<tr>
<td>InfR</td>
<td>-4.565</td>
<td>-6.185</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Opn</td>
<td>-4.310</td>
<td>-4.003</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Cor</td>
<td>-5.093</td>
<td>-3.518</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.0002)</td>
</tr>
<tr>
<td>InfS</td>
<td>-4.609</td>
<td>-4.334</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
</tbody>
</table>

Note: P values in parentheses.
Source: own estimation.

- **Panel unit root test**

There is a wide variety of panel unit root tests, such as Breitung (2000), Hadri (2000), Choi (2001), Levin et al. (2002), Im et al. (2003) and a few others. Breitung

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1 See also Mathur and Singh (2013) and Root and Ahmed (1979).
(2000) and Levin et al. (2002) initiated research on the panel unit root testing with heterogeneous dynamics, fixed effects, and an individual specific determinant trend. However, they assumed presence of a homogeneous autoregressive root. Im et al. (2003) introduced between-group panel unit root tests that permit heterogeneity of the autoregressive root. Choi (2001) suggested comparable unit root tests to be performed using the non-parametric Fisher statistic. While a great deal of research has been devoted to the use of unit root tests, the most popular seem to be the approaches of Levin et al. (2002) (LLC) and Im et al. (2003) (IPS).

Table 2 reports results of the LLC and IPS tests. The panel unit root tests provide strong evidence in support of a unit root.\(^1\) As a next step, we proceed to test for cointegration in order to determine whether there is a need to control for a long-run equilibrium relationship in the econometric specifications.

<table>
<thead>
<tr>
<th>Table 3: Results of the Pedroni test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Within-dimension test statistics</strong></td>
</tr>
<tr>
<td>Panel (\nu)-statistic</td>
</tr>
<tr>
<td>Panel (\rho)-statistic</td>
</tr>
<tr>
<td>Panel PP-statistic</td>
</tr>
<tr>
<td>Panel ADF-statistic</td>
</tr>
</tbody>
</table>

Note: \(P\) values in parentheses.
Source: own estimation.

- **Panel cointegration test**

The extensive interest in and the availability of panel data has led to an emphasis on extending various statistical tests to panel data. Recent literature has focused on the examination of cointegration in a panel setting. The most often used tests include Pedroni (1999 and 2004), Kao (1999), and a Fisher-type test using an underlying Johansen methodology (Maddala and Wu 1999). In the present paper we use Pedroni’s (1999 and 2004) panel cointegration test.

Pedroni proposed two sets of tests. One is based on the within dimension approach which includes four statistics: \(\nu\)-statistic, \(\rho\)-statistic, PP-statistic and ADF-statistic. These statistics essentially pool the autoregressive coefficients across different countries for the unit root tests on the estimated residuals. They take into account common time factors and heterogeneity across countries. The group tests are based on

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\(^1\) ADF-Fisher and PP-Fisher tests were also performed. All the tests indicated that the respective variables contain a unit root. Results are available from the authors upon request.
the between dimension approach which includes three statistics: group \( \rho \)-statistic, group PP-statistic and group ADF-statistic. These statistics are based on the averages of individual autoregressive coefficients associated with the unit root tests of the residuals for each country in the panel. Table 3 reports both the within and between dimension panel cointegration test statistics. As can be seen from the table, the majority of the statistics significantly reject the null hypothesis of no cointegration.

- **Hausman**
  Panel data may have group effects, time effects, or both. These effects are either fixed effect or random effect. A fixed effect model assumes differences in intercepts across groups or time periods, whereas a random effect model explores differences in error variances. The Hausman specification test compares the fixed and random effect models under the null hypothesis of existence of random effect model (Hausman 1978). After performing the Hausman specification test (Table 4), fixed effect model was found to be more suitable than random effect model.

- **Panel Heteroskedasticity**
  Before proceeding to the final estimation, a test of dynamic heterogeneity across groups is performed. A possible issue that is of major concern is heterogeneity of the countries included in the data set. It is well known that the presence of heteroskedasticity in the disturbances of an otherwise properly specified linear model leads to consistent but inefficient parameter estimates. As a result, faulty inferences might be drawn when testing statistical hypotheses in the presence of heteroskedasticity (White 1980).

<table>
<thead>
<tr>
<th>Test</th>
<th>Distribution</th>
<th>Stat</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hausman</td>
<td>Chi2</td>
<td>137.02</td>
<td>0.000</td>
</tr>
<tr>
<td>Heteroskedasticity</td>
<td>Wald Chi2</td>
<td>133.05</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Source: own estimation.

To test for heteroskedasticity in the model, the Likelihood ratio test has been employed (Table 4). The results indicate that the model suffers from heteroskedasticity. As a result, Generalized Least Squares model must be employed to obtain efficient parameter estimates.

- **GLS model**
  In statistics, Generalized Least Squares (GLS) is a technique used for estimating unknown parameters in a linear regression model. The GLS is applied when variances of observations are unequal (hence heteroskedasticity is present), or when
there is a certain degree of correlation between the observations. In these cases, Ordinary Least Squares can be statistically inefficient, and lead to misleading inferences. The results of GLS estimation are reported in Table 5.

Table 5: Results of GLS estimation

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th></th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lit</td>
<td>-0.001</td>
<td>-10.05</td>
<td>0.000</td>
</tr>
<tr>
<td>InfR</td>
<td>-0.009</td>
<td>-9.38</td>
<td>0.000</td>
</tr>
<tr>
<td>Opn</td>
<td>1.366</td>
<td>3.65</td>
<td>0.000</td>
</tr>
<tr>
<td>Cor</td>
<td>-2.338</td>
<td>-1.98</td>
<td>0.047</td>
</tr>
<tr>
<td>Dem</td>
<td>1.895</td>
<td>2.42</td>
<td>0.015</td>
</tr>
<tr>
<td>InfS</td>
<td>0.004</td>
<td>4.56</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Prob= 0.000  Wald= 418.310

Source: own estimation.

All the explanatory variables specified in the econometric function are shown to be significant determinants of FDI; the overall fit of the panel model is also reasonable. The GLS regression suggests that the effect of literacy rate on FDI absorption is positive and significant, which is in line with recent empirical evidence provided by Mathur and Singh (2013). Our statistical analysis also provides support for the view that inflation has negative effects on FDI, as rising prices lead to lower net profits of investors. Moreover, inflation increases investment risk and is also correlated with instability in macroeconomic policies.

The estimated results of our panel regression indicate that trade openness is positively and significantly correlated with FDI. The positive impact of openness seems to confirm the argument that trade liberalization leads to a more general reduction in administrative barriers and improves business environment in the host economy. Countries with low trade barriers also tend to have low barriers to FDI, as well as convey the “right” signal to the international business community (Lall 2000). In a more specific context, free trade zones have been much successful in attracting FDI with stable, growing economic environment and trade liberalization (Madani, 1999).

Corruption can deter foreign investors from investing in a country. Apart from raising the cost of doing business, corruption slows down the process of obtaining the business permits necessary for operating in the host economy. Our results show that foreign investors are also highly sensitive to changes of the framework in which governments operate. Fundamental democratic rights, like civil liberties and political rights do matter to multinationals operating in developing countries. This result is in line with the findings of Harms and Ursprung (2001), Jensen (2003) and Busse (2004),
who all showed that basic democratic rights are positively associated with FDI inflows, even if the specifications of their models differ.

Finally, we have found that better infrastructure is associated with increased FDI.

5 CONCLUSIONS AND POLICY RECOMMENDATIONS

The present paper has estimated the effects of democracy (as well as some other factors) on inflows of foreign direct investment using data for the period 1990-2012 for five developing countries – Malaysia, the Philippines, Singapore, Thailand and Turkey. We have found and presented evidence that democratic systems tend to increase FDI inflows to developing countries. This finding is largely consistent with previous research in this field. Our analysis also included other influential determinants of FDI, such as literacy rate, inflation, trade openness, corruption and infrastructure. All were found to be significant in explaining FDI.

Over the past decades, developing countries have attempted to improve their business climate in an effort to attract foreign investments. To draw more FDI many solutions can be suggested, mainly consisting of establishing competitive rules for investors; yet this is a difficult task, because it takes time and it is hard to implement policies which can convince potential investors. To improve the climate for FDI, implementation of a few visible actions is essential. Strong economic growth and aggressive trade liberalization can be used to fuel the interest of foreign investors. Improving the quality of infrastructure through higher investment in education and increasing government spending in capital investment, and phasing out capital controls have been some of the steps taken to boost investor confidence and foreign investment. Also, a well-designed policy framework and long regime durability could be productive and successful. While obviously not a panacea for all problems, democratic regimes seem to fare well in attracting FDI.

REFERENCES:


