The effect of institutional variables on fdi inflows: Evidence from upper-middle income countries

dogru, bulent

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THE EFFECT OF INSTITUTIONAL VARIABLES ON FDI INFLOWS: EVIDENCE FROM UPPER-MIDDLE INCOME COUNTRIES

Bülent Doğru[1]

ABSTRACT

For two decades, the relationship between institutions and foreign direct investment (FDI) has been receiving a growing attention as a result of increasing economic globalization and international trade promoting democracy all over the world. In this paper, we investigate the impact of institutional variables, social, economic and political, on foreign direct investment inflows into 54 upper-middle income developing countries applying panel data regressions for the period 1995-2011. The findings suggest that the institutional variables have significant effect on FDI inflows but their impact is weaker than macoreconomic variables. Especially, the market size indicators, population growth rate, global competitiveness and international country risk play a major role in attracting FDI.

Keywords: Institutional Variables, Foreign Direct Investment, Upper-Middle Income Countries, Panel Data Regression.

JEL Classification: F21, C23, F55

ÖZET

Geçen yirmi yılda uluslar arası ticaretin tüm dünyada demokrasiyi teşvik eder hale gelmesi ve artan ekonomik globalizasyonun sonucu olarak, kurumlar ve doğrudan yabancı yatırımlar (DYY) arasındaki ilişki, giderek artan bir ilgi görmüştür. Bu çalışmada, sosyo ekonomik ve politik kurumsal değişkenlerin doğrudan yabancı yatırımlara olan etkisini 54 üst-orta gelir grubundaki gelişmekte olan ülke için panel data regresyon tekniğini kullanarak 1995-2011 dönemi için analiz etmekteyiz. Ampirik bulgulara göre kurumsal değişkenler DYY üzerine anlamlı etkiye sahiptirler ancak makroekonomik değişkenlerin DYY üzerine etkisi kurumsal değişkenlerden daha güçlüdür. Özellikle, piyasa hacmi göstergesi olan değişkenler, nüfusun artış hızı, global rekabet edebilirlik ve uluslar arası ülke riski değişkenleri DYY çekmede önemli rol oynamaktadır.

Anahtar Kelimeler: Kurumsal Değişkenler, Doğrudan Yabancı Yatırımlar, Üst-Orta Gelir Grubu Ülkeleri, Panel Data Regresyon.

JEL Sınıflandırması: F21, C23, F55

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[1]Yrd. Doç. Dr., Gümüşhane Üniversitesi İktisat Bölümü, buldogru@gmail.com

INTRODUCTION

Since the early nineties, there is a growing consensus among economist and political scientist that institution variables, the social, economic, legal, and political organization of a society, are crucial determinants of economic development and growth (Acemoglu andJohnson, 2005). According to a large literature, good institutions can encourage foreign invesments, improve efficiency of domestic economic activities and significantly contribute to the economic growth in short run and economic development in long run (Daniele andMarani, 2006).

The main reason of focusing on quality of institutions as determinants of FDI, especially in developing countries, is the rose in FDI inflows in past two decades. Global FDI inflows rose in 2010 to $1.24 trillion, following the large declines of 2008 and 2009. The share of developing and transition economies in global FDI inflows is more than fifty percent and has continued to rise (UNCTAD, 2011). As a result of this rose, FDI inflows has played a crucial role in promoting economic growth and development of all income groups of developing countries. FDI also increases the volume of investment and job creation in host countries (LI, 2005: 393), and enhances job creation, managerial skills and transfer of technology (Wafure andNurudeen, 2010: 26; Borenszteina, et.al., 1998).

Recently there are many studies searching impact of institutions on FDI (Bénassy-Quéré, et.al., 2007; Bevan, et.al., 2004; Xu andShenkar, 2002; Knack and Keefer, 1995; Clarke, 2001; Daniele and Marani, 2006; Kostevc et al., 2007). Most of these studies suggest that lack of political and economic stability, i.e., third-class institutions discourage foreign investors from more FDI into the host country. These countries are supposed to make reforms in legal structure, trade and tariffs to establish a convenient condition for foreign investors. Because these investors demand quality domestic instutions and infrastructure to invest their bussines operations abroad. In developed countries citizens have political and civil liberties, and have good institutions. But poor countires are deprived of most of these quality of domestic institutions required for their development (Coyne and Sobel, 2010; Acemoglu

andJohnson, 2005; Janine, 2000; Barro, 1996). Besides positively relationship between economic growth and institutional quality, many studies have recently show that there are also significant impacts of good institutions on Foreign Direct Inflows (FDI).

In this paper we investigate the effect of good institutional variables on foreign direct investment inflows into 54 upper-middle income countries from different regions over the world.[2] The main reason why upper-middle income countries is selected for this study is that these countries are both developing countries and also less studies have been done on them as an income group. Panel time series techniques is used to estimate model established for the period 1995-2011. The findings suggest that the quality of institutions have overall a positive and significant effect on FDI inflows. According to econometric findings, FDI is positively related to the global competitiveness which includes judicial independence, impartial courts, protection of property rights, quality of bureaucracy, administrative requirements and international country risk (ICR) which includes military interference in rule of law and the integrity of the legal system, and is negatively related doing bussines (DB) which includes legal enforcement of contracts, regulatory restrictions on the sale of real property, bureaucracy costs, labor market regulations and starting a business. In other words, the increase in perception of the quality of institutions affects FDI inflows positively.

The rest of the paper is organised as follow: First we give a theoric backround about FDI inflows and institutional variables in section 2. Section 3 and 4 introduces the model, data and the methodolog used for the analysis. Panel regression estimation result is presented in section 5 followed by a conclusion and policy recommendations in last section.

2. FDI INFLOWS AND INSTITUTIONAL VARIABLES

Institutions are informal (sanctions, taboos, customs, traditions) and formal (constitutions, laws, property rights) constraints that facillitate political, economic and social outcomes (North, 1991: 97; 1990). The presence of good institutions reduce uncertainity and

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[2] List of country concerned is given at Appendix Table A1

cost of business doing through their influence on production and transaction costs (Coyne and Sobel, 2010: 164), and tends to improve factory productivity by stimulating investments. Additionaly, since FDI involves high sunk costs, social and political instabiliy, insecurity environment, enforcement of property rights and effectiveness of the legal system have negative impact on FDI inflows (Daniele and Marani, 2006: 7).

According to The New Institutionalist Approach, together with the standart constraints of macroeconomics, a countriy's institutional framework is the most important factor determininig its economic performance, and quality of domestic institutions is a key explanation of cross-country differences in growth rates and GDP per capita. Because effective institutions reduces transaction and production costs so much that potential gains from foreigner investments are realizable. In fact, the debate on adverse effects of less qualified institutions on FDI inflows mostly has been analyzed in context of cost of doing business in host country. Less developed or less qualified legal system and institutitons result in unclear regulatory frameworks, cumbersome bureaucracy, legal barriers and corruption which deter more FDI inflows into host country (Dumludağ, 2006: 8). Therefore, prevailing explicit and implicit behavioral norms are rules of a game in a society having capacity to create appropriate incentives for desirable economic behavior (Rodrik and Subramania, 2003). .

Studies investigating role of institutions attracting FDI show that effective enforcement of civil and property rights, economic freedom and a regulatory system can stimulate both domestic and foreign private investments. In other side, less qualified institutions means a risky enviroenment for investors. There are several indicators can be used to show political, economic and social risky level of a country. Among these indicators, the most widely used risk indicators are the two ones worked out by the Political Risk Service Group's (PRS) indexes and Fraser Institute's World Economic Freedom ratings. For upper-middle income developing countries, the relationship between the average institutional ratings and FDI inflow (% of GDP) is depicted in figure 1. A positive and significant correlation between the risky level of a country, represented by institutions, and FDI inflows is clearly seen from the figure.
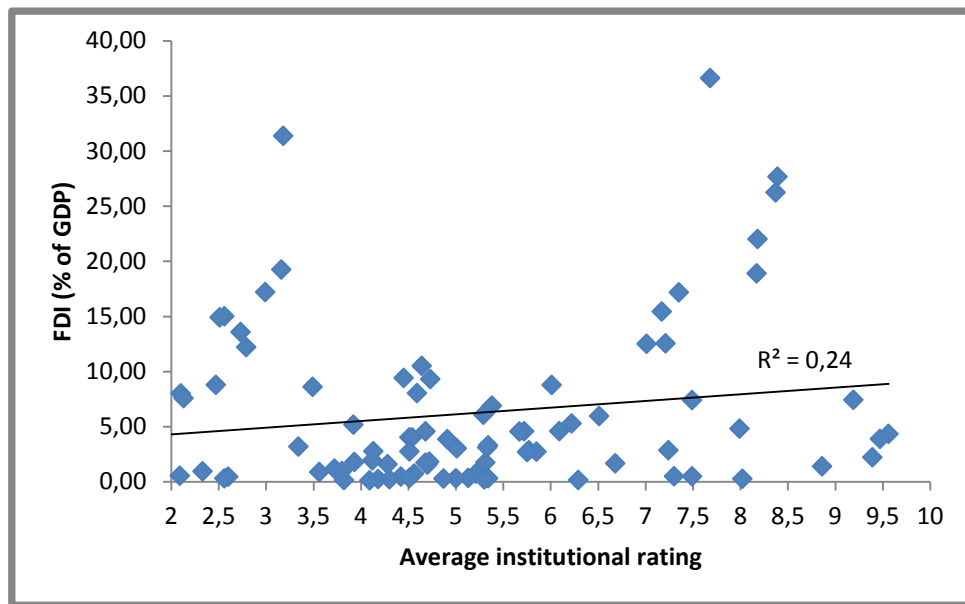
Figure 1. FDI Inflows (% of GDP) and Average Institutional Rating of Upper-Middle Income Developing Countries
Source: Fraser Institute's World Economic Freedom and PRS

Foreign direct investment has a major role in economic development of emerging and developing countries for three reasons: Lack of capital to finance domestic economic activities, lack of technology and know-how to run the the domestic projects. For these three reasons, both advanced and developing countries are competing with each other on attracting more FDI (Masron andAbdullah, 2010). Although FDI was accelerated with the economic liberalization in 1990s, total world FDI inflows has been growing tremendously after 2000s. Total FDI inflows has increased from only US$ 54 billion in 1985 to US$ 1,770 billion in 2007 before it started to fall between 2007 and 2009 (UNCTAD, 2010). FDI inflows into middle-income developing countries, as depicted in Figure 2, seem to be less decreased as compared to those flows into high-income developing countries after global financial crisis of 2008.

Most of recent work have also proved that there is a strong relationship between GDP growth rate and FDI inflows of developing countries. Figure 2 shows average foreign direct investment (% GDP) and average GDP growth rate (%) of upper-middle income countries

between 2000 and 2010. The positive correlation between GDP growth rate and FDI is clearly seen until 2007. In Figure 3, GDP growth rate seems to be more reduced as compared to FDI inflows. According to UNCTAD (2010), inflows of FDI per GDP (%) into the upper-middle income countries decreased by 17,7 % in 2009 an 6,08 % over the previous year (Table 1), while in the same period the total world FDI inflows decreased by 15,5 % in 2008 and 37,3 % in 2009.
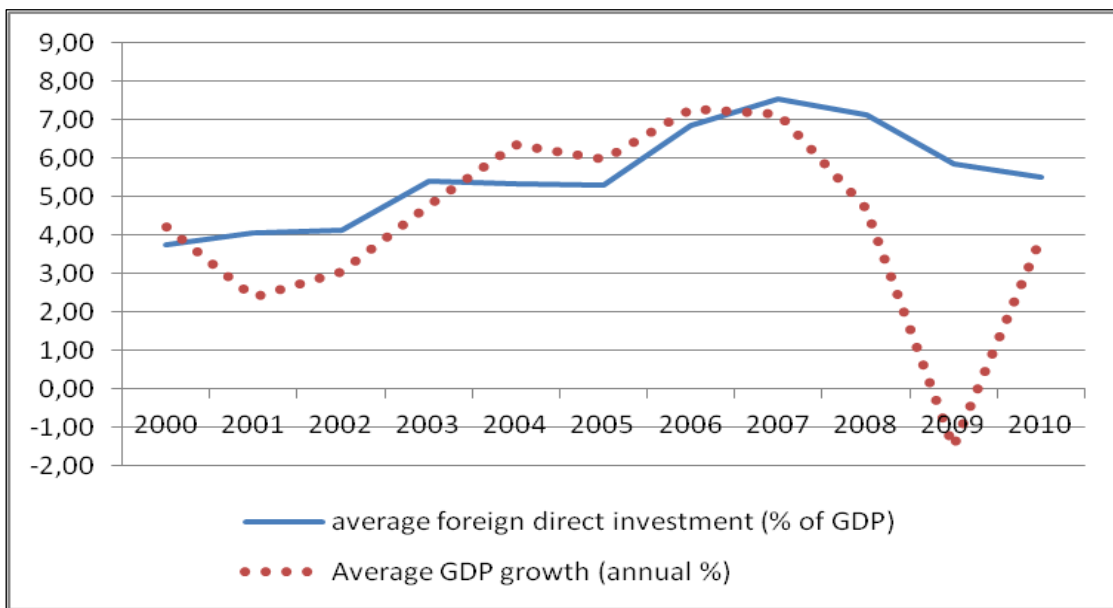

Figure 2. FDI and GDP Growth Rate of Upper-Middle Income Countries
Source: UNCTAD (2010) and Worldbank

The causal relationship between institutions and GDP growth rate has been examined by some authors. The the causality from good institutions to GDP growth rate is provided by many studies like Kaufmann and Kray (2008) and Acemoglu, Johnson and Robinson (2004) support that institutions can stimulate economic growth. However , these studies do not find evidence for reverse causality. Some economists like Rodrik and Subramanian (2003) theoretically demonstrate that there could be a bi-directional causality running between GDP growth rate and institutions. They suggest that domestic production rate needs good institutions, whereas good institutions will result in higher income growth. But bi-directional

causality between income growth and institutions is still a matter of debate among economists (Masron and Abdullah, 2010: 6-7).
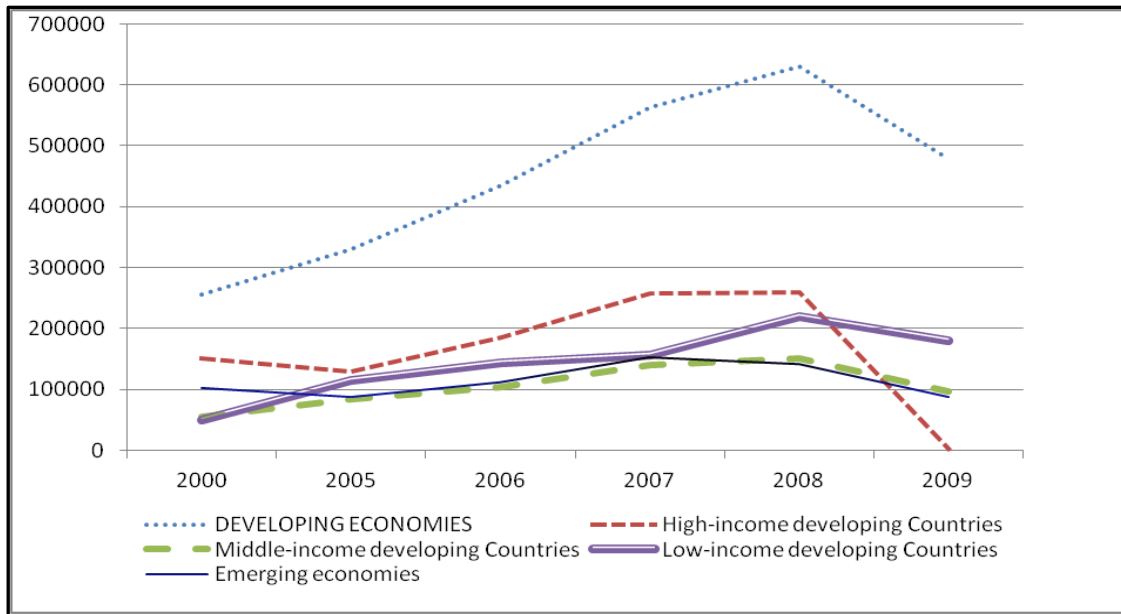
Figure 3. Foreign Direct Investment Inflows of Economic Groupings (Million USD)
Source: UNCTAD

Table 1. Foreign Direct Investment Inflows Into Upper-Middle Income Countries

Year	Average foreign direct investment (% of GDP)	% change
2003	5,41	30,50
2004	5,35	-1,07
2005	5,29	-1,01
2006	6,85	29,47
2007	7,56	10,24
2008	7,13	-5,67
2009	5,86	-17,77
2010	5,50	-6,08

Source: Worldbank

According to Fraser Institute, there are five different areas and their sub-components determining economic political and economic stability of a country. Area 1: Size of

government, Area 2: Legal structure and security of property rights, Area 3: Access to sound Money, Area 4: Freedom to trade internationally, Area 5: Regulation of credit, labour and business. However, in this study we focus only on impact of Area 2 and Area 5 and their severeal sub-components, i.e., judicial independence (GC), impartial courts (GC), protection of property rights (GC), military interference in rule of law and the political process (ICR), integrity of the legal system (ICR), legal enforcement of contracts (DB), regulatory restrictions on the sale of real property (DB), bureaucracy costs (GC), administrative requirements (GC), hours regulations (labor market regulations) (DB), starting a business (DB), and credit market regulations on FDI inflows into host country. As it is easily can be seen, area 2 guarantees protection of persons and their property rights in host country, while area 5 is related to constrains of doing business in credit, labor and manufacture markets. These two areas and their sub-components together are determinants of institutional variables of our study. But from these two areas and their sub-components we construct DB, ICR and GC as institutional variables indicators with the average weighting technique recommended by Fraser Institute (Gwartney, Lawson, and Hall, 2011: 7-8).

3. LITERATURE VIEW

In the literature there are several empirical studies using institutional variables as the non-economic factors of FDI determinants. The empirical studies vary in terms of variables, income level groups and regions. Especially, past two decades many scholars have studied the effect of instutional and macroeconomic variables on foreign direct investment inflows. The common idea figured out from these studies is that institutional variables are significantly important determinants of FDI and good institutions almost always increase the amount of FDI received by host country (Bénassy-Quéré, et.al., 2007: 4). In other words, lack of political and economic stability, unclear regulatory environment and underdeveloped legal system deter more FDI inflows into host countries.

Bénassy-Quéré et. al. (2005) have investigated the implication of institution on FDI inflow by controlling for GDP per capita with different econometric techniques. According to

their findings, good institutions and public efficiency level of a country which includes tax systems, ease to create a company, lack of corruption, transparency, integrity of legal system, protection of property rights and judicial independence are major and significant determinants of inward FDI in a broad sense. Kostevc et al. (2007) also attempt to examine the hypothesis of "good institutions lead more FDI inflows" as Benassy-Querre et. al. for transisiton economies. The results support recent studies: Institutional quality has significantly influence on the level of FDI in those economies.

In the work searching relationship between political, social and economic institutions and foreign direct investment flows by applying panel data regressions including 67 developing countries for the period 1984-2005, Dumludağ (2006) has found that better perceptions of the quality of institutions have overall a positive and economically significant effect on FDI. He also stresses that the underdeveloped legal system, politic and economic instabilities and high level of corruption are major reason to deter FDI.

Daniele and Marani (2006) also use the hypothesis based on the significant role of the quality of institutions to attract FDI using the Kaufmann, Kraay and Mastruzzi (2005) governance indicators for MENA countries. They find that institutions have strong effect in attracting FDI, suggesting that MENA countries need deep institutional reforms both in legal system and doing bussines methods to improve the attractiveness of these countries in terms of FDI.

The study of Globerman and Shapiro (2002) investigates the connection between indicator variables of national institutional systems and FDI in 144 countries. The work is concluded that FDI is mostly affected by the political governance.

Busse and Groizard (2008) produce a regulation index for only top 20 or 30 percent regulated countries using data provided by doing business, starting a business, labor market regulations, contract regulations, creditor rights and insolvency regulations mostly correlated with FDI inflows are used for index and then are transformed into an overall index of regulations. Busse and Groizard come to conclusion that countries applying high regulation standards are generally less successful to attract more FDI inflows. For that reason, they

emphasize that government, in the first place, has to develop the quality of regulations in home country to benefit from more foreign capital.

4. THE MODEL AND THE DATA

In this study, we employ a panel regression to ases the effect of institutions on FDI for 54 upper-middle income developing countries. We regress FDI inflows per GDP for the period 1995-2011 on a set of macroeconomic and institutional independent variables. There are many advantages of using panel data for such a work. Firstly, the sample size in panel data is much larger than would be the case if we run with pure time-series or cross-sectional datas. Secondly, panel data is a beter detection method compared to pure cross-section and pure time-series data to identify and measure effects that are simply not detectable. Panel data also give more informative data, more variability, less collinearity among the variables, more degrees of freedom and more efficiency. Time-series studies are plagued with multicollinearity (Baltagi, 2005: 5-7). However, considering that the institutional variables are highly correlated with each other we will also put each one of them individually in diffrent panel regression equations in which the macroeconomic variables, GDP growth rate, inflation, GDP per capita, openness, population growth rate, urban population and school enrollment are held constant. Therefore, our benchmark FDI equation estimated may be built up in the following linear form:

$$
\begin{aligned}
\text{LOGFDI}_{it} = \beta_0 &+ \beta_1 \text{GDPGRW}_{it-1} + \beta_2 \text{GDPPGRW}_{it-1} + \beta_3 \text{INF}_{it-1} + \beta_4 \text{OPENNES}_{it-1} \\
&+ \beta_5 \text{POPGRW}_{it-1} + \beta_6 \text{SCH}_{it-1} + \beta_7 \text{URBPOP}_{it-1} + \beta_8 \text{ICR}_{it-1} \\
&+ \beta_9 \text{DB}_{it-1} + \beta_{10} \text{GC}_{it-1} + \eta_i + \varepsilon_{it}
\end{aligned}
$$

Where *i* is the country and *t* is the time subscript, βs are unknown coeficients of elastcities to be estimated, ε is the random disturbance term and η is the unobserved country specific effects. Ln represents the natural logarithm of variables. All explanatory variables are lagged one year to take into account that the decision of investment abroad of foreign investors take time (Sadıq, 2009). The dependent variable is natural logarithm of FDI

per GDP recevied at time *t*. The key independent variables, i.e., instituonal variables in host country are measured by "Fraser Institute Economic Freedom of the World 2011 Annual Report". The macroeconomic control variables of the model comes from World Bank's World Development Indicators. The definition, source and expected signs of dependent and independent varibles are presented in Table 2, summary statistics and correlation matrix of data are shown in Table 3 and 4 respectively. As seen from table 3, we expect FDI to be positively and significantly related to the macroeconomic and institutional variables of the host country's GDP growth, GDP per capita, urban population growth rate, total population growth rate, openness of the economy to foreign trade and infrastructural development, school enrollment in host country. However, FDI is expected to be negatively related to economic instability, i.e inflation, country risk, global competitiveness and doing bussines. We also expect that institutional variables have played a significant role in determining the location of FDI inflows.

Table 2. Definitions, sources and expected signs of variables

Variable	Description	Source	Expected sign
LOGFDI	Natural logarithm of foreign direct investment per GDP	Worldbank	
GDPGRW	Annual percentage growth rate of real GDP measures the host country's market size.	Worldbank	+
GDPPGRW	Annual percentage growth rate of gross domestic product per capita measures host country's market size too.	Worldbank	+
INF	Annual change in consumer price index. Economic stability is controlled by the inflation rate in host countries.	Worldbank	-
OPENNES	The sum of exports and imports as a percentage of GDP. It indicates the openness of host country's economy to foreign trade and infrastructural investments.	Worldbank	+
POPGRW	The growth rate of total population. A very fast growing population of a country may serve as catalyst for FDI inflows.	Worldbank	+
SCH	Percentage of secondary scholl enrollment in gross. This control variable is used to indicate the quality of human capital by the host country.	Worldbank	+
URBPOP	The growth rate of urban population as a proxy for urbanization. Foreign investors take this signal for potential investment environment.	Worldbank	+
ICR	Indicator of country risk level, and includes military interference in rule of law and the political process and integrity of the legal system	Fraser Institute	+
DB	Indicator of doing bussines in host country, and includes legal enforcement of contracts, regulatory restrictions on the sale of real property, hours regulations and starting a business.	Fraser Institute	-
GC	Indicator of Global Competitiveness, and includes judicial independence, impartial courts, bureaucracy costs, administrative requirements and protection of property right	Fraser Institute	+

Table 3. Summary Statistics

Variables	Mean	Maximum	Minimum	Std. Dev.	Observations
	Sample: 54 Host Countries (1995-2011)				
LOGFDI	20,55424	25,68651	16,65552	1,857266	351
GDPGRW(-1)	4,501316	26,40000	-17,955	4,889108	351
GDPPGRW(-1)	3,625246	25,11293	-17,545	4,927174	351
INF(-1)	8,071324	79,53457	-18,848	9,308333	351
OPENNES(-1)	11,73009	67,32718	-33,271	16,63387	351
POPGRW(-1)	0,852979	4,120941	-1,861	0,883716	351
SCH(-1)	106,9995	148,5003	82,52008	9,346282	351
URBPOP(-1)	61,14701	92,98000	27,60000	17,76009	351
DB(-1)	5,57	9,80	2,23	1,23	351
GC(-1)	3,71	8,56	2,12	1,98	351
ICR(-1)	4,41	9,12	2,34	1,12	351

From table 3 it is seen that standart deviation of OPENNES, URBPOP, INF and SCH series are very high in which means that volatility of these variables differ a wide range in our sample, and as expected FDI is positively but unexpectedly weak corelated with macroeconomic varables of host country.

Table 4. Correlation Matrix

	LOGFDI	INF(-1)	GDPPGRW(-1)	GDPGRW(-1)	POPGRW(-1)	OPENNES(-1)	SCH(-1)	URBPOP(-1)	DB(-1)	GC(-1)	ICR(-1)
LOGFDI	1,00										
INF(-1)	0,10	1,00									
GDPPGRW(-1)	0,18	0,06	1,00								
GDPGRW(-1)	0,20	0,05	0,98	1,00							
POPGRW	0,08	-0,03	-0,17	0,01	1,00						
OPENNES(-1)	0,21	0,18	0,69	0,68	-0,09	1,00					
SCH	0,08	0,04	-0,07	0,00	0,36	0,01	1,00				
URBPOP(-1)	0,35	0,21	0,06	0,05	-0,01	0,15	0,23	1,00			
DB(-1)	-0,04	-0,01	-0,05	-0,05	0,00	-0,10	0,02	-0,01	1,00		
GC(-1)	-0,11	0,07	-0,10	-0,11	-0,01	-0,09	-0,02	-0,04	-0,17	1,00	
ICR(-1)	0,00	-0,07	0,16	0,16	-0,01	0,10	-0,03	0,01	0,01	-0,44	1,00

Notes: Correlation matrix shows relation between logaritm value of FDI per GDP in *t* time and the other economic and non-economic variables in *t-1* time. Macroeconomic variables are taken from Worldbank and non-economic variables comes from Fraser Institutte's reports.

Table 4 shows that there are not high correlations between the institutional variables except GC and ICR. The correlation between GDPGRW and GDPPGRW is as expected both positive and high. Also, correlations between OPENNES and GDPGRW and OPPENNES and GDPPGRW are positive and high too.

Before estimation, we have performed Im, Pesaran, and Shin (IPS) and Fischer-Augmented Dickey Fuller (Fischer-ADF) unit root tests to decide stationarity level of the series since the variables may incorporate unit roots. The null hypotesis in ADF –Fischer and IPS unit root tests is that all series have unit root, against the alternative hypothesis claiming that some series are stationary. The result of unit root tests is shown in table 5.

Table 5. Panel Unit Root Tests For Series

Test Statistic					
(Null hypothesis: Series has unit root, i.e., nonstationary)					
	IPS[a]		Fisher-ADF[b]		Results
Variables	level	1st difference	level	1 st difference	
LOGFDI	-0,354	-10,455*	79,243	181,234*	Stationary at 1st dif.
GDPGRW(-1)	-6,675*	-	206,856*	-	Stationary at level
GDPPGRW(-	-6,508*	-	203,678*	-	Stationary at level
INF(-1)	-10,66*	-	385,677*	-	Stationary at level
OPENNES(-1)	-6,678*	-	227,453*	-	Stationary at level
POPGRW(-1)	-14,57	-	335,678*	-	Stationary at level
SCH(-1)	1,456	-6,656*	71,435	157,012*	Stationary at 1st dif.
URBPOP(-1)	-14,45*	-	324,567**	-	Stationary at level
ICR(-1)	1,567	-6,879*	28,567	204,566*	Stationary at 1st dif.
DB(-1)	-0,879	-10,567*	72,345	155,678*	Stationary at 1st dif.
GC(−1)	-1,234	-6,688*	80,456	189,786*	Stationary at 1st dif.

Notes: a and b: Test statistics are the Im, Pesaran, and Shin W-statistic (IPS) and the augmented Dickey-Fuller Chi-square (ADF). Lag-length is selected by AIC. * and ** denotes statistical significance at a 1% and 5% respectively.

The test statistics of unit root tests reveal that the LOGFDI, GC, ICR, DB and SCH are stationary at first difference, however GDPPGRW, INF, OPENNES, POPGRW and URBPOP are stationary at level. To avoid spurious regression, Kao panel cointegration test is applied to investigate the cointegation between variables in long-term. The null hypothesis saying there is

no cointegration is rejected, i.e in long –term variables can be regressed in the same model without taking difference.

We should decide the estimation method before running the regression equations. As we do not know whether the random effects are uncorrelated with the explanatory variables or not, we employ a Hausman (1978) test to compare the fixed and random effects estimates of coefficients (Eviews, 2006). As it is seen from appendix Table A2, we rejected the null hypothesis of Hausman test saying there is random effects, that is, we should use fixed effects model for estimation. The analysis employs an unbalanced panel data for 54 countries over the period 1995–2011.

5. EMPIRICAL RESULTS

Table 6 presents the estimation results of equation (1), includes only macroeconomic variables and equation (2), includes both macroeconomic and institutional variables with Panel Fixed effects. Equaiton (3), (4) and (5), indicate the estimation results when each of institutional variables is taken into consideration one by one. We add institutional variables one by one to avoid multicollinearity between institutional variables. In equation 1, the coefficients of macroeconomic variables have the expected signs. Population growth rate, school enrollment percentage and the market size indiactors, real growth and GDP per capita, were found to be both significant and positive in attracting FDI into upper-middle income countries. If the gross domestic product growth rate and GDP per capita growth rate increase 1%, FDI inflows into host country will rise by 2,63 and 2,67 % respectively. This is consistent with studies of Wafure and Nurudeen (2010), Koyuncu (2010) and Obwona (1997). This estimation result suggests that larger market size have a better attracting performance on FDI into host country.

However, urban population growth rate and trade opennes level of the economy to the world is positively related to FDI but are insignificant. The coefficient of the inflation, economic stability indicator of the country was found negative but insignificant. Significance of these market based indicators encourage foreign investors to establish their bussines operations abroad.

Column 2 of the table 6, equation 2, includes all institutional and macroeconomic variables. Global competitiveness and international country risky both are positively and significantly related to the FDI inflows at the 5 and 10 percent level respectively, however although the sign of coefficient of doing bussines is negative as expected, the impact of doing bussines on FDI is insignificant.

In the following equations 3, 4 and 5 when we ad institutional variables one by one to measure their pure impact on FDI, wee see that the signs of all variables are as expected but there is problems with significance levels. Only in eq2 doing bussines and in eq 4 global competitiveness are significant. Country risk in eq 5 is insignificant.

These results confirm that judicial independence (GC), impartial courts (GC), protection of property rights (GC), military interference in rule of law and the political process (ICR), integrity of the legal system (ICR), a good quality of bureaucracy(GC), administrative requirements (GC) and credit market regulations on FDI inflows into host country are of first priority of the foreign investors' decision to invest abroad. In other saying, the increase in perception of the quality of institutions affects FDI inflows positively. Although our findings correspond to other studies on FDI and instutional variables (Bénassy-Quéré, et.al, 2007; Bevan, et.al, 2004; Altomonte, 2000; Asiedu, 2006), Kayam (2006) has found that among the institutional variables, bureaucracy quality, investment risk and government stability have no significant impact on FDI inflows (Kayam, 2006: 15).

Table 6. Determinants of FDI Inflows, The Role of Macroeconomic And Institutional Variables for 54 Upper-Middle Income Developing Countries Between 1995 and 2011.

	eq1	eq2	eq3	eq4	eq5
CONSTANT	92.16445	5.629387	-2.294480	1.476243	-27.51177
	(3.316578)*	(2.010912)**	(-0.645725)	(0.514485)	(-1.745515)***
GDPGRW(-1)	2.637460	0.626863	2.128049	2.139469	
	(2.915907)*	(-0.588815)	(-1.884723)**	(-1.921864)**	
GDPPGRW(-1)	2.671755	0.641622	2.146855	2.169147	12.895887
	(2.931876)*	(0.598467)	(1.889260)**	(1.936033)**	(2.398876)*
INF(-1)	-0.001933	-0.001934	-0.005682	-0.012005	-0.012541
	(-0.383204)	(1.83539)***	(0.911082)	(1.908736)**	(-0.406800)
POPGRW(-1)	2.633166	0.801094	2.095772	2.149741	12.17062
	(2.865895)*	(0.738425)	(1.827122)***	(1.898150)**	(2.224567)**
OPENNES(-1)	0.002109	0.008136	0.000226	0.008426	0.037208
	(0.505527)	(2.243026)**	(-0.043833)	(2.227627)*	(1.826537)***
URBPOP(-1)	0.054222	0.249035	0.564278	0.031400	0.455992
	(1.192667)	(7.147547)*	(0.5730)	(-0.876743)	(2.300923)**
SCH(-1)	0.018948	0.002073	0.006335	0.004065	0.053454
	(1.856260)***	(-0.170201)	(0.514328)	(0.328263)	(0.783267)
DB(-1)		-0.014602	-0.036077		
		(-0.590539)	(-1.82569)***		
GC(-1)		0.048131		0.032966	
		(2.415405)**		(1.83925)***	
ICR(-1)		0.019490			0.088358
		(1.833067)***			(0.748898)
R-square	0.234	0.236	0.235	0,189	0,289
Adjusted R-squared	0.124	0.08	0,156	0,137	0,213
F-statistic	4.324	1.236	1.325	36.098	7,654
Prob(F-statistic)	0,000	0,000	0,065	0,023	0,000
Hausman statistic	51.345	41.745	43.544	39.749	55.347
model type	FE	FE	FE	FE	FE
No. Obs.	351	351	336	336	407

-***, ** and *** shows 10%, 5% and 1% significance level respectively, t- statistics in parentheses.

In conclusion, an important result we have figured out from empirical analysis is that macroeconomic variables have a strong impact on FDI inflows rather than the institutional

variables. Additionaly, institutional variables have expected signs in regression equations but their effect on FDI inflows is weak and significiance level is problematic in some equaitons.

CONCLUSION

This paper analyses the impact of institutional variables on foreign direct investments in the upper-middle income developing countries. The main hypothesis is based on the significant role of the good institutions to attract FDI. The panel least square method is employed to estimate the relationship between FDI and its potential macroeconomic and instutional determinants using a sample of 54 developing countries for the period of 1995-2011.

The panel regression results show that the size of economic activity (GDP growth rate and GDP per capita growth rate), population growth rate and school enrollment are the principal determinants of FDI inflows to host country, however economic stability, indicated by inflation rate, is not a major determinant of FDI. Among institutional variables country risk and global competitiveness are positively related to FDI as expected and have significant coefficients.

Empirical findings also suggest that although institutional variables are significant and have expected signs, their impact on FDI inflows are rather weaker than macroeconomic variables.

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APPENDIX

Table A1. List Of Countries In The Study

Albania	Ecuador	Namibia
Algeria	Gabon	Palau
American Samoa	Grenada	Panama
Antigua and Barbuda	Iran, Islamic Rep.	Peru
Argentina	Jamaica	Romania
Azerbaijan	Jordan	Russian Federation
Belarus	Kazakhstan	Serbia
Bosnia and Herzegovina	Latvia	Seychelles
Botswana	Lebanon	South Africa
Brazil	Libya	St. Kitts and Nevis
Bulgaria	Lithuania	St. Lucia
Chile	Macedonia, FYR	St. Vincent and the Grenadines
China	Malaysia	Suriname
Colombia	Maldives	Thailand
Costa Rica	Mauritius	Tunisia
Cuba	Mayotte	Turkey
Dominica	Mexico	Uruguay
Dominican Republic	Montenegro	Venezuela, RB

Table A2. Hausman Test

Correlated Random Effects - Hausman Test			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	41.055148	8	0.0000