

## The Determinants of Capital Inflow in Developing Countries with Special Reference to Pakistan

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### Abstract

**Introduction:** The capital mobility has increased in the developing countries after opening up of markets and WTO since 2001. Now the investors all over the world are free to move their capital and invest it in the country of their choice. Now the countries having big markets and number of customers are the target of big investors. This is the reason that capital has been flowing in the developing countries.

**Objectives of the study:** The main objective is to investigate into the determinants of rising capital inflow into developing countries in general and Pakistan in particular and its impact on its economy.

**Main Research problem:** Our main research problem is to study the determinant of capital inflow in Pakistan and the policies of the Government to attract foreign direct investment. Another problem is to study whether the policies are conducive for foreign investment.

**Methodology:** In this study, we have taken the sample of eight developing countries of Asia such as Bangladesh, China, India, Malaysia, Indonesia Pakistan, South Korea and Thailand. The annual data of these countries is taken from International Financial Statistics and World Bank database for 23 years from 1990 to 2012. The E=views7 software has been used to analyze the data.

**Findings and Results:** Our results specifically show that foreign exchange reserves, fiscal incentives, current account position, efficient capital market, strong infrastructure and efficient legal, judicial system and law and order situation play key role in attracting foreign capital inflow. At the moment Pakistan has been facing problem of twin deficits, political instability due to terrorism, and inefficient legal system, which are hampering large inflow of capital. Even then, Pakistan has been receiving more \$12 billion remittance every years and ample foreign direct investment in telecommunication, banking and information technology sector. Our study show if government focus on political stability it can attract more capital flow. Our results are robust and consistent with other studies so far made on this subject.

**Key words:** capital inflow, competitive edge, exchange rate, foreign exchange accumulation.

### Overview

The increased global liberalization in the recent decades resulted in the rapid movement of capital among the nations to get the maximum returns from them. The developing economies experienced the surge of capital affecting their macroeconomic factors and the long run plans for future growth. The countries with better plans stable economic conditions and favorable environment regarding investment prospective surged huge capital inflow reaped their competitive edge and augment their economic growth. The developing countries always need funds for their development but their domestic supply is usually not sufficient to meet this requirement. On the other hand the people in the developed countries have excess funds but they receive low rate of return in their countries. In order to attract the capital the developing countries offer higher rate of return which allows the movement of funds from developed to the developing countries.

The advanced countries have loose monetary policy as compared to the developing economies and they offer less interest rate as well. Surge of capital moves from developed to the developing countries having improved

economic fundamentals (Fernandez; 1996, Calvo 1996 and Sester 2004). The capital movement is even greater during the crisis period in which the developed countries are affected more than the developing countries. The financial institutions also advise the developing countries to improve their economic conditions, stabilize their exchange rate and create a healthy environment for the inflow of capital so that they can also enhance their economic growth.

World Bank released reports regarding the most favorite country for investment so the countries enhance their economic policies and try to stabilize their economic conditions to attract the inflow of capital. The countries transform the capital to exports that directly enhances the economic growth. Due to its ultimate importance the capital inflow has become a key area of interest not only for the economists but also for the policy makers of the country. Now a day's country's growth is mainly dependent on its policies. The developing countries also take the benefit of transferring and adopting the new technology from the developed countries due to which their economic activities and their efficiency enhance. The transfer of human capital is also enjoyed by the host country but up to its absorption capacity.

The economies having greater foreign reserves have the capacity to absorb the exogenous shocks in exchange rate fluctuations and their stable exchange rate allows the inflow of capital up to a greater extent and vice versa for a volatile exchange rate (Deaton and Miller, 1995, Dehn, 2000). The chances of facing exogenous price shocks increase for countries having reserves less than 4% of the GDP and the countries having excess reserves than the critical value are able to bear the price shocks and grow at a good pace than others (Dhasmana, 2011). The positive current account balance shows the economic strength and trade surplus of a country.

The contribution of this study is the determination of the key variables that are under the control of the policy makers to control the flow of capital. The GDP and the foreign reserves accumulation are the main factors explaining the capital flows (Broner and Rigobon 2005, Broto, Cassou and Erce 2011).

The benefits of the capital inflow are wiped out with the outflow of capital and the economy has to face some additional hazards. Therefore, the countries try to hedge their flows by creating extra reserves that are not only costly but also difficult to manage due to opportunity costs. The inflationary pressure also hits the economy along with other hazards (Broto, C., Díaz-Cassou. and Erce, A. 2007). To avoid such circumstances the policy makers are keenly interested to know the key determinants of capital inflows and its volatility over time to make policies to retain the capital in the country so that these above stated problems can be avoided.

In any economy the main concern of the policy makers is to stabilize the macroeconomic fundamentals so that investors can make their own long term plans that will ultimately lead to long term growth of the economy. Although, the short term investment is also helpful for the economic growth but is too much volatile and even a single bad news can result in an outflow of this investment. So to avoid short run fluctuations policy makers are mainly concerned with long term investment and provide feasible conditions that will lead to a non-volatile, consistent and stable growth pattern.

### **Main Research Problem**

The main research problem of this study is to ascertain "The Determinants of capital inflow in developing countries with special reference to Pakistan". After the globalization, the artificial geographical boundaries are eliminated and investors are free to choose the economy and region for their investment. The foreign investment can bring positive changes in the technology, skills and capital in the developing countries that will accelerate their growth. This study will investigate the real factors affecting the foreign investment so that the ruling government can readjust its policies to attract the foreign investment that will ultimately augment the national growth and development.

### **Problem Statement**

All developing countries have been facing the problem of capital scarcity and this is one of the main hurdles in their economic growth. Pakistan is among those countries. The objectives of the study are:

1. To determine the variables influencing the capital inflows in the economy
2. To provide policy makers a comprehensive set of macroeconomic variables affecting incoming investments
3. To provide insights of how Governments readjust and increase their relative share in the international investment inflows scenario through their operational policies

## LITERATURE REVIEW

### Historical Background

The behavior of capital inflows in the long and the short run has been under study by the researchers as well as the economists. The history has seen large insurgence of capital to the developing economies in 1990s followed by the financial crisis affecting most of the developed countries. The low interest rate and volatility in exchange rate in the developed countries leads to the inflow of capital to the developing countries with stable policies, improved creditworthiness and growing liberalized financial markets. The relative higher interest rates attract the international investors for better returns but there are many other underlying macroeconomic variables that also play their role in determining the net gain from the investment. The reduction of international interest rates and increased creditworthiness of middle income indebted countries followed by good economic policies lead the surge of capital to the developing middle income countries from (Fernandez, 1996).

Studies have proved that the main causes of the capital inflow is the increasing demand of the domestic currency through stable exchange rate associated with the decreasing inflationary pressure, stable set of policies and other feasible economic conditions. Do the foreign capital inflow is beneficial for the country's growth? Ghose (2004) stated that the foreign capital inflow helps the developing countries to boost up the economic development. International advisory financial intuitions regularly advise the countries to develop policies that facilitate the capital inflow by lowering the tax and removing the barriers. Now a day's developing countries are offering incentives to the inflow capital so that their progress can be boosted up. Inflation rate is the main hindrance in attracting the international investments because although relatively higher interest rate attract the foreign investors but inflationary pressure ruins the apparent profits by reducing the real profits from the abroad investments. This is according to the interest rate parity and international fisher effect theories. Secondly the fluctuations in the exchange rate also affect the net earnings of the international investments according to the purchasing power parity theory.

Beside these currencies can be devalued or overvalued due to the inflation, economic policies and due to the many other economic variables. (Ehrmann and fratzsches, 2005), studied in article the relationship between exchange rate and inflation in Pakistan, He argue optimistic change in economy can uplift the currency, but unpredictable economic changes can depreciate the value of currency. As a result fluctuation in one country inflation can affect the exchange rate, which further depends upon the inflation of other country. (Simpson et.al:2005), cited in article the relationship between exchange rate and inflation in Pakistan, if inflation trend between the two countries is identical but the home country inflation is small as compared to their trade partner, then positive change in exchange rate will be considered. (Ray, 2008), cited in article the relationship between exchange rate and inflation in Pakistan, interest rate, inflation and exchange rate are definitely interrelated to each other, other than time interval. (Ilusing, 2007), cited in article the relationship between exchange rate and inflation in Pakistan, reveal that anticipation about nominal exchange rate has optimistic relationship with real exchange rate. But macro-economic variables like inflation and interest rate have negative relationship with NER. The purpose of fiscal policy is to maintain the domestic value of currency as well as to promote the monetary growth. That's why exchange rate pass through the different process of domestic and consumer prices, that is significant broadcast of fiscal policy. But in case of Pakistan, external prices can influence the domestic prices, due to the openness of trade. So currency appreciation and depreciation can directly influence the imported goods as well as affect the cost of finish goods and services.

The foreign capital allows the countries to invest more than their national savings. Bosworth and Collins (1999) proved that the investments concentrate the domestic country due to increased saving rate of the domestic enterprises.

## RESEARCH METHODOLOGY

### Methodology

#### Data and sample period

In this study, eight developing countries of Asia including Bangladesh, China, India, Malaysia, Indonesia Pakistan, Korea Republic and Thailand. The annualized data is taken from International Financial Statistics and World Bank data bank for 23 years from 1990 to 2012. The Eviews 7 will be used to conduct the analysis.

### Model of Study

Based on the literature following model will be estimated

$$Cap\ inf = \alpha + \beta_1(FR) + \beta_2(CA) + \beta_3(FP) + \beta_4(GDP) + \beta_5(PD) + \varepsilon \dots\dots\dots 1$$

Where,

$\alpha$  = Intercept

$\beta$  = Coefficient of respective variable

FR= Foreign Reserves

CA= Current Account balance

FP= Fiscal Position

GDP= Gross domestic product

PD= Public Debt

$\varepsilon$  = Error term

### Variables, Description, Data Sources and Expected Signs

Table 1

Variable	Description	Data source	Expected sign
<b>Capital inflows</b>	Foreign direct investment and portfolio inflows are used as proxy of capital inflow in a country	IFS	Dependent variable
<b>Foreign reserves</b>	Foreign reserves are the proxy of exchange rate stability	IFS	+
<b>Current account</b>	Difference between exports and imports	IFS	-
<b>Fiscal position</b>	Shows the government fiscal policy	IFS	?
<b>GDP</b>	GDP is directly related to the economic growth	World Bank	+
<b>Public debt</b>	Shows the indebtedness of the country	World Bank	-

### Measurement of Variables

#### Capital Inflows:

Capital is the backbone of an economy. Capital inflows can be divided into foreign direct investment and portfolio investment. The study will measure the capital flows by taking the log of sum of the two i.e. FDI and portfolio investment. The capital inflows in an economy, directly enhances the economic development by creating economic activities. Foreign direct investment is the direct investment into any business in a country while portfolio investment is the investment in the securities of that country.

$$Capital\ inflows = \{Ln(FDI) + Ln(Portfolio\ investment)\} \dots\dots\dots 2$$

#### Foreign Reserves

Foreign reserves provides cushion against the short run fluctuation in the exchange rate and in long run provide stability in the economy. Larger the foreign reserves more stable the economic policies that encourages the

foreign investment in the country. Foreign reserves are measured as the natural log of the value of foreign reserves in the national accounts of respected economy.

$$FR = \ln(\text{Foreign Reserves})$$

### **Fiscal Position**

Fiscal policy tells us about the priorities and the strategies of the government about the economy. The relative balance of government revenues and expenses can truly pictured through its fiscal policy. If the government's expenditures are more than its revenues then it is estimated that it is not performing effectively and depending on foreign aid or debt due to which capital inflows affected. While on the other hand if government revenues are more than expenditures then its considered to be good as the government has enough resources to fulfill its expenditures and invest in the infrastructure of the country that will ultimately leads to economic development. Fiscal position is proxied by taking the natural log of tax collection as percentage of GDP of the economy.

$$\text{Fiscal position} = \ln(\text{Tax collection as percentage of GDP}) \dots \dots \dots 4$$

### **Gross Domestic Product**

The economic growth of an economy is proxied by the value of GDP at certain time frame. Greater GDP reflects the greater earning per capita and it's a good sign for the economy to invest. The capital inflows are positively linked with the GDP. The developed and the developing economies have greater gross domestic product as compared to the underdeveloped countries. The variable GDP is used by taking natural log of the values of GDP of respective country.

$$GDP = \ln(\text{Gross Domestic Product}) \dots \dots \dots 5$$

### **Public Debt**

Public debt shows the indebtedness of the economy. The greater public debt and very less repaying capacity negatively affect the foreign investments. The government has to sacrifice its earning for paying interest on debt so diluting its revenues for general consumption. To cope up with this sort of situation the governments impose new taxes and duties in the economy which reduces the profitability of the foreign investors. On the other hand very less or no public debt shows the development of the nation and positively impacts the investment inflows in the economy. A large debt encourages inflation, and if inflation is high, the debt will be serviced and ultimately paid off with cheaper real dollars in the future. The government may print money to pay part of a large debt, but increasing the money supply inevitably causes inflation. Moreover, if a government is not able to service its deficit through domestic means (selling domestic bonds, increasing the money supply), then it must increase the supply of securities for sale to foreigners, thereby lowering their prices.

$$PD = \ln(\text{Public Debt as percentage of GDP}) \dots \dots \dots 6$$

### **Unit Root Tests and Correlation Matrix:**

For the examination of unit root in the series Levine and Lin & Chu Pearson and Shin W-stat have been used. The series containing the unit root show spurious results in the test so the results are not robust.

After checking the stationarity of series multicollinearity among the explanatory variables is checked through correlation matrix. The variables having greater correlation produce spurious results so to avoid this problem highly correlated variables dropped from the study.

### **Model Specification Test:**

Hausman specification test have been applied to determine the appropriate model that will best explain our analysis. The null hypothesis of Hausman test is that "random estimation is consistent and appropriate". While the alternative hypothesis says that random estimations are inconsistent and inappropriate for the analysis.

The decision is made on the test statistics of Chi-squares value. If the Chi-square value is large then fixed effects model will be appropriate while on the other case if its value would be small then Random effects model would be utilized.

### **Panel Data Models**

Panel data models inspect group effects, time effect or both effects collectively. The group effects can be individual or specific. There are two major types of panel data effects i.e. fixed effects model and random effects

model. The fixed effects model inspects whether the intercepts varies across the groups while the random effects model examines the differences in the error variances. The panel data model can be one way model or two way model. One way model utilizes only one dummy variable for example firm, country, class or race. In two way model the two sets of dummy variables are used for example year and country, age and country and gender and education.

**Functional Notations of Panel data Model:**

The parameter estimate of a dummy variable in the fixed effect model is a part of the intercept while in random effects model it is the part of the error term. Slopes remain the same over groups and time periods. The functional notations of both the models are as represented.

Fixed group effect model:

$$y_{it} = (\alpha + \mu) + X_{it}\beta + V_{it} \dots\dots\dots(3.6)$$

where  $V_{it} \sim \text{IID}(0, \sigma^2_v)$

Random groups effects model:

$$y_{it} = \alpha + X_{it}\beta + (\mu + V_{it}) \dots\dots\dots(3.7)$$

where  $V_{it} \sim \text{IID}(0, \sigma^2_v)$

Notations used in the equations are

- $y_i$  = Dependent variable (DV) of group “i”
- $X_i$  = Independent variable (IV) of group “i”
- $\alpha$  = Intercept
- $\beta$  = Coefficient of dependent variable
- $\mu$  = Error term
- T= No of time periods
- n = No. of groups
- N = nT: Total no of observations
- k = The no of regressors excluding dummy variables
- K= k+1 (including the intercept)

**Hausman Test**

Hausman test is formulated to choose a test from fixed and the random effects model. Hausman (1978) developed a test on the idea that under the hypothesis of no correlation, both OLS and GLS are consistent, while OLS is insufficient in analysis. While under alternate assumption OLS is consistent while GLS is not. Broadly speaking Hausman assumed two estimators  $\beta_0$  and  $\beta_1$  of the parameter vector  $\beta$  and added two hypothesis testing procedures. Under null hypothesis  $H_0$  both estimators are consistent but  $\beta_0$  is inefficient, and under  $H_1$   $\beta_0$  is consistent and efficient, but  $\beta_1$  is inconsistent.

For the panel data analysis, the appropriate choice between the random and the fixed effects model involves in determining whether the regressors are correlated with the individual effect. The fixed effect model has the advantage over random effect model that it is consistent even when the estimators are correlated with the

individual effect. The Hausman test will investigate whether random effects model estimations would be almost as good. Ahn and Moon(2001) postulated that Hausman test measures the distance between Fixed effects model and Random effects model. Thus, we test that H0, random effects are consistent and efficient, versus H1, that random effects model is inconsistent and inefficient (fixed effects model will be efficient and consistent).

$$H = (\beta^{FE} - \beta^{RE})' [Var(X\beta^{FE}) - Var(\beta^{RE})]^{-1} (\beta^{FE} - \beta^{RE}) \approx \chi^2(k) \dots\dots\dots$$

## THEORETICAL FRAMEWORK

### Foreign Direct Investment and Portfolio Investment

Technology diffusion plays a central role in the process of economic development. In contrast to the traditional growth framework, where technological change was left as an unexplained residual, the recent growth literature has highlighted the dependence of growth rates on the state of domestic technology relative to that of the rest of the world. Thus, growth rates in developing countries are, in part, explained by a 'catch-up' process in the level of technology. In a typical model of technology diffusion, the rate of economic growth of a backward country depends on the extent of adoption and implementation of new technologies that are already in use in leading countries

Technology diffusion can take place through a variety of channels that involve the transmission of ideas and new technologies. Imports of high-technology products, adoption of foreign technology and acquisition of human capital through various means are certainly important conduits for the international diffusion of technology. Besides these channels, foreign direct investment by multinational corporations (MNCs) is considered to be a major channel for the access to advanced technologies by developing countries. MNCs are among the most technologically advanced firms, accounting for a substantial part of the world's research and development (R and D) investment. Some recent work on economic growth has highlighted the role of foreign direct investment in the technological progress of developing countries. Findlay (1978) postulates that foreign direct investment increases the rate of technical progress in the host country through a 'contagion' effect from the more advanced technology, management practices, etc. used by the foreign firms. Wang (1990) incorporates this idea into a model more in line with the neoclassical growth framework, by assuming that the increase in 'knowledge' applied to production is determined as a function of foreign direct investment (FDI).

### Foreign Reserves

Foreign-exchange reserves (also called forex reserves or FX reserves) are assets held by central banks and monetary authorities, usually in different reserve currencies, mostly the United States dollar, and to a lesser extent the Euro, the Pound sterling, and the Japanese yen, and used to back its liabilities, e.g., the local currency issued, and the various bank reserves deposited with the central bank, by the government or financial institutions.

Foreign-exchange reserves should only include foreign currency deposits and bonds. However, the term in popular usage commonly also adds gold reserves, special drawing rights (SDRs), and International Monetary Fund (IMF) reserve positions. This broader figure is more readily available, but it is more accurately termed official international reserves or international reserves.

Foreign-exchange reserves are called reserve assets in the balance of payments and are located in the capital account. Hence, they are usually an important part of the International Investment Position of a country. The reserves are labeled as reserve assets under assets by functional category. In terms of financial assets classifications, the reserve assets can be classified as Gold bullion, Unallocated gold accounts, Special drawing rights, currency, Reserve position in the IMF, interbank position, other transferable deposits, other deposits, debt securities, loans, equity (listed and unlisted), investment fund shares and financial derivatives, such as forward contracts and options. There is no counterpart for reserve assets in liabilities of the International Investment Position.

Usually, when the monetary authority of a country has some kind of liability, this will be included in other categories, such as Other Investments. In the Central Bank's Balance Sheet, foreign exchange reserves are assets, along with domestic credit. The GDP and the foreign reserves accumulation are the main factors explaining the capital flows (Broner and Rigobon 2005, Broto, Cassou and Erce 2011).

Based on the literature and existing theories following hypothesis has been developed and will be explored in the study

H1: Foreign reserves positively affects the capital inflows of the economy

### **Current Account**

A country's current account is one of the two components of its balance of payments, the other being the capital account. The current account consists of the balance of trade, net factor income (earnings on foreign investments minus payments made to foreign investors) and net cash transfers.

The difference between exports and the imports is known as current account balance. If the imports exceed the exports it is called current account deficit. If the monetary value of exports is greater than the monetary value of imports then the country is said to have current account surplus. Imports and exports are the largest components of balance of trade account. The debit items include imports, foreign aid, domestic spending abroad and the domestic investment abroad. Credit items include exports, foreign investments in the domestic economy and the foreign spending in the domestic economy.

The current account balance is one of two major measures of a country's foreign trade (the other being the net capital outflow). A current account surplus increases a country's net foreign assets by the corresponding amount, and a current account deficit does the reverse. Both government and private payments are included in the calculation. It is called the current account because goods and services are generally consumed in the current period.

A country's balance of trade is the net or difference between the country's exports of goods and services and its imports of goods and services, ignoring all financial transfers, investments and other components. A country is said to have a trade surplus if its exports exceed its imports, and a trade deficit if its imports exceed its exports.

Positive net sales abroad generally contribute to a current account surplus; negative net sales abroad generally contributes to a current account deficit. Because exports generate positive net sales, and because the trade balance is typically the largest component of the current account, a current account surplus is usually associated with positive net exports.

In the net factor income or income account, income payments are outflows, and income receipts are inflows. Income is receipts from investments made abroad (note: investments are recorded in the capital account but income from investments is recorded in the current account) and money sent by individuals working abroad, known as remittances, to their families back home. If the income account is negative, the country is paying more than it is taking in interest, dividends.

Action to reduce a substantial current account deficit usually involves increasing exports (goods going out of a country and entering abroad countries) or decreasing imports (goods coming from a foreign country into a country). Firstly, this is generally accomplished directly through import restrictions, quotas, or duties (though these may indirectly limit exports as well), or by promoting exports (through subsidies, custom duty exemptions etc.). Influencing the exchange rate to make exports cheaper for foreign buyers will indirectly increase the balance of payments. Also, Currency wars, a phenomenon evident in post recessionary markets is a protectionist policy, whereby countries devalue their currencies to ensure export competitiveness. Secondly, adjusting government spending to favor domestic suppliers is also effective. The positive current account balance shows the economic strength and trade surplus of a country. The contribution of this study is the determination of the key variables that are under the control of the policy makers to control the flow of capital (Dhasmana, 2011).

**H2:** Current account directly impacts the capital inflows

### **Fiscal Position**

Fiscal position of a country is measured by its fiscal policy. Fiscal policy is the use of government revenue collection (taxation) and expenditure (spending) to influence the economy, or else it involves the government changing the levels of taxation and government spending in order to influence Aggregate Demand and the level of economic activity. The two main instruments of fiscal policy are changes in the level and composition of taxation and government spending in various sectors. These changes can affect the following macroeconomic variables in an economy.

## Stances of Fiscal Policy

The three main stances of fiscal policy are:

**Neutral fiscal policy** is usually undertaken when an economy is in equilibrium. Government spending is fully funded by tax revenue and overall the budget outcome has a neutral effect on the level of economic activity.

**Expansionary fiscal policy** involves government spending exceeding tax revenue, and is usually undertaken during recessions.

**Contractionary fiscal policy** occurs when government spending is lower than tax revenue, and is usually undertaken to pay down government debt.

However, these definitions can be misleading because, even with no changes in spending or tax laws at all, cyclic fluctuations of the economy cause cyclic fluctuations of tax revenues and of some types of government spending, altering the deficit situation; these are not considered to be policy changes. Therefore, for purposes of the above definitions, "government spending" and "tax revenue" are normally replaced by "cyclically adjusted government spending" and "cyclically adjusted tax revenue". Thus, for example, a government budget that is balanced over the course of the business cycle is considered to represent a neutral fiscal policy stance.

Schoeman, deWet, and Clausen (2000) narrated that fiscal policy, budget deficit and corporate income tax, but their study was limited to South Africa so results cannot be generalized.

**H3:** Fiscal position of the economy impacts the capital inflows in the economy

## Economic Effects of Fiscal Policy

Governments use fiscal policy to influence the level of aggregate demand in the economy, in an effort to achieve economic objectives of price stability, full employment, and economic growth. Keynesian economics suggests that increasing government spending and decreasing tax rates are the best ways to stimulate aggregate demand, and decreasing spending & increasing taxes after the economic boom begins. Keynesians argue this method be used in times of recession or low economic activity as an essential tool for building the framework for strong economic growth and working towards full employment. In theory, the resulting deficits would be paid for by an expanded economy during the boom that would follow; this was the reasoning behind the New Deal.

Governments can use a budget surplus to do two things: to slow the pace of strong economic growth, and to stabilize prices when inflation is too high. Keynesian theory posits that removing spending from the economy will reduce levels of aggregate demand and contract the economy, thus stabilizing prices.

But economists still debate the effectiveness of fiscal stimulus. The argument mostly centers on crowding out: whether government borrowing leads to higher interest rates that may offset the stimulative impact of spending. When the government runs a budget deficit, funds will need to come from public borrowing (the issue of government bonds), overseas borrowing, or monetizing the debt. When governments fund a deficit with the issuing of government bonds, interest rates can increase across the market, because government borrowing creates higher demand for credit in the financial markets. This causes a lower aggregate demand for goods and services, contrary to the objective of a fiscal stimulus. Neoclassical economists generally emphasize crowding out while Keynesians argue that fiscal policy can still be effective especially in a liquidity trap where, they argue, crowding out is minimal.

## Public Debt

Government debt is the debt owed by a central government. (In the U.S. and other federal states, "government debt" may also refer to the debt of a state or provincial government, municipal or local government.) By contrast, the annual "government deficit" refers to the difference between government receipts and spending in a single year, that is, the increase of debt over a particular year.

Government debt is one method of financing government operations, but it is not the only method. Governments can also create money to monetize their debts, thereby removing the need to pay interest. But this practice simply reduces government interest costs rather than truly canceling government debt and can result in hyperinflation if used unsparingly.

Governments usually borrow by issuing securities, government bonds and bills. Less creditworthy countries sometimes borrow directly from a supranational organization (e.g. the World Bank) or international financial institutions.

As the government draws its income from much of the population, government debt is an indirect debt of the taxpayers. Government debt can be categorized as internal debt (owed to lenders within the country) and external debt (owed to foreign lenders). Sovereign debt usually refers to government debt that has been issued in a foreign currency. Another common division of government debt is by duration until repayment is due. Short term debt is generally considered to be for one year or less, long term is for more than ten years. Medium term debt falls between these two boundaries. A broader definition of government debt may consider all government liabilities, including future pension payments and payments for goods and services the government has contracted but not yet paid.

Boyce & Ndikumana, 2001 concluded that in sub Saharan countries capital flight occurred due to greater indebtedness of the countries. The debt money is utilized to manage the operational expenses mostly hence does not affect the economic growth. So on the basis of above discussion we can conclude that

**H4:** Public Debt affects the capital inflows in the economy

### **Gross Domestic Product**

Gross domestic product (GDP) is the market value of all officially recognized final goods and services produced within a country in a year, or other given period of time. GDP per capita is often considered an indicator of a country's standard of living.

GDP per capita is not a measure of personal income. Under economic theory, GDP per capita exactly equals the gross domestic income (GDI) per capita.

Measurement of GDP

There are three approaches of measuring GDP

#### **Production approach**

"Sum total of market value of final goods and services produced in a country during 1 year."

1. Estimate the gross value of domestic output out of the many various economic activities. Determine the intermediate consumption, i.e., the cost of material, supplies and services used to produce final goods or services.
2. Deduct intermediate consumption from gross value to obtain the gross value added.
3. Gross value added = gross value of output – value of intermediate consumption.

Value of output = value of the total sales of goods and services plus value of changes in the inventories.

The sum of the gross value added in the various economic activities is known as "GDP at factor cost".

GDP at factor cost plus indirect taxes less subsidies on products = "GDP at producer price".

For measuring output of domestic product, economic activities (i.e. industries) are classified into various sectors. After classifying economic activities, the output of each sector is calculated by any of the following two methods:

1. By multiplying the output of each sector by their respective market price and adding them together
2. By collecting data on gross sales and inventories from the records of companies and adding them together

The gross value of all sectors is then added to get the gross value added (GVA) at factor cost. Subtracting each sector's intermediate consumption from gross output gives the GDP at factor cost. Adding indirect tax minus subsidies in GDP at factor cost gives the "GDP at producer prices".

### **Income Approach**

"Sum total of incomes of individuals living in a country during 1 year."

Another way of measuring GDP is to measure total income. If GDP is calculated this way it is sometimes called gross domestic income (GDI), or GDP(I). GDI should provide the same amount as the expenditure method described below. (By definition,  $GDI = GDP$ . In practice, however, measurement errors will make the two figures slightly off when reported by national statistical agencies.)

This method measures GDP by adding incomes that firms pay households for factors of production they hire—wages for labour, interest for capital, rent for land and profits for entrepreneurship

Regarding developing countries in particular, macro-empirical work on the

FDI-growth relationship has shown that – subject to a number of crucial factors, such as the human capital base in the host country, the trade regime and the degree of openness in the economy – FDI has a positive impact on overall economic growth. In view of the increasing need for additional foreign capital to achieve the

Millennium Development Goals (MDGs) by the year 2015, FDI is now becoming quite crucial for many developing countries. This is particularly true in the case of Sub-Saharan Africa which attracts a very small share of FDI inflows relative to other developing regions (Asiedu, 2003). It should also be noted that FDI has potentially desirable elements that affect the quality of growth with significant implications for poverty reduction. It may reduce adverse shocks to the poor that stem from financial instability and help to improve corporate governance. Furthermore, FDI generates revenues that may support the development of safety nets for the poor (Klein, Aaron and Hadjimichael, 2001)

de Mello (1997 and 1999) for a comprehensive survey of the nexus between FDI and growth as well as for further evidence on the FDI-growth relationship, Mody and Murshid (2002) for a recent assessment of the relationship between domestic investment and FDI, Blomstrom and Kokko (1998) for a critical review of the role of FDI in technology transfer, Asiedu (2002), Chakrabarti (2001) and Tsai (1994) on the determinants of FDI and Asiedu (2003) for an excellent discussion of the relationship between policy reforms and FDI in the case of Africa

**H5:** Gross domestic product positively influence the capital inflows in the economy

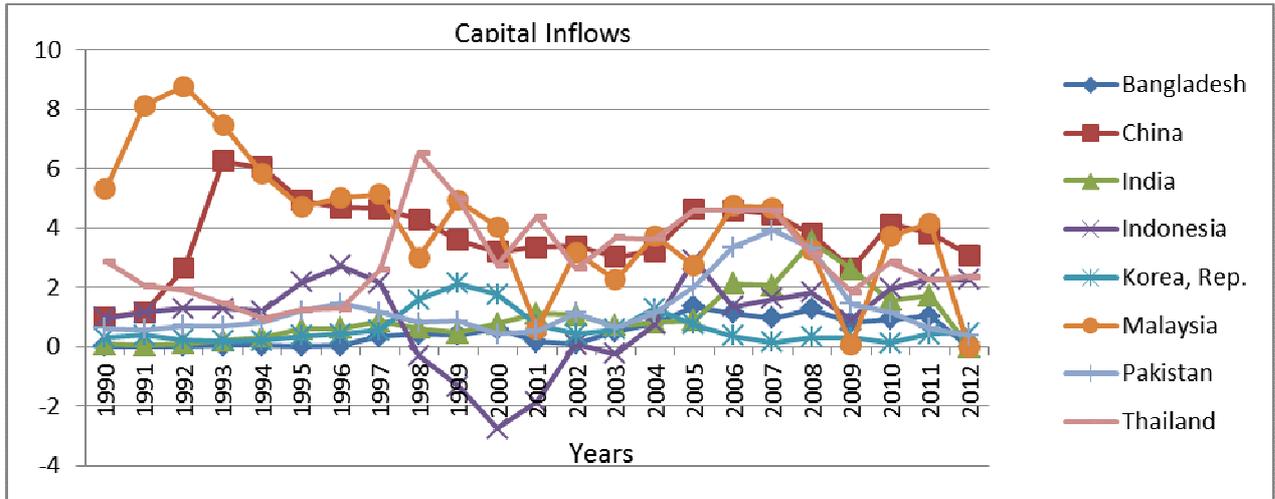
## **EMPIRICAL ANALYSIS**

### **Empirical Analysis**

#### **Line Graphs of Variables**

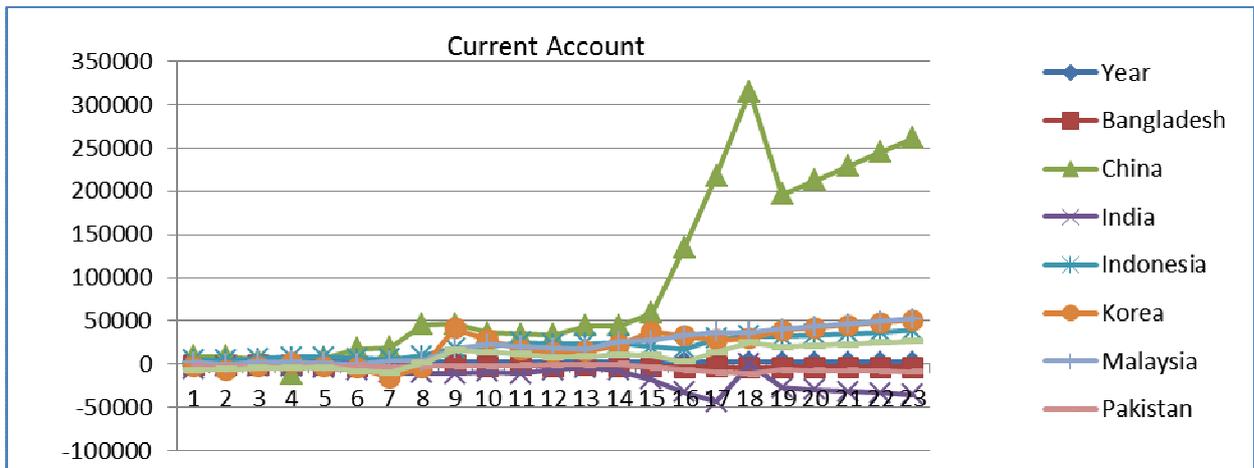
The line graphs in the study show the trends of different variables over the period of time. These graphs also indicate the presence of unit root in the series of different variables. The unit root must be removed otherwise the results will be spurious. Graphs 1 to 6 show the trends of variables over the period of sample period.

Graph 1.



There is negative trend in the capital inflows in the beginning of Malaysia and Thailand. China shows positive trend in beginning but later on turns to negative trend later on in 1993 and onwards. The overall trend is slightly fluctuating. The capital inflows of south Asian countries like Pakistan, Bangladesh and India almost remain the same over the years and show very less fluctuations. In Indonesia, capital inflows data shows negative trends in 1998 to 2002 which means there was greater capital outflows in that time than capital inflows.

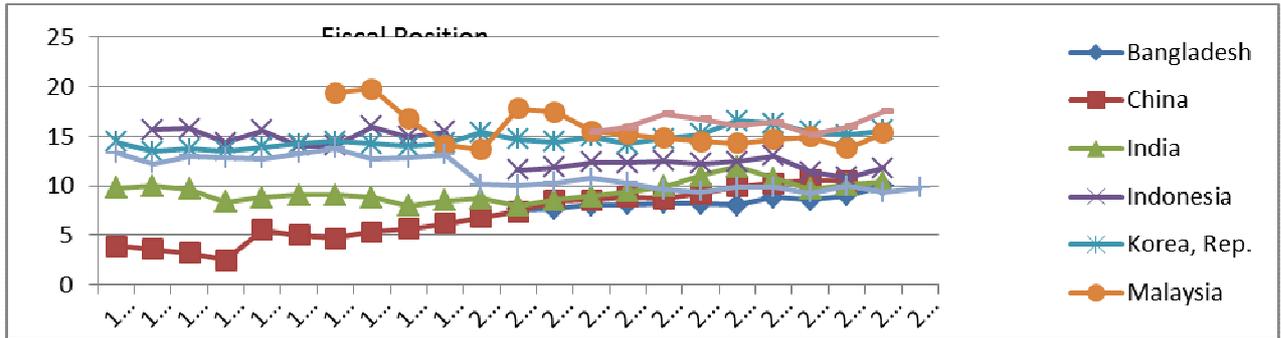
Graph 2



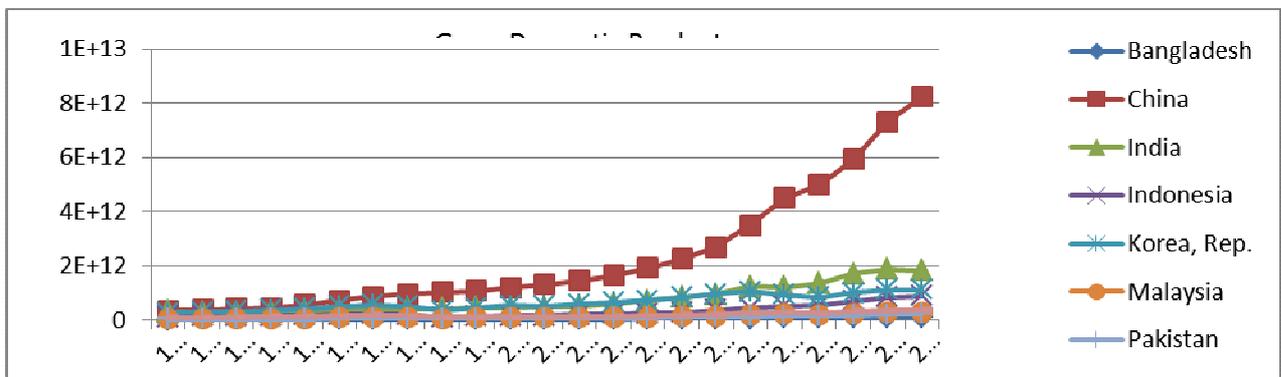
Current account balance data shows that China has highest current account balance which means that exports of China are greater than its imports while India have negative balance which shows that it has greater imports than exports.

The fiscal position of different countries is shown in graph II. It shows the relative proportion of government income as a result of its economic policies. Higher tax rate means greater government's expenditures as compared to income and to compensate these expenses increased taxes are imposed. While, on the other hand in prosperous economies the tax rate is low to facilitate the domestic economic activities. In our sample data, the tax rates and tax collection of China is the highest among all the countries.

Graph 3

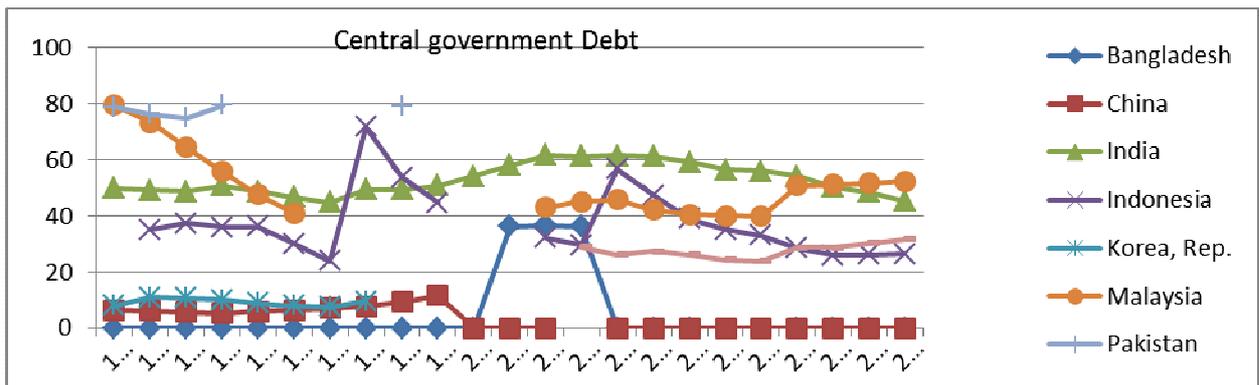


Graph 4



GDP is the measure of economic growth of an economy. Almost all countries are growing economically due to the adaptation of technology in the industrial era. However, some countries are growing at fast rate while others are growing leisurely. This growth depends on the natural resources, economic activities, humanpower and government policies. In our sample China is growing very fast rate while other countries like Pakistan and Korea are growing at relatively very slow rate.

Graph 5



The central government debt measures the indebtedness of a country. Very little or no debt means that the government has sufficient resources to finance its expenditure. While greater debt represents the greater riskiness of the country and in extreme conditions leads to country risk. Malaysia and Pakistan are the highly indebted countries while China Korea and Bangladesh are the least indebted countries. The highly indebted countries can't make consistent long term economic policies which affects the capital inflows in the country.

## Descriptive Stats

Table II

	F.RES	CA	CAP	DEBT	FP	GDP
Mean	71.54571	2.230776	1.946418	20.57682	10.4102	26.20277
Median	34.66661	2.09092	1.279723	6.475321	10.78384	26.0739
Maximum	553.508	3.756452	8.762883	79.53662	19.75337	29.73846
Minimum	4.392116	1.217524	-2.76363	0	0	24.12875
Std. Dev.	96.93775	0.637617	1.881631	24.27469	5.213848	1.221862
Skewness	2.977073	0.985838	0.903423	0.756133	-0.7453	0.511324
Kurtosis	12.84246	3.191479	3.795881	2.23478	2.700066	2.823819
Jarque-Bera	1008.985	29.92179	29.72316	21.90288	17.62768	8.210978
Observations	183	183	183	183	183	183

Source: Author's calculations

In this table the highest value of foreign reserves is 553.508 while the lowest is the 4.392116. The minimum current account value is 1.217524 and the maximum value is 3.756452 with mean of 2.230776. Similarly capital inflows were 79.53662 at maximum and data shows negative value of -2.76363 indicating the capital outflow of capital flight due to some poor policies of the country. In the same way maximum debt of the sample economies is 79.53662 and minimum debt is zero indicating non-indebtedness of the economy. The maximum GDP of the sample economies is 29.73846 while minimum is 24.12875 indicating that data is symmetrically disbursed.

## Correlation Matrix

Correlation shows the association among all the variables. Table II shows the results of correlation. Highly correlated variables can't be further utilized in the further analysis. The table shows that the correlation among the variables is less than the minimum criteria so the study will move for further analysis.

Table III Correlation Matrix

	FRES	CA	CAP	DEBT	FP	GDP
FRES	1					
CA	-0.042437	1				
CAP	0.429473	-0.03401	1			
DEBT	-0.056124	-0.20452	0.084444	1		
FP	0.120971	0.171861	0.099127	0.3562	1	
GDP	0.608571	-0.10082	0.151579	0.03593	0.160822	1

Source: Author's calculations

The table indicates that the dependent variable and the explanatory variables are not highly correlated fulfilling the requirement of ordinary least square model assumption. As in case of highly correlated variables regression model can't be applied.

## Unit Root Test

The power of time series unit root tests is limited as compared to panel unit root tests (Kunst and Nell, 2011) because test's power is determined by the probability of rejecting the null hypothesis when it is false. The null hypothesis of the test is that the series contains the unit root while alternate hypothesis says that the series is stationary. By rejecting the null hypothesis on basis of *t* value we say that series is stationary while accepting null hypothesis means series is not stationary.

The series of Capital inflows is stationary at level at level while all other series of public debt, foreign reserves, fiscal position, current account and GDP are non-stationary at level and stationary at first difference.

Table IV

Variable	Level		1 <sup>st</sup> difference	
	Levin, Lin & Chu	Im, Pesaran and Shin W-stat	Levin, Lin & Chu	Im, Pesaran and Shin W-stat
Capital	-1.97535*	-2.21766*	-8.86514***	-7.13415***
PD	-1.2607	-1.02607	-8.76405***	-8.91343***
CA	-1.07555	0.90582	-12.6343***	-10.9597***
FP	-0.99401	-0.01815	-11.4602***	-10.0849***
F.Res	2.14316	4.2220	-3.5274**	-2.81832**
GDP	3.30933	5.9790	-8.3896**	-7.09520**

Source: Author's calculations

### Hausman Specification Test

Hausman test helps to choose the appropriate model for analysis in the study. The appropriate model will give robust results while inappropriate model can leads to spurious results.

Table V

Hausman table

Test summary	Chi-Sq Statistics	Chi-Sqd.f	Probability
Period Random	4.616749	5	0.04644

Source: Author's calculations

Hausman test is formulated to choose a test from fixed and the random effects model. Hausman (1978) developed a test on the idea that under the hypothesis of no correlation, both OLS and GLS are consistent, while OLS is insufficient in analysis. While under alternate assumption OLS is consistent while GLS is not. Broadly speaking Hausman assumed two estimators  $\beta_0$  and  $\beta_1$  of the parameter vector  $\beta$  and added two hypothesis testing procedures. Under null hypothesis  $H_0$  both estimators are consistent but  $\beta_0$  is inefficient, and under  $H_1$   $\beta_0$  is consistent and efficient, but  $\beta_1$  is inconsistent.

For the panel data analysis, the appropriate choice between the random and the fixed effects model involves in determining whether the regressors are correlated with the individual effect. The fixed effect model has the advantage over random effect model that it is consistent even when the estimators are correlated with the individual effect. The Hausman test will investigate whether random effects model estimations would be almost as good. Ahn and Moon(2001) postulated that Hausman test measures the distance between Fixed effects model and Random effects model. Thus, we test that  $H_0$ , random effects are consistent and efficient, versus  $H_1$ , that random effects model is inconsistent and inefficient (fixed effects model will be efficient and consistent). We are rejecting the null hypothesis on the basis of p value (p=0.04644) that random effects model is appropriate and accepting the alternate hypothesis that fixed effects model is appropriate.

## FINDINGS AND RESULTS

### Findings and Results

The results of the panel regression fixed effect model shows that the coefficient ( $\beta_1$ ) of foreign reserves is 0.00721 and shows significant relationship with the capital inflows. The positive sign indicates the direct relationship between capital inflow and foreign reserves. Greater foreign reserves have greater shock bearing capacity that attracts the foreign capital to the country. Our results verify the relation of these variables to previous research. The foreign reserves provide cushion to the exchange rate stability and encourage the capital inflow (Anubha, 2008). The reserves provide self-insurance to the country against the volatility in the FDI and the exchange rate in the short run (Broto et al.; 2011) The foreign reserves are highly significant in our sample of developing economies as the economies try to increase their reserves to reduce the exchange rate

fluctuations that support the inflow of capital. The value of coefficient of current account ( $\beta_2$ ) is -4.099283 and is significantly linked to capital inflows. The negative sign of the coefficient shows the reverse relationship between capital inflows and current account deficit. The  $p$  value shows the significance of the relationship and current account is negatively associated with the capital inflows. In developing countries the import of capital goods and heavy machinery makes the current account negative but after the initial growth era the export of goods and services reverses the situation. In our sample countries most economies are in development stage so their current account balance is negative. The coefficient of the debt ( $\beta_3$ ) is -0.013496 and on the basis of  $p$  value it shows significant relationship with the capital inflows. Negative sign shows inverse relation between the two. The greater public debt represents inability of an economy to produce its finances and affect negatively to capital inflows due to greater country risk. The results of the study are consistent with the results of S.Kumar and Jaejoon(2010) who reported that greater initial public debt the economic growth and capital inflows decreases.

Table VI

Variable	Coefficient	Std. Error	Prob.
C	-56.1247	17.21141	0.0014
FRES	0.00721**	0.00234	0.0025
CA	-4.099283***	0.854818	0.0005
DEBT	-0.013496**	0.005965	0.01614
FP	-0.01165	0.03469	0.7375
GDP	1.884959***	0.631529	0.0033
R-squared	0.697868	Mean dependent var	1.946418
Adjusted R-squared	0.628459	S.D. dependent var	1.881631
F-statistic	10.05448		
Prob(F-statistic)	0		

Source: Author's calculations, \*\*\*, \*\* and \* shows 1%, 5% and 10% significance level

The value of coefficient of fiscal position ( $\beta_4$ ) is -0.01165 but due to greater  $p$  value it is insignificant. Overall fiscal policy reflects the government's strategies for development of economic activities. The tax rate which is major instrument of fiscal policy, almost the same in all the developing economies so its effect is insignificant in the study. The coefficient of gross domestic product ( $\beta_5$ ) is 1.884959 but its  $p$  value is highly significant and is positively associated with the capital inflows. Greater the economic development of an economy greater the chances of higher returns and hence greater capital inflows occurs in the form of foreign direct investment and portfolio investment. This study also confirms the results of Broto, Cassou and Erce (2011) who also reported that greater GDP leads to larger capital inflows in the economy.

### Case Study of Pakistan

Traditionally; trade is the linking phenomenon of joining the global economies and creating the international economy. FDI is a similar phenomenon of linking national economies. The extent to which FDI effects on trade depends on whether it is undertaken on gain control on natural resources, consumer markets or it is just exploiting the locational comparative advantages. FDI is considered to be the blessing on the developing countries as it directly or indirectly increases the productivity, employment, exports and the technological development in the developing countries. FDI plays the key role in economic growth of the developing countries. FDI is also considered the most important source of capital and also linked with the repayment of principle and interest payments to the lending countries and institutions (Bhagwati, 1994). Traditionally, corporate tax rate, political stability, openness, labor rates, interest rate, real exchange rate and the infrastructure of the country.

The democratic election followed by consistent policies and expansion of capital markets are the three main reasons of FDI in any developing country. Better infrastructure also attracts the FDI in the country and Mlambo (2006) described the importance of regional infrastructure in FDI attraction. The better infrastructure and the larger market also ensures the availability of low cost energy supplies, labor, integrated transportation and communication channels.

Table VI

Variable	Coefficient	Std. Error	Prob.
C	4.06E-10	9.95E-11	0.0008
CA	-5.84E-11	2.03E-11	0.0104
DEBT	-0.014863**	0.005965	0.01
FP	1.06E-12	6.39E-13	0.1156
FRES	1	4.76E-14	0.00000
GDP	1.31E-11	3.25E-12	0.0009
<b>R-squared</b>	0.576913		
<b>Adjusted R-squared</b>	0.543194		

Table of regression of Pakistan

The results of the analysis represent different variables and their significant relationship with the capital inflows in Pakistan. Current account is significantly and negatively affecting the capital inflows in the Pakistan. Greater the difference of exports and imports in the country; greater the dependence of country on foreign markets and less will be the capital inflows occurs in the country. Similarly debt also affecting negatively to the capital inflows because due to greater debt putting negative pressure on the country's economic growth and foreign investors considers it as risky investment. So, greater national debt puts negative pressure on capital inflows to the country.

Foreign reserves provide stability in the exchange rates so greater foreign reserves boosts up the investor's confidence and the capital inflows increases with the increase in foreign reserves. In order to attract foreign investment country should increase its foreign reserves that will stabilize the exchange rates and ultimately attracts foreign investments into the country. GDP is the indicator of economic growth of a country. Greater economic growth augments the investor's confidence of investment in a country. In our country GDP is positively affecting the capital inflows.

In this backdrop, the policy implication for Pakistan is straight forward. To get more economic growth and domestic investment, attract more FDI. Otherwise, the lack of foreign direct investment may constraint overall economic activities in the era of globalization and economic integration, the role of FDI in stimulating domestic investment and sustainable growth is essential and unique. At the same time the merits of FDI exceed almost in every aspect than other form of fund raising, particularly of portfolio investment and loans.

The main problem of Pakistan now a days is the loadshedding which consists of 12 to 18 hours per day. If the government wants to attract the foreign investment then long term plans should be made to overcome this problem. More electricity production by cheaper sources will enable the foreign investment to flow towards Pakistan that will aid in greater economic growth and development in the country.

## CONCLUSIONS

The findings of the study make several contributions in the existing literature. First of all this study helped in determination of key of capital inflows in the developing economies. Every country tries to attract the foreign capital to augment their economic growth and development and this study empirically investigated key variables which actually determine the capital inflows into or out of a country. Foreign reserves, current account, public

debt and GDP are proved to be the factors affecting capital flows in the developing economies. The greater foreign reserves provide a cushion against the exchange rate fluctuations and provide stability in the exchange rate by absorbing these fluctuations and hence facilitating the capital inflow by building trust of investors in the domestic currency.

Secondly study aided in identifying factors that leads to capital flight from the country. Similarly greater earning power (GDP) per capita also gives positive message to the investors for investment. Current account deficit and public debt are negatively affecting the capital inflows because it show that an indebted economy can't produce the goods and services for their own needs and have to import them putting negative pressure on the domestic currency. So by improving these variables the capital inflows can be enhanced.

The fiscal policy variable is not significantly affecting the capital inflows in our sample economies. This is because our sample economies are all developing economies and their fiscal policies also affect the inflation and other interlinked macroeconomic variables. By relaxing the capital inflows and increasing the interest rate although foreign investment will be attracted but economy will face greater inflationary pressure which is harmful. According to purchasing power parity (PPP) theory the inflation will also affect the exchange rate negatively and through depreciation ruin the comparative advantage of high interest rates. By creating and sustaining the foreign reserves at least four percent of the GDP the fluctuation in the capital inflows can be tackled. The minor fluctuations will be absorbed and there will not be any net negative effect. So by managing these variables the capital inflows can be boosted and the economic development can be enhanced of the economy.

Our empirical tests show that countries' attractiveness to foreign investors is quite closely linked to the degree of transparency of their policies. The (relatively) more transparent are the country's policies and institutions, the more attractive is the country to foreign investors. Thus, if we accept the premise that more FDI is good for countries' growth and development, the first, self - evident policy recommendation follows from this premise - policy makers should make sure that their policies are transparent to potential foreign investors.

In case of Pakistan some other factors are also responsible for foreign capital attraction along with these traditional factors and that is energy crisis. By producing more electricity and managing the natural gas the industrial growth will start again which will attract the foreign investment due to which our country can progress at good pace. To overcome energy crisis the natural gas can be imported so that industrial progress and employment rate can be augmented. The government should allow foreign investment in specific areas and stop foreign investors for making cartels and controlling some sectors. FDI is considered to be the blessing on the developing countries as it directly or indirectly increases the productivity, employment, exports and the technological development in the developing countries. FDI plays the key role in economic growth of the developing countries.

## **SUGGESTIONS AND RECOMMENDATIONS**

- More countries of the world should be incorporated in the study so that more generalized results can be inferred
- Some other variables should also be tested in the study like the market size, type of Government and attitude of people etc.
- Generalized method of movements should be used for analysis as the results of GMM models are more reliable as compared to fixed effects models.
- The discovery that besides such factors as policy, location and labor cost, etc., the level of urbanization scale and density, ratio of the light industry output relative to the total industrial output, ratio of the value-added of the tertiary out of the GDP and the degree of foreign trade dependency all have a significant impact on the Capital inflows.
- The regional disadvantage should be counterbalanced with the strategic opportunity of the on-going industrial restructuring. The geographical and regional disadvantages of the west were always strengthened by the FDI location imbalance.
- It is advisable to carry out the strategy of encouraging FDI through the development of infrastructure, political stability, good governance and consistent policies.

- More favorable investment policies and economic sovereignty should be given to the whole regions of the countries. In recent years, the major problem with attracting outside investment to the countries is the lack of preferential policy for the region. What foreign investment truly takes to heart still is preferential treatment in taxation, land and import and export policies. Since the country's opening-up and reform. Some regions have never enjoyed any preferential treatment or foreign trade sovereignty like some other regions and provinces that have developed too much by exercising these policies.

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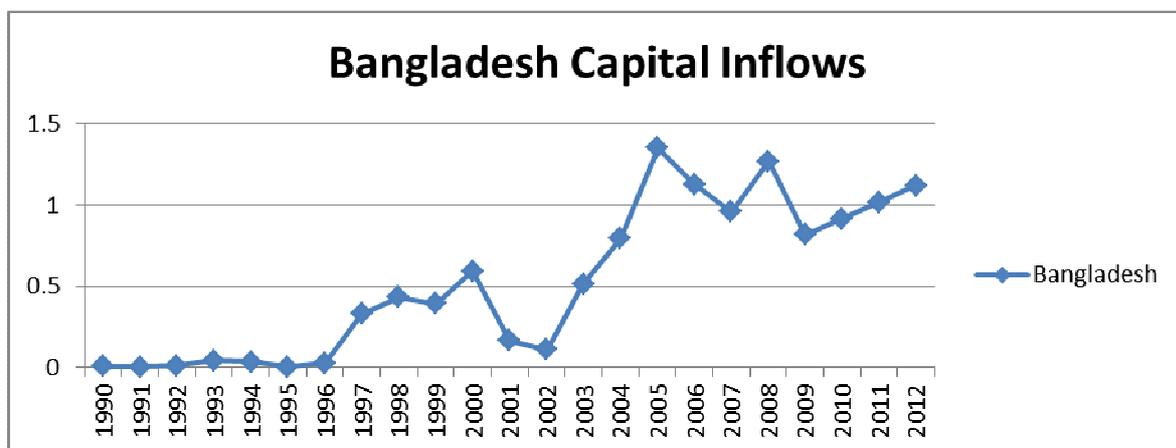
Compositional Analysis Of Foreign Currency Reserves In The 1999–2007 Period. The Euro Vs. The Dollar As Leading Reserve Currency

**Annexure**

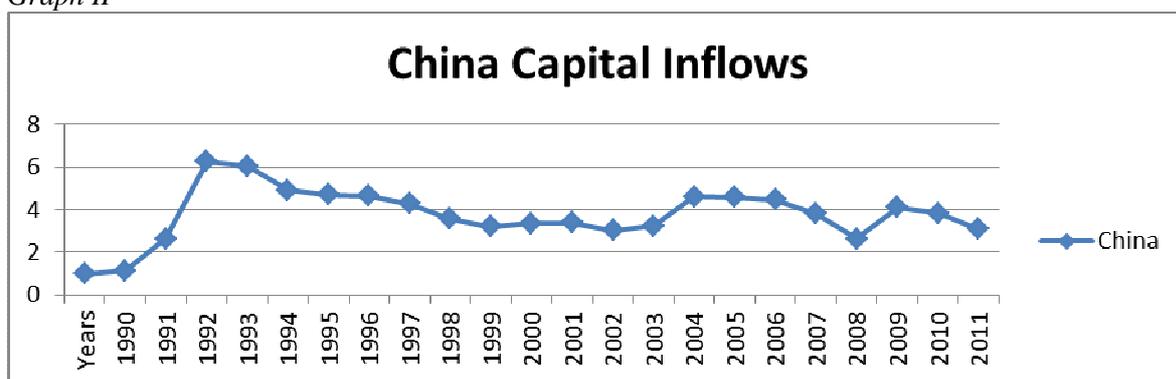
Graphs of Capital Inflows of sample Economies

*Graph I*

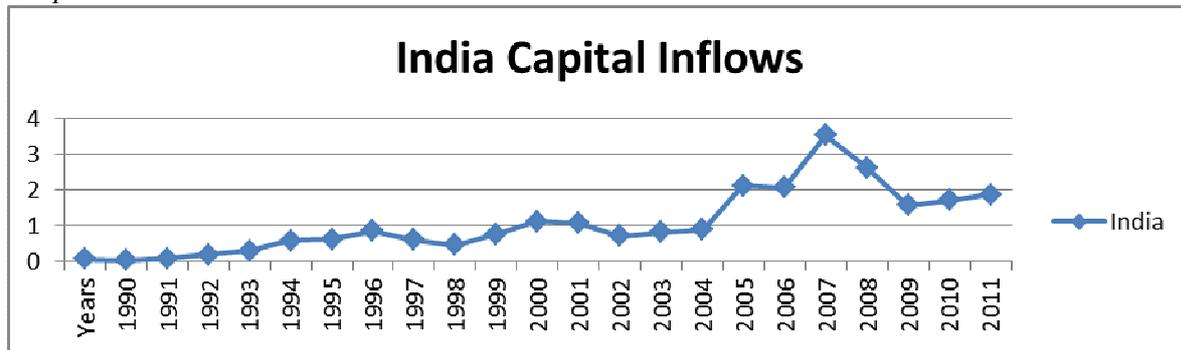
**Annexure**



*Graph II*



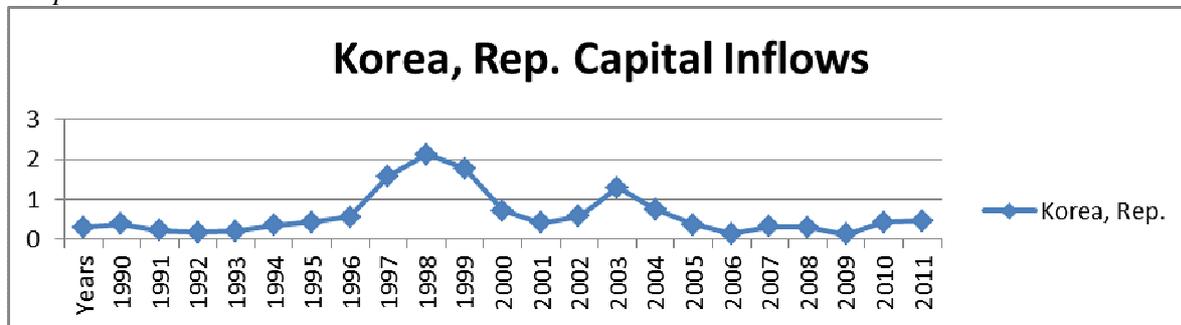
Graph III



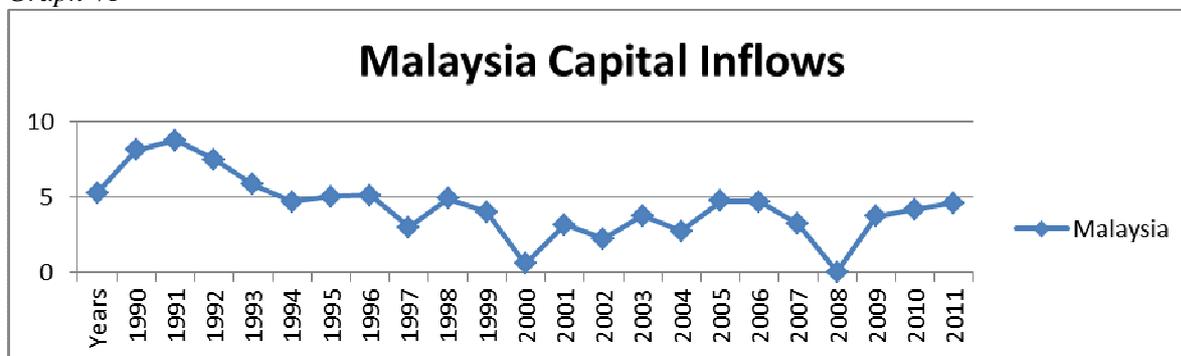
Graph IV



Graph V



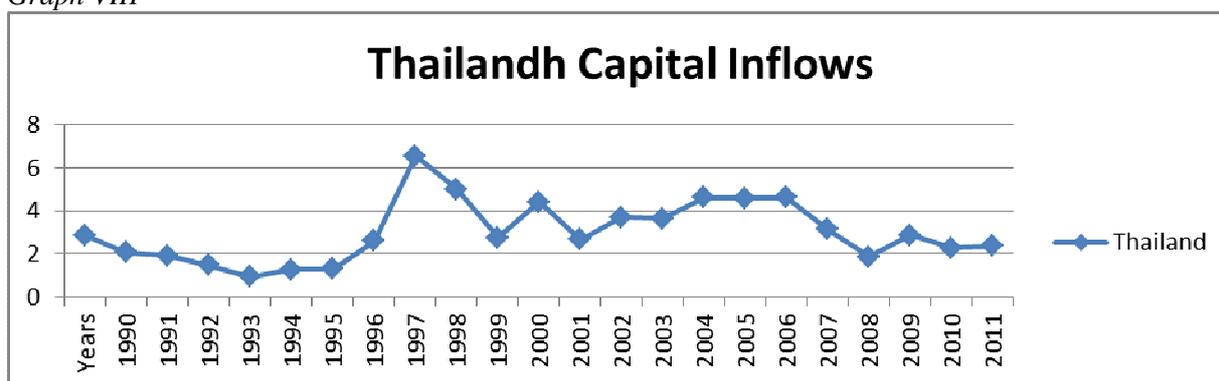
Graph VI



Graph VII



Graph VIII



Country	Year	CA	Debt	Tax%GDP	Cap inflow	F.Res	GDP
Bangladesh	2000	1.667749	0	0	0.59500701	9.719041	24.57607
Bangladesh	2001	1.727717	36.15117	7.596541	0.16704808	8.748409	24.57315
Bangladesh	2002	1.680787	36.65517	7.697523	0.10999491	10.3514	24.58549
Bangladesh	2003	1.678066	36.16055	8.071475	0.5168226	14.27552	24.67285
Bangladesh	2004	1.731134	0	8.11135	0.79374484	16.38803	24.75858
Bangladesh	2005	1.775706	0	8.22067	1.3496186	15.31266	24.82223
Bangladesh	2006	1.863605	0	8.171802	1.12682018	19.28383	24.8488
Bangladesh	2007	1.89107	0	8.049301	0.95644	24.69268	24.94886
Bangladesh	2008	1.909776	0	8.818271	1.26849183	25.21462	25.09971
Bangladesh	2009	1.879247	0	8.599141	0.81835843	42.00669	25.21594
Bangladesh	2010	1.84361	0	8.999346	0.91490555	43.39455	25.332
Bangladesh	2011	1.989766	0	9.984662	1.01670793	33.92621	25.44092
Bangladesh	2012	2.049702	0	10.96998	0	43.01617	25.47349
China	2000	2.002315	0	6.815633	3.20978094	117.9303	27.81207
China	2001	1.980781	0	7.402022	3.34007088	119.5578	27.91229
China	2002	2.053512	0	8.503402	3.39314429	160.7697	28.00522
China	2003	2.166555	0	8.538996	3.01860956	201.5154	28.1263
China	2004	2.265076	0	8.860552	3.22094881	253.3235	28.28939
China	2005	2.328542	0	8.679594	4.62201534	293.4801	28.44501
China	2006	2.367616	0	9.18806	4.5894914	334.4777	28.62906
China	2007	2.354127	0	9.928817	4.47714973	414.0672	28.88208
China	2008	2.286474	0	10.26866	3.79535262	517.1539	29.13994

China	2009	2.09573	0	10.53973	2.63156626	553.508	29.23871
China	2010	2.191404	0	10.48181	4.11459056	521.8487	29.41113
China	2011	2.208436	0	10.64322	3.82583706	474.8451	29.6219
China	2012	2.160901	0	10.74979	3.08460928	438.071	29.73846
India	2000	1.614748	54.27463	8.693279	0.76028946	40.60012	26.88593
India	2001	1.593449	58.18637	7.965619	1.11731972	49.29778	26.92251
India	2002	1.670847	61.61228	8.545825	1.07817331	67.71966	26.98246
India	2003	1.699489	61.19581	8.962471	0.71326184	87.25873	27.14906
India	2004	1.812516	61.51423	9.405871	0.81235538	106.4594	27.30472
India	2005	1.874199	61.19467	9.913768	0.88597094	113.7211	27.44976
India	2006	1.933397	59.10994	11.02548	2.12030922	111.6121	27.5788
India	2007	1.912769	56.47807	11.89365	2.06316017	135.5742	27.84508
India	2008	2.010316	56.11267	10.75118	3.53370609	113.3804	27.83322
India	2009	1.900195	54.30595	9.640995	2.62406423	111.1048	27.94245
India	2010	1.960648	50.42909	10.09437	1.5667865	103.4886	28.16805
India	2011	2.018488	48.4982	10.38937	1.71656613	89.3544	28.25848
India	2012	2.016866	45.27	10.68436	1.86634577	75.22024	28.24172
Malaysia	2000	2.401173	0	14.95797	-2.7636281	20.43291	25.82934
Malaysia	2001	2.365725	0	11.57818	-1.8529308	21.23476	25.80123
Malaysia	2002	2.237956	32.22413	11.82696	0.0786316	25.00378	25.99965
Malaysia	2003	2.188233	29.7174	12.38553	-0.2494411	27.10145	26.18188
Malaysia	2004	2.227614	56.60271	12.33077	0.74619659	26.41015	26.27171
Malaysia	2005	2.26751	47.33803	12.50238	2.91553678	24.48934	26.3788
Malaysia	2006	2.201059	38.99597	12.25446	1.3531476	31.3307	26.62199
Malaysia	2007	2.16368	35.16698	12.42728	1.61124477	38.50796	26.79219
Malaysia	2008	2.172546	33.07422	13.03621	1.82690407	32.7033	26.95816
Malaysia	2009	2.026316	28.37321	11.43073	0.90537869	36.85672	27.01406
Malaysia	2010	2.038195	26.00775	10.85171	1.94473701	49.29545	27.28739
Malaysia	2011	2.086036	26.23509	11.77286	2.27307689	51.57636	27.46419
Malaysia	2012	2.213533	26.46243	12.69401	2.2629353	53.85727	27.50096
Indonesia	2000	2.35696	0	15.40602	1.76502023	20.43291	27.00251
Indonesia	2001	2.301963	0	14.70534	0.71947271	21.23476	26.947
Indonesia	2002	2.24746	0	14.42917	0.4160675	25.00378	27.07925
Indonesia	2003	2.294437	0	14.94749	0.57003719	27.10145	27.1906
Indonesia	2004	2.399491	0	14.24559	1.29379614	26.41015	27.30526
Indonesia	2005	2.370094	0	14.73181	0.75057388	24.48934	27.46244
Indonesia	2006	2.377777	0	15.19067	0.36799628	31.3307	27.58159
Indonesia	2007	2.417862	0	16.55969	0.14268678	38.50796	27.67908
Indonesia	2008	2.591578	0	16.29945	0.3193543	32.7033	27.55996
Indonesia	2009	2.543942	0	15.44938	0.2994464	36.85672	27.44957
Indonesia	2010	2.581201	0	15.1472	0.13106512	49.29545	27.6458
Indonesia	2011	2.636075	0	15.5754	0.42774481	51.57636	27.7394
Indonesia	2012	#NUM!	0	15.51669	0.45752965	60.62916	27.75288
Pakistan	2000	1.643463	0	13.66691	4.03842862	68.30413	25.26432

Pakistan	2001	1.697377	0	17.79489	0.59702932	66.09202	25.25354
Pakistan	2002	1.72117	43.04734	17.44696	3.17601438	69.83685	25.33686
Pakistan	2003	1.781033	45.07664	15.49566	2.25635135	91.10984	25.42558
Pakistan	2004	1.739386	45.69664	15.19909	3.74294586	127.1158	25.54957
Pakistan	2005	1.740303	42.06756	14.82639	2.72605383	135.3562	25.68983
Pakistan	2006	1.721427	40.5884	14.5162	4.74163488	148.9021	25.81513
Pakistan	2007	1.677173	40.08813	14.30372	4.68331064	161.6632	25.98882
Pakistan	2008	1.615848	39.7997	14.66296	3.23192518	136.1913	26.16563
Pakistan	2009	1.616373	50.83575	14.9405	0.05447588	138.5756	26.03278
Pakistan	2010	1.649517	51.20532	13.77485	3.71408552	125.141	26.23194
Pakistan	2011	1.675499	51.76919	15.30905	4.16787927	141.3937	26.386
Pakistan	2012	1.597706	0	16.84325	4.62167302	137.8549	26.43873
Korea	2000	3.599263	0	10.08899	0.41695754	6.333652	25.02669
Korea	2001	3.580061	0	10.04261	0.52786804	13.21688	25.00422
Korea	2002	3.584046	0	10.31131	1.13929778	26.02467	25.00418
Korea	2003	3.660515	0	10.78384	0.64116917	32.42686	25.14505
Korea	2004	3.705692	0	10.28455	1.14157532	29.50416	25.30801
Korea	2005	3.743501	0	9.604414	2.01232664	32.68333	25.4201
Korea	2006	3.756452	0	9.427413	3.36040784	34.66661	25.57138
Korea	2007	3.697857	0	9.838226	3.91332941	37.63094	25.68731
Korea	2008	3.754786	0	9.859638	3.31639751	18.22837	25.82247
Korea	2009	3.614658	0	9.277453	1.44459523	24.1549	25.80974
Korea	2010	3.645346	0	10.01811	1.14645758	29.50266	25.89646
Korea	2011	3.659603	0	9.312788	0.62085668	29.40743	26.0739
Korea	2012	3.633591	0	9.802367	0.37003759	32.94086	26.16647
Thailand	2000	2.765958	0	0	2.75003898	40.91871	25.53321
Thailand	2001	2.755381	0	0	4.38882066	49.09648	25.47285
Thailand	2002	2.73594	0	0	2.63799089	65.38828	25.56648
Thailand	2003	2.753344	28.87396	15.46033	3.68068702	82.45287	25.68359
Thailand	2004	2.809509	26.14378	15.91719	3.64042093	100.5681	25.80678
Thailand	2005	2.840008	27.32998	17.24284	4.59681202	112.0322	25.89575
Thailand	2006	2.840834	26.10769	16.74466	4.59095508	145.5805	26.05641
Thailand	2007	2.838513	24.47986	16.12207	4.60351062	192.5016	26.23256
Thailand	2008	2.869483	23.99906	16.44629	3.11849332	220.8785	26.33119
Thailand	2009	2.783726	28.60696	15.16303	1.84706204	226.1409	26.29812
Thailand	2010	2.815857	28.77322	15.972	2.86482178	213.5642	26.48817
Thailand	2011	2.87449	30.17852	17.55212	2.25322008	218.507	26.56876
Thailand	2012	2.885343	31.58381	19.13224	2.36754887	223.4498	26.62471

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