Impact of Capital Controls on Foreign Direct Investment in Asia: A Panel Analysis

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This paper investigates the impact of restrictive capital policy on foreign direct investment. During twentieth century and onwards most of the developing countries and commonly the Asian countries had at least one or more capital control policy in place. Thus, a thorough analysis of the impact of such restrictions bears significant importance, especially in the determination of foreign capital flow. The main objective of this paper is to identify the impact that these capital control policies have on the foreign capital flow in the Asian countries. The analysis is pursued with the data from 16 developing countries of Asia for the period 2000-2017. Quantitative results are obtained using a fixed-effect regression with the inclusion of several economic indicators. The results suggest that, during this period, freeing restrictions from export proceeds, liberalisation of personal capital account transactions and removal of control on the liquidation of foreign capital significantly increased the flow of foreign direct investment into these Asian countries.

Keywords: Capital Controls, Capital Liberalisation, Foreign Direct Investment, Developing Countries, International Capital Flow

JEL Classification: C31, F21

I. INTRODUCTION

The desirability of capital liberalisation and its consequences among developing countries is one of today's most topical themes. Proponents of open capital policy argue that opening up to international capital flows will speed up the pace of development. Advocates of restrictive policy, on the other hand, argue that in today's world of rapid globalisation capital mobility creates economic and financial instability at the cost of long-run economic growth (Gastanaga, Nugent and Pashamova 1998, Mody and Murshid 2002, Desai, Foley and Hines 2002). Thus, there has always been a trade-off in policy options for

dealing with the risks related to capital mobility in comparison with the importance of it for economic growth and the increasing global integration among countries mandates that such phenomenon should be addressed more accurately.

Using a panel consisting of 16 developing countries of Asia, this paper tries to find the dubious impact of capital controls on foreign direct investment (FDI).[1] In this study, only the developing countries are considered. As is noted by Eichengreen (2001), including both sets of countries without using an empirical methodology that clearly recognises the fundamental difference between these two groups of countries, weakens the interpretation of the results. The empirical analysis of this paper is motivated by the flow of liberalisation that swept through the developing countries during the early 1990s. Most of these although took place during 1990 and onward, for most of the developing countries it was not before the late 1990s or early 2000s that the actual impact became vigilant. The paper focuses only on the Asian countries. The reason being is, Asian countries have experienced economic crisis more often than the other segments of the world, thus making them starve for balanced policies that not only mitigate the possibility of crisis, but also accelerate persistent growth.

According to theory, capital liberalisation facilitates more efficient international allocation of capital from capital-rich countries to developing economies that are capital scarce. This most optimistic view of capital openness is associated with the work of Quinn (1997) and Edwards (2001). Unfortunately, the evidence does not fit well with this theory. A large number of empirical evidences posit doubt in considering the impact of capital flows on FDI. Arteta, Eichengreen and Wyplosz (2001) argue that Quinn's and Edward's study uses Quinn's measure for 1973 and 1988 only, which gives higher weight to richer countries and thus suggests a positive association between growth and capital openness, which might not be the case. Using data for 61 countries during 1973 to 1992 in a cross-sectional panel analysis, they found a fragile association between growth and capital account liberalisation and concluded that there is little evidence that capital liberalisation has a larger impact in high and middle-income countries than in poor developing ones. Given the fact that capital liberalisation has differential impact on rich and poor countries, further studies account for the reason of this variation. For example, Alesina, Grilli and Milesi-Ferretti (1994) analysed financial market of 20 OECD countries using Maximum

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[1]These countries include: Indonesia, Malaysia, Bangladesh, Bhutan, Philippines, Cyprus, India, Thailand, Nepal, China, Pakistan, Fiji, Sri Lanka, Korea, Turkey, and Mongolia.

Likelihood Estimation and concluded that the impact of liberalisation varies with countries of different income levels and political situations. Similar results were found by Inclan and Toyoda (2001). As a result, while the increase in these flows between industrial countries and from industrial to developing countries has been beneficial for most of the countries, the increased capital mobility also played a key role in a number of financial crises. The Asian crisis and the Mexico crisis (1994) are some of the examples. Such doubts were validated when the Asian financial crisis hit in 1997. As is mentioned in Bhagwati (1978), when these countries opted for open capital policy reform, it only induced short-term foreign capital flow at the expense of long-term GDP and consumption level. The outcome was economic volatility and collapse of financial sector. According to the findings of Toyoda (2001), these developing countries have not been able to use international financial markets effectively to reduce consumption volatility. Also, they did not have well-developed infrastructure, resources and correct policy in place to mitigate distortions and absorb the benefits of international integration. Premature opening of the capital account also poses serious risks when financial integration and regulations are inadequate (Lemmen and Eijffinger 1995, Chinn and Ito 2002, Arteta, Eichengreen and Wyplosz 2001). Malaysia was the only Asian country that could mitigate the devastating impact of the crisis. This was made possible as the country was pursuing a restrictive policy. Thus, resurrecting the use of controls and raising doubt about the wisdom of an open policy.

As is evident, the literature posits enormous doubts regarding the true impact of capital control liberalisation on FDI. Such inconsistency can arise due to some considerable facts. First, the sample used in different analysis differs across studies. Most of the studies focus on a particular segment or region. Next, the measure of capital control varies substantially. The most common measure used in the literature, however, is the IMF index for capital account liberalisation. But there are few limitations of the use of IMF index which can distort the results. Another important thing to note is that studies in this field differ substantially in choosing the time frame. Differences in sample period can also account for the inconsistency in findings.

Despite the salient interaction between capital flows and FDI, research in this field is scant. Most of the studies are limited to the number of countries being included and very few include poor countries in their sample. Gourinchas and Jeanne (2003) for example analyse the capital control impact on FDI for emerging economies. Some of the studies focus only on one type of capital control or an index capturing different capital control measures into one single

index (Desai, Foley and Hines 2005, Mody and Murshid 2002, Elo 2007). The first study analysing the relation between capital controls and FDI over time in a cross section panel analysis is done by Asieu and Lien (2004). Using data from 96 developing countries over the period 1970 -2000, they examine the response and change in FDI over time with an emphasis on region specific differential effect. The paper concludes that the impact of capital controls on FDI varies by region and has changed over time. For instance, capital restriction policies tend to have significant impact on FDI during the 1990s, whereas they were almost neutral during the 1970s and 1980s. There is also evidence of region-specific heterogeneity. This study, however, covers a time period from 1970 to 2000. Considering the twentieth century, the situation has changed drastically. With the increase in global integration among countries, it has become imperative to study how capital control policies are changing economic indicators across countries in the twenty-first century.

Following this, the sample period of this paper spans from 2000 to 2017. The paper complements previous studies that test the impact of capital control on FDI (i.e, Asiedu and Lien 2004, Alfaro *et al.* 2004, Noy and Vu 2007, Okada 2013). Following Asiedu and Lien (2004), restrictions on repatriation requirements and restrictions on personal capital transactions are used in this study. In addition to these, restrictions imposed on the liquidation of FDI has also been added. As opposed to Aseidu and Lien (2004) where they used the existence of multiple exchange rate, this paper uses liquidation of FDI as a capital control variable because the multiple exchange rate regime was not adopted by any country from the sample except one. Also, the restriction policy on the liquidation of FDI was followed mostly by the Asian countries included in the sample. It is recognised that these are not the only controls that can be imposed on capital. Given the nature of FDI, the impact of policy varies. Since the sample contains 16 Asian countries and detailed data on each type of FDI is not available for all of them, the types of controls that are most commonly used by these countries are used. For this reason, the IMF index of capital controls that contains comprehensive data for almost all of the countries till date has been used. However, IMF index of capital controls permits us to use only specific type of control, as the data is not available for other types of controls within the same index. During the study period, all of the 16 countries had at least one if not all three types of controls in place. To facilitate analysis, three types of controls are employed simultaneously since countries typically utilise these instruments conjunctively. This approach permits to separate the impact that each policy measure has on FDI. The paper

bridges the gap from previous studies in the sense that it identifies how capital control has influenced the flow of FDI among Asian countries during the twenty-first century. Studies like Aseidu and Lien (2004) focused on twentieth century and for a total sample of 96 countries. Gammoudi and Cherif (2014), on the other hand, focused on Middle East countries. This is the first paper to recognise the impact of capital controls on the determination of FDI in Asian countries and especially for twenty-first century. Since the paper incorporates the global financial crisis period (2007-2009), it also provides a framework for comparative policy analysis.

The remainder of the paper is organised as follows: section II describes the various types of capital controls in brief, section III presents the methodology used, section IV discusses the empirical results and estimations, section V provides policy recommendations and section VI concludes.

II. CAPITAL CONTROLS: A BRIEF DESCRIPTION

Capital controls are imposed to reduce the overall volatility and to increase macro- economic stability. By restricting capital flows, policymakers try to revive their country's foreign capital composition to FDI that is arguably less prone to detrimental changes in the economy. Controls also limit capital transfers from the restricted market to another and imposes restrictions to capital owners to withdraw or invest their funds into the economy.

In this paper, three direct measures for capital controls, restriction on export proceeds, restriction on personal capital transaction and restriction on liquidation of foreign capital, have been added. Restrictions on personal capital transactions impose restrictions on transfers initiated by a person or private entity that is intended to benefit other private persons or entity. Restrictions levy additional costs on transactions involving property to which the promise of a return to the owner with payments of interest is attached. For an investor the implication of such policy is nothing but an increased cost of investment.[2]

Restriction on export proceeds is measured by restrictions imposed on repatriation requirements. Repatriation refers to the conversion of offshore capital back to the currency of origin or the country where corporations are domiciled. Repatriation requirement for export proceeds and other invisible transactions refers to the obligation of exporters and foreign investors to

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[2] Definitions of capital control variables are collected from IMF annual publication *Annual Report on Exchange Arrangements and Exchange Restrictions.*

repatriate exports and investment proceeds. This also includes regulations imposed on making payments abroad. The obligation of repatriation applies to receipts and payments of funds initiated by both non-residents and residents.

Restrictions on the liquidation of FDI are controls imposed on the transfer of principal and capital gains from an investment that is initiated to establish lasting economic relations abroad by residents and domestically by non-residents. Such controls directly affect FDI by levying extra cost on the transfer of return from a foreign investment.

Data for all the above control variables are collected from the International Monetary Fund Annual Publication-Annual Report on Exchange Arrangements and Exchange Restriction. Table I provides a summary of the data on the above described capital controls for the 17 countries in the sample.

TABLE I
PERCENTAGE OF TIME EACH COUNTRY OPTED FOR
OPEN CAPITAL POLICY DURING 2000- 2017

Country Name	Liquidation of foreign capital	Repatriation requirement	Personal account transaction
Indonesia	100	61	100
Malaysia	100	0	0
Bangladesh	0	0	0
Bhutan	0	0	0
Philippines	100	61	11
Cyprus	39	89	39
India	0	0	0
Thailand	100	0	0
Nepal	67	0	0
China	0	0	0
Pakistan	100	0	0
Fiji	0	0	0
Sri Lanka	0	100	0
Korea	100	0	44
Turkey	100	67	67
Mongolia	100	94	0

Source: IMF *Annual Report on Exchange Arrangements and Exchange Restrictions.*

The table shows the percentage of time the Asian countries were open categorised by the type of policy over the sample period. The table also depicts that all of the countries had at least one or more capital control policy during the sample period, making them volatile of the danger of restrictive policy.

III. METHODOLOGY

To pursue the main objective, this paper analyses an unbalanced panel data for 16 developing and emerging economies of Asia for the period 2000-2017.[3]

3.1 Data and Variables

In line with the existing literature, the amount of net FDI inflow as a percentage of GDP has been used. According to Dunning (1993), there are three different motives of investors that influence the flow of FDI. The first type is market seeking FDI that is geared to the resident country's market. The second one is efficiency seeking FDI that is mainly export oriented. The last one is resource seeking FDI that depends on the available natural resources of the host country. Unfortunately, separate data on these categories are not readily available for developing countries. As a result, aggregate data on foreign investment has been considered for the explanatory variable. In addition to the three measures of capital control, traditional determinants of FDI have been included in the analysis. A detailed explanation of these variables is provided in Table II. Notably, the selection of shares instead of value terms for the dependent and most of the independent variables facilitates the comparison of international data and makes the use of price indexes redundant. Also, finding appropriate price indexes to convert international data into fixed prices is problematic.

In choosing the non-capital control variables, the paper depended on existing literature. But previous studies have considered different combinations of explanatory variables with mixed results that differ not only with respect to their impact on FDI but also in terms of their direction of the effect. Thus, there is a lack of robustness in these findings as they are sensitive to model specification. In specifying the model, this paper takes reference from Aseidu and Lien (2004) who in a similar study of panel data use gross capital formation, trade openness, fuel exports, real GDP per capita and country risk as independent variables. Nevertheless, these variables were commonly used by most of the previous studies. Brief reasoning of including each variable is further given below.

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[3]The unbalanced panel causes no problem if the missing data is not correlated with the idiosyncratic errors (Woodridge 2002).

TABLE II

DEPENDENT AND INDEPENDENT VARIABLES USED IN REGRESSION

Variables	Details
FDI inflow (Dependent Variable)	Net foreign direct investment as a percentage of GDP
Explanatory Variables (Capital Controls)	
Repatriation requirements for export proceeds	Dummy =1 if there is no restriction on export proceeds
Restriction on personal account transactions	Dummy =1 if there is no restriction on personal capital transactions
Restriction on the liquidation of FDI	Dummy =1 if there is no restriction on the liquidation of FDI
Explanatory Variables (Non-Capital Controls)	
Gross capital formation (Measure of infrastructural advancement)	Gross total capital formation as a percentage of GDP
GDP (Measure of host country attractiveness)	Per capita real GDP measured in constant 2010 USD
Political freedom index (measure of country risk)	Rates countries on a scale of 1-7 where, index=1 if the country is politically free.
Trade openness (Measure of host country's openness)	Total imports and exports as a percentage of GDP
Fuel exports (Measures availability of natural resources in host country)	Total fuel exports as a percentage of merchandise export

3.1.1 Capital Controls

As is described in section III, capital controls raise the cost of capital flows. In this paper, therefore, a negative relation between capital controls and foreign direct investment inflows is hypothesised.

As mentioned earlier, the capital control data are collected from the *Annual Report on Exchange Arrangements and Exchange Restrictions*. There are some limitations of using the IMF index. For instance, it only captures the existence but not the intensity of restrictions. (Echingreen 2001, Asiedu and Lien 2004, Desai, Foley and Hines 2004) The index is coded as a binary number that takes a value equal to 1 if the country is open and 0 otherwise. Such measurement is dichotomous since there are many ways and categories under which the capital can be restricted Edison *et al.* (2004). Despite the criticism, the IMF index of capital control is the most comprehensive and widely used measure for capital restrictions that covers data of 140 countries from 1965 till date. On contrary,

other available measures either lack comprehensiveness (Quinn's index of capital control) or are specific to micro level study (Shatz 2000 measure).

3.1.2 Infrastructural Advancement

Well-developed infrastructure is a prerequisite for attracting foreign investment into a country. In literature, studies have focused on total length of roads and highways, number of telephone subscriptions, gross fixed capital formation, etc. to account for the impact of infrastructural development that might impact FDI. In this analysis, gross fixed capital formation is used to capture the effect of infrastructural advancement on FDI.[4]

3.1.3 Attractiveness of the Host Country Market

Foreign investments are determined by the attractiveness of the host country. This paper uses per capita real GDP as a proxy of domestic market size. This variable measures how attractive the domestic market is for foreign investors to invest. However, the conflicting relation between real GDP and capital and FDI has still not received clear consent. Schneider and Frey (1985), Tsai (1994), Zhang (2001) and Seyoum (2009) found a positive relationship between these two variables. The reason behind this is that the foreign investors think that if the market is large enough, there will be buyers for their goods. This is true for domestic market seeking investments where a large domestic market implies greater demand for goods and services. However, for export-oriented foreign investments, the size of the domestic market may turn out to be insignificant and even negative. Higher growth rate also implies lower rate of capital returns which impedes the flow of FDI. For instance, Edwards (1990), Jaspersen *et al.* (2000) and Asiedu (2002) used the inverse of income per capita GDP as a measure for the return on capital investment and found that real GDP per capita is inversely related to FDI. Following this hypothesis, real GDP per capita has been added in this paper.[5]

3.1.4 Country Risk

Country risk is one of the most influential determinants of foreign investment. Corrupt government and low level of political freedom are likely to

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[4]Number of telephone subscriptions was also added in this regard but was found insignificant.
[5]Inflation, real interest rate and domestic credit to the private sector have also been added to this analysis, but they did not have any considerable impact.

attract more FDI inflows. This assumption is also consistent with the view of Lucas (1990). The argument is that greater political freedom in developing countries often leads to corruption and makes the transfer of foreign investment easier into the country. To incorporate country risk a proxy variable namely political right index has been considered.[6] It scores countries on a scale of 1 to 7 (1 refers the country is free from political turbulence and 7 means the highest amount of political violence). The index should be positively related with FDI.

3.1.5 Openness of the Host Country

The flow of FDI into a country is associated with the relative openness of that country. This hypothesis is strongly supported by many other studies (For example, Asiedu 2002, Morris*et* 2000, Noorbakhsh and Yousseff 2001). A common measure used to capture the openness of a country is the ratio of trade to GDP. Thus, the trade to GDP ratio is incorporated for the 16 countries in the assumption that the more open a country is, the more likely it is to receive foreign investments.

3.1.6 Availability of Natural Resources

Natural resources can influence the flow of FDI. According to Asiedu and Lien (2004), natural resources create macroeconomic imbalances and crowds out foreign investment. They are characterised by booms and busts, which is especially true for oil and thus results in volatile exchange rate. This in turn induces macro-economic uncertainty. Also, increased availability of natural resources raises demand in the non-tradable sector and causes inflation. Higher the amount of available natural resources, lower will be the FDI. To account for the availability of natural resources, the total amount of fuel exports as a share of total merchandise export has been considered.[7]

Summary statistics for the entire dependent and independent variable is provided in Table III.

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[6]Data for political risk index has been collected from Freedom House Annual Publication- *Freedom in the World*

[7] Total amount of ores export as a share of total merchandise export was also considered but did not have any significant impact.

TABLE III

**SUMMARY STATISTICS FOR THE DEPENDENT
AND INDEPENDENT VARIABLES**

Variable	Obs	Mean	Std. Dev.	Min	Max
FDI inflow (% of GDP)	286	3.788262	13.95344	-43.46282	198.0743
Gross fixed capital formation (% of GDP)	284	27.41473	9.951115	11.65481	68.02272
Per-capita GDP	288	6183.667	7943.423	459.1163	32651.91
Political Stability index	288	3.361111	1.532965	1	7
Total trade (% of GDP)	287	80.09753	41.43929	25.30623	220.4074
Fuel exports (% of total merchandise exports)	260	7.10016	9.640132	0	48.91751

Additionally, regarding the dependent variable, as is mentioned in Mossa and Cardak (2006), it is acknowledged that there is flawed reporting and inclusion as well as non-inclusion of certain items (For example, mergers and acquisitions is included in FDI calculation) in FDI data by some countries. A concern for getting distorted results can arise from this. To account for this and for other possible mis-specification, this paper checks for outliers. From the summary statistics provided above, maximum value for FDI share is 198%, which seems much higher compared with the rest of the sample. This value corresponds to FDI share in Cyprus (2012). However, dropping these values does not make any significant difference in the analysis.

3.2 Model and Estimation Method

The empirical analysis of this paper aims to examine the role of capital liberalisation in determining FDI. Different types of capital control measures have been used to capture the impact of capital liberalisation. These measures capture the cost characteristics of capital controls and thus can be regarded as direct or indirect taxes on capital transfers levied on foreign investors.

Foreign investment decisions are much similar to other financial investment decisions, in that their returns spread out in time. Aharoni (1966) pointed that such investments take place under uncertainty involving different organisational levels and consumes a long period of time. Although these investments are irreversible in nature, investors often have the flexibility to adapt to the changes in economic environment and alter their earlier decisions. However, there are dynamic uncertainties and unfamiliarities associated with foreign operations

including country specific economic and risk factors. These elements that affect the timing and duration of investment flows needed to be incorporated in the analysis. According to Lemmen and Eijffinger (1995), inflation rates, government deficits, current account deficits, credit expansion to the economy, productivity of the business sector and availability of deposit instruments, etc. have significant explanatory power in determining foreign investment into a country. Moosa (2002) in a separate study finds real interest rate, rate of inflation, exchange rate, growth rate of GDP, fiscal balance, unemployment, reliance on exports, balance of payment, etc. as important indicators comprising the economic determinants of FDI.

Following the discussion above, several economic factors along with the capital control variables are added in this analysis. In choosing these variables previous studies in similar field have been used as reference. But these previous studies have considered different combinations of these variables with diverse results, which state that the estimated results vary significantly with the combination of independent variables being used in the regression. As is noted by Chakrabarti (2001), for example, economic growth has a significant positive effect on FDI if it is combined with inflation, trade deficit and wages and insignificant otherwise. This is especially true for cross section panel analysis where the estimated relationship depends on the combination of explanatory variables being used. As a result, the theoretical reason of including a variable that is valid for a particular country or a group of countries might not be valid for some other or all the countries. For robust results, this paper takes reference from Asiedu and Lien (2004), where the authors studied similar phenomenon, and build empirical framework with the economic indicator specified by this particular study.

An appropriate approach for this analysis will be to use fixed effect regression. There are many reasons for which a fixed effect analysis is suitable for this analysis. For instance, it allows analysing the changes within different countries over time. Using a fixed effect regression also eliminates the unobservable time-invariant factors that can influence the flow of FDI and thus address the omitted variable bias problem. Furthermore, in this analysis, there are missing data for some countries and for some variables over the period. In such case, if fixed effect regression is applied, the estimates still remain unbiased. Therefore, following the Hausman test result, fixed effect regression has been used for this analysis. Specification of fixed-effect model also facilitates the analysis by controlling the unobserved country and year specific fixed effects.

Another alternative approach could have been the GMM method. However, according to Arellano and Bover (1995), if the independent variables are persistent over time, which they are in this study, lagged values become poor instruments for first differences. A more efficient estimator suggested by Blundell and Bond (1998) is the system GMM estimator. However, in a similar study Asiedu and Lien (2004) showed for such analysis; the future values of the explanatory variables and the error term are uncorrelated and thus the specification of system GMM can mislead results.

Considering the above mentioned facts, the analysis of this paper begins with a Fixed-effect model of FDI determination that includes capital control variables and other macro-economic explanatory variables. The specified model is:

$$FDI_{it} = \alpha t D_t + \gamma_i D_i + \beta_1 CC_{i, t-1} + \beta_2 X_{i, t-1} + \varepsilon_{it} \qquad (1)$$

where FDI_{it} is the percentage share of net FDI inflow in GDP of country i (i = 1,2,. . . .,18) in period t (t = 1, 2,. . . . .17). α and γ captures the time and country specific fixed effect. β_1 and β_2 are the co-efficients of the specified capital controls and non-capital economic factors respectively. Capital control variable includes three dummy variables, each for one type of control. A detail list of these variables is provided earlier.

The error term, ε_{it} represents the effects that are beyond the control of the country, such as shock-related demand, business cycle, international business situation as well as measurement error in the dependent variable and omitted explanatory variables.

The error term is assumed to be independently and identically distributed with zero mean and constant variance. Since this paper estimates a fixed-effect model, the time invariant factors are eliminated by taking the deviation of the dependent and independent variables from their mean.

Finally, it is recognised that there is a possibility of endogeneity in the relationship between the covariates and FDI. But finding an appropriate instrument to deal with this problem is difficult. Also, addressing endogeneity in a panel analysis with dichotomous explanatory variables can be problematic (Gyimah-Brempong and Corley 2002). Nonetheless, to mitigate the problem associated with simultaneity, the lagged value of the explanatory variables has been used. So, the final model of estimation is

$$FDI_{it} = \alpha t_{Dt} + \gamma_i D_i + \beta_1 CC_{i, t-1} + \beta_2 X_{i, t-1} + \varepsilon_{it} \qquad (2)$$

IV. EMPIRICAL RESULTS AND ESTIMATIONS

4.1 Baseline Result

In Table IV, column 2, baseline regression results are reported. It includes all the economic indicator variables except for the capital control policy variables.

The fixed effect regression reveals that the amount of gross capital formation used as a measure of host country's infrastructure is positively related to FDI. FDI share increase by 1.3 per cent due to a 1 per cent rise in the gross capital formation. Considering the developing country context, it indicates that foreign investors are more likely to make investment if there is well-developed infrastructure in the host country. These findings also correspond with the previous findings (Mello 1997, Asiedu and Lien 2004, Albuquerque *et al.* 2005). Nasser and Gomez (2009) suggested that financial development of the host country play an important role in FDI decision making, because it affects the cost structure of the investment projects. Foreign capital in the Asian countries is also influenced by per capita GDP, a measure of the size of the domestic market. A large domestic market with greater per capita GDP reduces the return from capital and thus the foreign investment falls by 0.34 per cent. This is also true for the amount of fuel exported by the host country used as a measure of the availability of natural resources in the host country. Availability of natural resources is expected to reduce FDI by 0.055 per cent in the Asian countries. These findings are consistent with the findings of Aseidu and Lien (2004).

The result suggesting positive relation between trade openness and FDI is supportive of the vast literature which shows strong association between these two like Caves (1996), Tsai (1994), Young *et al.* (1994), Singh and Jun (1996), Chakrabarti (2001), and Nonnemberg and Mendonca (2004). According to the results, a 1 per cent rise in trade openness is likely to rise the share of FDI by 0.39 per cent. A trade-friendly environment ensures greater mobility of foreign capital and thus is beneficial for foreign investments.

Another important result found from the regression is the significant relation between country risk, mainly the political risk, and FDI. The results suggest that a politically fragile Asian country that lacks proper governance be likely to attract more capital from abroad than a politically free country. Poorly defined political rights raise the chance of foreign investment by 0.12 per cent. This is particularly true for the least developing and poor countries where political freedom gives rise to corruption and creates possible leakages fostering the easy flow of foreign capital into the country. These findings are also supported by previous studies like Moosa and Cardak (2006) and Dupasquier and Osakwe (2006).

TABLE IV
FIXED EFFECT ESTIMATION WITHOUT (1) AND WITH (2) CAPITAL CONTROL VARIABLES[A]

Dependent Variable		
Log (FDI inflow % of GDP)	(1)	(2)
Independent Variables	Co-efficient	Co-efficient
Lag [Log (Gross capital formation % of GDP)]	1.29156 (3.43)***	1.217869 (3.24)***
Lag [Log (per-capita real GDP)]	- 0.3382993 (-2.17)**	- 0.3071171 (-1.88)*
Lag (political freedom) (Index=1 if the country is free)	0.1153883 (1.70)*	.1166493 (1.73)*
Lag [Log (Total trade % of GDP)]	0.385951 (1.64)*	0.5821242 (2.30)**
Lag [Log (Fuel exports % of total merchandise export)]	- 0.0550181 (-1.70)*	- 0.0734972 (-1.91)*
Ep= lag (dummy equals 1if there is no restriction on export proceeds)		0.5133288 (2.55)***
Pc= lag (dummy equals 1 if there is no restrictions on personal account transactions)		0.5387329 (2.38)***
Li= lag (dummy equals 1 if there is no restriction on liquidation of foreign capital)		.992853 (2.58)***
Observations	244	244
Number of countries	16	16

Note: a. Robust t statistics are in parentheses. Superscripts ***, ** and * denote significant at 1%, 5% and 10% respectively.

4.2 Estimated Results with Capital Control Variable

Next included are the measures of capital controls. Column 3 of Table IV depicts the estimated results. There is not any variation in the non-capital control variables. All the macro-economic variables are still significant with a slight change in the coefficients. Additionally, all the three capital control variables are deemed significant for the inflow of FDI.

Following an open export proceed regime, an Asia country is likely to experience an increase in foreign investment by 0.51 per cent. Freeing restrictions from personal account transactions, on the other hand, can rise the flow of foreign capital by 0.54 per cent. This is also true for any control imposed on the liquidation of foreign capital. In the absence of any control on the liquidation of foreign capital, the flow of FDI is expected to rise by 1 per cent

approximately. Since foreign investments in the developing countries of Asia are mostly export market oriented, freeing these countries from export duty and direct or indirect cost of personal capital transactions facilitates repatriation of the foreign investments. For the overall sample, restrictions imposed on the liquidation of FDI was the most impactful policy.

From a developing country perspective, as they are mostly capital scarce, liberalising controls facilitates a more efficient international allocation of capital flow into these countries by reducing the extra cost that is levied when there is restriction. As is noted by Obstfeld (1998), Rogoff (1999), Summers (2000), Fischer (2003) and Henry (2006) that the flow of resources into developing countries reduces their cost of capital and triggers increased investment from the capital rich foreign countries where the return on capital is low. Since the late 1990s, most of the Asian countries adopted policies to generate high savings rate and stable macroeconomic conditions accompanied by high degree of liberalisation to, and integration with the global market. No wonder why during the twenty-first century they were benefited with increased foreign investment.

V. POLICY RECOMMENDATION

The baseline results indicate a well-developed infrastructure, trade-openness and political instability promote FDI for overall sample, whereas the size of the domestic market and availability of natural resources reduce the flow. These variables remain significant even after including the capital control variables. A policy recommendation for the government is to make the host country more attractive for FDI by ensuring better physical infrastructure.

Furthermore, liberalisation will not inject a positive push in the development of less developed economies if these economies have other market distortions. An open capital policy in combination with other sustainable policies will ensure efficient allocation of international capital flow. Thus, eroding market distortions before liberalisation is highly recommended. As is suggested by Gammoudi and Cherif (2014) that governments should adopt a set of policies that are targeted to capital openness as well as on the improvement of financial and political institution's efficiency. In addition, incentives should be taken in making government policy announcements more credible to the investors. In a survey conducted by the World Bank, about 43 per cent of foreign firms operating in Africa said that they did not fully rely on the government to stick to announced policies and about 57 per cent agreed that changes in policies were not likely to

be predictable (Asiedu and Lien 2004). An effective way to attract FDI for the governments in developing countries is to develop mechanisms to enhance the credibility of their policies.

Nevertheless, as mentioned earlier, liberalisation of capital also increases short-term capital flows and destabilises the economic condition. Countries pursuing an open policy regime need to take into account the trade-off between the benefit of trade and the cost related to the increased short-term capital flows. A possible solution suggested by Asiedu and Lien (2004) is to impose restrictions on short-term capital flows. Doing so, however, is problematic as this deters both type of capital investments and sends bad signal to all foreign investors.

The IMF can play a key role in designing policy to facilitate international integration. Since 2005, it has made continuous effort in illuminating and improving its former approach to open capital regime. Although the IMF has given much emphasis on the negative impact of policy spillovers, continuous efforts are needed to promote their planning strategy and to enhance greater coordination among the recipients and donors of capital investment.

VI. CONCLUSION

Economic theory strongly supports the favourable influence of open capital policy on FDI. Nevertheless, the misfortune and sufferings of many countries pursuing an open policy regime creates caveat among policymakers and conveys that reality is more complex than is predicted by theory. In particular, the incident of financial crises brought capital controls in the focus of revised investigation, and rigorous attempts to capture the impact of liberalisation measures in stabilising capital flows in terms of the volume and volatility have been made accordingly. This paper investigated the impact of restrictive capital policy on foreign investments. For the overall sample, capital liberalisation induced a positive impact on the flow of foreign capital and investment. This finding is robust even after controlling for many country specific factors and economic indicators.

The paper recognises that all forms of capital liberalisation might not be an appropriate policy for all countries and at all times and that under certain circumstances capital flow regulating measures can depend on the macroeconomic policies. This leaves ample space for tailored policy recommendations that are specific to country environments.

This paper concludes with some remarks on future prospects. Most of the studies examining the impact of capital controls have implicitly addressed the

influence of financial crisis in determining the impact of controls on FDI. Some studies used firm level data to investigate this. However, a broader macro level study in this field is rare. The analysis in this paper paves the way for further research in this topic. In particular, the incident of the global financial crisis of 2007 within the sample period indicates more dimensions of this topic that can be examined through further research.

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