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The Significance of Macroeconomic and Financial Market for FDI Inflow in Asian Developing Countries

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Abstract:-

This study weighs up the effect of the host country's macroeconomic stability and financial development in increasing its attractiveness for investors abroad. The significance of market size, level of development, openness, and efficiency of the stock market for inward Foreign Direct Investment (FDI) was also investigated. Yearly panel data for seven countries from 1990 to 2015, covering 26 years, were employed. The result shows that Gross Domestic Product (GDP) and Sound macroeconomic discipline proved significant for inward FDI. Furthermore, a small percentage of inflation and exchange rate fluctuations and a country's openness was also positively significant. A country's stock market and financial development positively affect inward FDI, except for banks' private credit.

Keywords: FDI, Market Size, Macroeconomic Variables, Financial Development.

1- Introduction

The FDI stock held by developing countries has increased many folds during the last few decades. Since the seventies, many developing economies have adopted an inside-out approach in attracting foreign funds. China was the primary beneficiary of FDI inflows among the developing countries, attracting 39% of all FDI flow to the developing world (World Bank, 2004). These countries adopted an outward approach by moving from country-driven and inward-focused to public market-oriented expansion policies (Kobrin 2005). This shift in strategy changes emphasizes drawing FDI with the urge that foreign FDI flows to countries would help in strengthening their financial, economic, technological, and skills deficits that prevailed in such countries. Hence, in the seventies and eighties, many developing economies started relaxing their laws, foreign affairs, trade restrictions, and regulations that once repressed FDI flow to these countries.

South Asian countries have the potential to attract FDI as they possess various advantages to offer to foreign investors such as vast domestic market, single digit inflation, increasing proportion of skilled personnel, emerging entrepreneurial class and constantly improving financial systems (Sahoo, 2006). In the present scenario, South Asian countries have emerged as potential destination for investment. Thus, it becomes crucial to identify the impact of FDI inflows on the economic performance of these countries.

This study specifically examines the role of macroeconomic discipline, trade liberalization, financial development, and so on, utilizing yearly data for a panel of 7 nation-states from 1990 to 2015. The findings argue that the size of the market and economic development level has shown a positive contribution to inward FDI. Other macroeconomic variables like inflation, exchange rate, trade, and vibrant financial development significantly attract FDI.

The remaining paper follows the following pattern. The second section discusses the country's location factors with their likely influence on inward FDI. The third section deals with the empirical model and estimation issues, while section four investigates the outcomes.

Current Scenario and Trend in FDI

In the last two decades, global FDI inflow has increased by more than five times (USD 341 billion in 1995 to USD 1.76 trillion in 2015). Over time, share of developing countries in global FDI inflow has increased, while the share of developed countries has declined (till 2014). In 2000, the share of developed countries was as high as 82.5 per cent, while that of developing countries was 17 per cent only. In 2014, the share of developing countries was approximately 55 per cent, and the share of developed countries declined to 41 per cent. In 2015, the share of developing and developed countries in global FDI inflow was 43 per cent and 54 per cent respectively. During 2010–2015, the average growth rate of global FDI inflow was 6.2 per cent. In this period, growth of FDI inflow was 4.2 per cent for developing countries and 12 per cent for developed countries. However, after the 1990s, when the process of liberalization started in most of the Asian countries, the share of Asian countries varies within a range of 60–70 per cent of FDI inflow in all developing countries. Within Asia, most important FDI destination was the South-East Asia region. However, the share of South Asian countries varied in the range of 8–10 per

cent in the last five years. In this period, average growth rate of FDI inflow in South Asian countries was 9.5 per cent (World Investment Report 2016).

In South Asia, the largest FDI destination is India. It has a share ranging between 75 and 87 per cent in total South Asian FDI inflow. Bangladesh and Sri Lanka are the other two important FDI destinations in South Asia. The share of remaining four countries (Afghanistan, Bhutan, Nepal and Pakistan) is small (individual share less than one per cent). In the last five years, average growth rate of FDI inflow in India was 13 per cent. However, within the region, highest growth was observed in Bangladesh (21%) followed by Maldives (19%) in the same period.

In 2014, the share of FDI inflow in global GDP was about 1.7 per cent, while it was 2.6 per cent for developing and 1.1 per cent for developed countries. In case of South Asian countries, the share of FDI inflow in regional GDP was 1.4 per cent. The corresponding figure was 1.7 per cent for India, 1.3 per cent for Sri Lanka and 12.2 per cent for Maldives in 2014. On the other hand, per capita global FDI inflow was USD 180.6, while it was USD 129.2 and 474.4 for developing and developed countries, respectively. Per capita FDI inflow was USD 23.2 for South Asian countries and 27.2 for India in particular in the year 2014. Per capita FDI inflow was highest in Maldives (USD 1,033.3) followed by Sri Lanka (USD 44) within the South Asian region. In case of Maldives, total FDI inflow was 111 per cent of its merchandise trade in 2014. The corresponding figures were 6.9 per cent in the global context, 8.9 per cent for developing countries, 9.8 per cent for developed countries, 8.6 per cent for the South Asian countries and 10.7 per cent in case of India. Similarly, FDI inflow contributed more than 50 per cent (average of 2010–2014) of gross fixed capital formation for Maldives.

2. Literature Review

Post 1990s, most of the South Asian countries initiated the process of liberalization and opened up their economy to foreign capital flows. As a result, the recent years witnessed a tremendous rise in FDI in this region, but the impact of FDI on economic growth remains ambiguous. Consequently, researchers and policy makers have initiated paying attention to the studies concerning the impact of FDI with respect to these economies. In view of the ambiguity about the role played by FDI, present study enters the stream investigating the impact of FDI and other determining factors in case of South Asian economies.

There is lack of consensus regarding the impact of FDI on economic growth. There are two contrasting views regarding the impact of FDI on growth. First is the modernization theory, which argues that FDI has positive impact by providing capital for investment and via knowledge transfer. The second view is of dependency theory, in accordance to which FDI has negative impact on economic growth. It is based on the premise that FDI creates monopolies, which prevents full utilization of domestic resources and thereby weakening the potential multiplier effect.

Some studies (e.g., Blomstrom et al., 1994; Borensztein et al., 1998) argue that inflow of FDI might help to stimulate a country's economic performance via technology transfer and spill over efficiency. The spillover efficiency occurs when domestic firms are able to absorb the tangible and intangible assets of multinational corporations embodied in FDI. In contrast to this, some studies (like Bloomstorm & Kokko, 2003)

argue that spill over of foreign technology and skills to local industry are not an automatic consequence of inflow of FDI. Benefits can be realized only if the local industries already have the capacity to absorb such spillover effects.

However, there are many studies (e.g., Griffin, 1970) that recognized the negative impacts of FDI on economic growth in case of developing countries. In a recent study, Saqib et al. (2013) confirmed that foreign investment had negative effect on the economic performance of the Pakistan economy while domestic investment benefits the economy more. Herzer (2012) found out that FDI has negative impact on the growth rate of developing countries over the period of 35 years. He concluded that removal of market distortionary policies, natural resource dependence and enhancement of economic and political stability can protect countries from negative consequences of FDI and promote FDI led growth in the long run. On the other hand, Minhaj et al. (2007) also concluded that FDI inflows improve the socio-economic condition of the economy both in the short run and long run.

Trade openness also has been identified by many studies (e.g., Balasubramanyam et al., 1996; Iqbal et al., 2014) as a pre-requisite condition to reap positive benefit of FDI. This largely stems from Bhagwati's hypothesis that FDI has greater impact on GDP in an export-oriented economy. Iram and Nishat (2009) studied the FDI-growth nexus in case of manufacturing and service sectors of Pakistan economy. They found out that macroeconomic stability and privatization policies play crucial role in realizing the impact of FDI on economic growth and also there is a need to devise export-oriented policies. Tintin (2012) analysis also supported the FDI-growth positive nexus but showed that impact is higher in case of developing countries compared to developed and least developed countries. He puts emphasis on pro-FDI policies and on improvement in quality of institution as they are inter-linked with growth and development. Similar recommendations were made by African Development Bank (2015) in case of North Africa. The study also suggested that, to reduce inequality, investment should be made in labor-intensive and pro-poor sectors such as agriculture, fishing and so on.

The empirical evidence of FDI impacts on economic growth at the firm level and at the national level still remains ambiguous and varies across economy and time period. Several studies (Wiboonchutikula & Tubtimtong, 2010) have rejected the hypothesis that presence of foreign firms has positive spillover effect on domestic firms. In contrast to this view, Agrawal (2000) finds the existence of complementarity and inter-linkage effects between foreign and national investment in case of five South Asian countries; India, Pakistan, Bangladesh, Sri Lanka and Nepal. Ray et al. (2015) also highlighted the positive effect through technology spillovers, which has the strongest potential to enhance economic growth in the host country. The studies concludes that investor companies have brought with them global best practices and also contributed significant knowledge transmission from the home country to the host country in the form of advanced software, internal training programmes, etc.

To explore the role of sectoral composition of FDI, Ingham et al. (2020) has acknowledged the heterogeneous sectoral growth effect of FDI in case of Egypt. They found that, sectoral destination of FDI plays significant role in development of the economy. In case of Egypt, while FDI in manufacturing sector had positive growth effect, FDI in service sectors (like finance, retail and telecom) resulted in adverse

impact. On the other hand, Khan and Khan (2011) found that sectoral composition of FDI has been important in Pakistan also. They found that FDI in primary and service sector resulted in economic growth but FDI had very limited role in manufacturing sector. But, in case of Nepal, Phuyal and Sunuwar (2018) found that FDI in all sectors had positive and significant effect on economic growth. Based on disaggregated sectoral analysis, the study suggested that government should give priority to export oriented FDI over domestic demand oriented FDI to foster economic growth.

Some studies also came to the conclusion that there is no evidence of significant effect of FDI on economic growth. Lund (2010) investigated the data for both developed and developing and found out that FDI does not act as a catalyst in promoting growth of developing countries as it has been advocated in many other studies. He also emphasized that certain level of development is a pre-requisite for reaping the maximum benefits of FDI. In case of Nigeria, Uwubanmwun and Ajao (2012) found that FDI does not have significant effect on growth and development but advocated that vital role is being played by stable macroeconomic variables and trade openness to promote growth and development of Nigerian economy. Lean (2008) did not find long-term relationship between FDI and GDP in manufacturing sector in case of Malaysia. Asheghian (2011) did not find any evidence in support of FDI-led growth in Canada over a period of 33 years, but identified total factor productivity and domestic investment as major determinants of economic growth. Blomstrom et al. (1994) and Blomstrom and Kokko (2003) also advocated the argument that FDI inflows benefit developing countries with an educated work force through significant technology spill overs.

Thus, the existing literature reveals that there is a lack of consensus regarding the role played by FDI in promoting economic growth. It also indicates that composition of FDI may be important to determine level and pattern of economic growth. FDI inflow in manufacturing sector may have different economic impact vis-à-vis FDI in service sector. Thus, other than analysing the role of overall FDI, sectoral composition of FDI may be crucial to strategize the desired growth policy. Hence, analysing the impact of overall FDI may not be sufficient, and it is required to identify and measure the impact of sectoral (primary versus secondary versus tertiary sector) FDI also. This study addressed this information gap and analysed the role of FDI composition (sectoral destination) in economic growth in the context of select South Asian countries. The next section illustrates the methodology used in the study.

Before addressing the main question, this study first needs a perspective to discuss the location characteristics of countries in attracting foreign investors. The literature review enabled the researchers to explore macroeconomic and financial market variables' influence on inward FDI in the host countries.

2.1 Market size

The literature on *FDI* has recognized a significant causal relationship of market size with inward *FDI*. Big markets house more domestic and foreign firms and help them achieve economies of scale. The presence of large markets of the host countries benefits foreign Multinational Corporations (MNCs) by offering low-cost factors of production, as evident from the study of Shah. (2014). Also, the study of Markusen and Maskus (1999), Love and Lage-Hidalgo (2000), Lipsey (2000), and Moosa (2002) highlight that domestic market size and differences in factor costs are related to

the location of FDI, which implied that large domestic market accommodates foreign investments profitably to both parties. The commerce department of the United States considered that enormous progression in investment came to large developing markets of the world. Likewise, World Bank classified India as the fifth largest economy after the United States of America (USA), China, Japan, and Germany. In the empirical section, this study has used GDP as a proxy measure for the market size of a country and expects a direct positive association between inward *FDI* and the size of the market.

2.2 Economic Development / the Level of Income

Gross Domestic Product per Capita (GDPPC) is used as a proxy for the development level of a country to show its possible effect on inward FDI. The income level of a country determines the inward FDI flow to the host country.

The country's level of development is expected to reflect and decide on the kind and pattern of inward FDI (Loungani, Mody & Razin, 2002), and it then causes FDI to become more horizontal as development increases (Markus 1998). The high-income level signifies the due amount and the kinds of goods traded in the market. The most critical determinant of inward FDI in Germany is its income level (Kyrkilis & Pantilidies, 2003).

This study has employed gross domestic product per capita (GDPPC) as a proxy measure for the income level of the host emerging country with the expectation of positive influence on inward *FDI*.

2.3 Openness/ Liberalization

The degree of openness is another factor determining the flow of inward FDI to a country. The policy reforms regarding taxation, tariffs, customs duties, and trade also changed the direction of inward FDI. In the 1970s and 1980s, developing countries imposed limitations, custom duties, and tariff hurdles for import substitution and, to some degree, for technology transfer and other spill-over concerns. The cost considerations resulting from tariffs and other restrictions have prompted FDI to tariff jump in these countries (Balasubramanyam, Salisu & Sapsord, 2001).

Nonetheless, in the 1990s, East Asian countries succeeded in drawing FDI despite trade and investment liberalization (Balasubramanyam & Sapsord, 2001), which induced various other emerging countries to relax their economic policies (Nunnenkamp 2002). Poland, for example, has established increasing trade relations with Western Europe. Similarly, its rapidly relaxing economies and business-friendly policies resulted in a substantial increase in inward FDI in the early 1990s (Cieslik, 2005). After introducing reforms and free-market economy programs, Sub-Saharan countries also experienced an upward swing in inward FDI (Morisset, 2000). Regional trade agreements between countries have enhanced both outward and inward FDI (Globerman & Shapiro 1999).

Gostanga (1998) and Asiedu (2002) focused that policy reforms undertaken by the developing countries are the contributing factors for foreign direct investment inflows. In their view, corporate tax and the extent of openness are significant factors in determining FDI. According to Blomstrom, Kokko & Steven (1998), FDI has experienced two-dimensional effects due to trade agreements between countries: The indirect effect is through trade liberalization while the direct effect is through variations in investment rules associated. According to their opinions, lower

international tariffs can expand the host country's markets and thus encourage FDI, but lower external tariffs can reduce FDI to the region for tariff jumping FDI. The study of Markusen & Venables (1998) and Markusen (2002) found that if different relative factors endowments and costs of countries' trade are low, vertical FDI comes into play. However, when the differences between factor costs and size among countries are marginal, the trade cost is moderate to high, triggering more horizontal FDI (Ismail, Smith & Kugler, 2009).

This study used to trade as a proxy to represent the openness of a host country, where this study presumes a positive linkage between FDI inflow and a host country's degree of openness. Trade used in this study is the transfer of goods plus services to and from the host country measured as a percentage of GDP.

2.4 Macroeconomic Stability

Similarly, macroeconomic indicators also had a more significant impact on the flow of FDI. In FDI empirical literature, the exchange rate influence FDI in two ways. More significant exchange rate fluctuation in a country discourages FDI flows while a stable currency encourages its flow. According to Capel (1992), Campa (1993), Rivoli and Salorio (1996), there exists a negative relationship between exchange rate fluctuation and inward FDI, and the exchange rate unpredictability deters inward FDI. On the other hand, a positive relationship exists between the exchange rate and inward FDI when the exchange rate fluctuation is less. Theories of Cushman (1985, 1988), Broll and Wong (2006), Goldberg and Kolstad (1995), and Aizenman and Marion (2004) explained the positive linkage between exchange rate movements and FDI. Froot and Stein argued that a cheaper currency of the host country should positively affect inward FDI into the host country, and conversely, an increase of the host country's currency should drop FDI into the country.

The importance of the exchange rate for FDI is also evident from the study conducted by Kyrkilis and Pantilidies (2003), in which they pointed out that exchange rate is an influential factor in determining the flow of FDI to Singapore and Brazil. Empirical evidence suggests various predictions for the effect of exchange rate uncertainty and exchange rate level. The exchange rate of a country attracts inward FDI given that the expected rate fluctuation is low (Cushman 1985, 1988, Goldberg et al. 1995, De Menil, (1999), as well as Pain & Van Welsun, (2003). Also, there is a negative correlation between the currency conversion rate and inward FDI because of a country's currency (Campa, 1993, Benassy-Quere, Lionel Fontagne & Lahreche-Rovil, 2001 Urata & Kawai, 2000 and Kiyota & Urata, 2004). However, Gorg & Wakelin (2002) found no significant relationship between exchange rate and FDI.

Inflation, another macroeconomic indicator, also played a vital role in dislocating FDI from one country to another. A standard view is that inflation is detrimental to the economic prospect of a host country. It is considered a ghost for the economic disorder in the country. In an environment where inflation is staggering, the government will be incapable of balancing the budget, in which case the State bank of a country needs to step in to restrict the supply of money to increase the cost of capital, which then leads to a low inflow of FDI to the country. A similar view is also supported by the study result of Selin (1999), who argued that an inverse relationship existed between the purchasing power of a country's currency and FDI. According to them, higher inflation of the host country discouraged FDI to the country.

In this study, the exchange rate and inflation of the host country are used as proxies for the macroeconomic stability of a country.

Having exchange rate and inflation of host country as proxies for a country's macroeconomic stability, this study expects a positive relationship between stable economic condition and inward FDI.

2.5 Financial Development

Like a stable economic condition, a vibrant financial development of a country also attracts foreign MNCs to invest in the host country. The extent of development of a host country's sound financial institutions that act as a magnet in attracting foreign funds, especially foreign direct investment, is highly correlated with FDI flow. Ilhan (2015) found that there was bidirectional causality in the case of Turkey.

Another study conducted by Alfaro, Chanda, Kalemli-Ozkan & Sayek (2004) empirically examined that well developed financial sector in particular of developed economies experienced high growth in their economies than those having less developed financial systems and also experience growth in the share of FDI to their countries provided the condition of market structure and human capital. They argued that credit constraint entrepreneurs find it easier to start their firms in developed financial markets than in an underdeveloped financial system. So financial markets link investors from abroad to investors of the host country, which will lead to the FDI spillover effect and economic growth in the country.

Given the higher political stability of a country, financial institutions reaped the benefits of FDI efficiently. Beyond a threshold level, financial development harms FDI (Dutta & Roy 2011). According to them, altering this inception level of the financial system would see its effect on FDI.

Empirical research provides evidence that market size, legislative and incentive policies, macroeconomic variables, reliability and efficiency of the financial system, law and order situations, government and fiscal environment, and physical infrastructure are critical factors for attracting FDI (Nasir & Hassan 2011).

In this study, proxies used for the financial development of a country are the various types of credits extended by lending institutions to the private sector. We also used the turnover ratio and the capitalization of stock markets to represent the stock market development of a country.

3. METHODOLOGY

3.1 SAMPLE AND SPECIFICATION OF EMPIRICAL MODEL

The study sample of this research paper where the researcher attempts to explore the macroeconomic and financial market variables' effect on inward FDI incorporates seven Asian developing economies: Pakistan, India, Iran, China, Malaysia, Turkey, and Indonesia. Using secondary data of annual frequencies, the data covers the time horizon of 26 years extending from 1990 to 2015. Thus the total number of observations for a cross-section of seven countries with a period of 26 years turns out to be $26 \times 7 = 182$. The dependent and independent variables were chosen for their ease of data collection and rigorous theoretical foundation. The sources of the data and variables with their proxies are listed in Table No. 1.

Based on the discussions on the likely influential factors influencing inward FDI in the second section, this study came up with the following condensed form of the

equation to estimate the effect of macroeconomic and financial market determinants on inward FDI.

$$FDI_{jt} = f \left(\begin{matrix} MarketSize_{jt}, Economic\ Development_{jt}, Opneness_{jt}, \\ MacroeconomicStability_{jt}, FinanicalDevelopment_{jt} \end{matrix} \right) \quad (1)$$

In the above model No. 1, the subscript j symbolizes a developing country that ranges from 1 to 7 while the subscript t represents the time horizon of 26 years from 1990 to 2015.

After carefully substituting proxies for their relevant variables, model No. 1 transforms to the following model No. 2

$$fdi_{jt} = \alpha_0 + Population_{jt} + Gdppc_{jt} + Trade_{jt} + Inflation_{jt} + ExchangeRate_{jt} + StockMarketTurnoverRation_{jt} + StockMarketCapitalization_{jt} + DomesticCredit.PrivateSector_{jt} + DomesticCredit.toFinancialSector_{jt} + PrivateCreditbyBanks_{jt} + PrivateCreditbyBanks\&FinancialInstitutions_{jt} + \xi_{jt} \quad (2)$$

Table 2.is followed by Table 1. which summarizes the statistical aspects of each variable.

Table 1: Variable with their proxies and data sources

Regresand	Regressors	Proxies utilized	Data Source
FDI		FDI inflows	IFS, International Monetary Fund
	Market Size	GDP	WDI, World Bank Website
	Economic Development	GDPPC	WDI, World Bank Website
	Trade Openness	Trade as %GDP	IMF Website
	Macroeconomic Stability	Inflation	IFS, IMF Website
		Exchange Rate	IFS, IMF Website
	Stock Market Efficiency	Stock market Turnover Rate	WFE, GSMF & S&P, World Bank Website
		Stock Market Capitalization	WFE, GSMF & S&P, World Bank Website
	Financial Development	Private Credit by Banks	IFS, IMF Website
		Private Credit by banks and Financial Institutions	IFS, IMF Website
		Domestic Credit to Private Sector	WDI, World Bank Website
		Domestic Credit by Financial Sector	IFS,IMF Website

Table No.2 Descriptive Statistics

Name of Variables	Observations	Mean Value	Standard Deviation	Minimum Value	Maximum Value
lnFDI	182	22.0204	2.1118	14.5087	26.3963
lnGDP	182	26.5242	1.2764	24.4124	30.1355
lnGDPPC	182	7.4605	.9959	5.6978	9.3222
lnTrade	182	3.9163	.5978	2.7520	5.3955
Inflation	182	13.5054	18.4716	-1.4079	106.2627
Exchange Rate	182	2628.8090	5655.2620	.00261	33226.3
Private Credit by Bank	182	52.5886	39.247	12.5401	155.2484
Private Credit by Banks & Financial Institutions	182	50.97608	37.9481	12.2302	149.0600
Domestic Credit to Private Sector	182	55.3627	40.2677	14.5213	158.5050
Domestic Credit by Financial Sector	182	71.5795	38.5012	19.4670	194.4101
Stock Market Turnover Ratio	182	89.2921	86.6548	.3351	467.9498
Stock Market Capitalization	182	47.3885	49.8031	1.3422	265.5638

The descriptive analysis depicted in Table 2 of the study in line with Khan, Jabri and Saif (2021) and Khan et al. (2020), which shows the initial view of the data reporting the mean, standard deviation, maximum, and minimum values of each study variables

3.2 The estimation issue and econometric techniques

Before embarking on estimation and its discussion issues, empirical research necessitates specific estimation issues to be dealt with to develop unbiased standard errors.

Therefore, Breush-Pagan / Cook-Weisberg Test for heteroskedasticity was carried out to test for non-constant variance, which, while present in data, will lead to biased standard errors and ultimately to biased t-statistics. The test confirmed the presence of heteroskedasticity based on the P-Values reported in Table No. 3 for all the study models, enabling the researcher to eschew the null hypothesis of homoscedastic standard error. The issue of non-constant variance was fixed by carrying out robust

regressions for all models, which made the data homoscedastic for estimation purposes.

To check for multicollinearity, we carried out correlation coefficient, and Variance Inflation Factor (VIF) tests, which confirmed that only three financial market variables like domestic credit to the private sector, private credit provided by banks, and domestic credit provided by banks and financial institutions among themselves are highly correlated with Variance Inflation Factor (VIF), reported greater than 10. The correlation and VIF matrices are given in table No. 4 and Appendix 1, respectively. To solve the multicollinearity problem, the variables, instead of being dropped from the data set, were treated in isolation in various models of regressions where they no longer suffer from multicollinearity. Hence the models are as shown in Appendix No. 1, which reports the mean VIF.

Table No.3:Results for Breush-Pagan /Cook-Weisberg test for Heteroscedasticity

No	<i>Model Tested</i>	P-value
0	FDI _{jt}	0.0000
1	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \xi_{jt}$	0.0000
2	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \xi_{jt}$	0.0000
3	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \xi_{jt}$	0.0000
4	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_6 StMktTO_{jt} + \xi_{jt}$	0.0000
5	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_6 StMktTO_{jt} + \beta_7 StMktCap_{jt} + \xi_{jt}$	0.0000
6	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_7 StMktCap_{jt} + \beta_8 DomCrdtFinSec_{jt} + \xi_{jt}$	0.0000
7	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_7 StMktCap_{jt} + \beta_8 DomCrdtPrvtSec_{jt} + \xi_{jt}$	0.0000
8	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_6 StMktTO_{jt} + \beta_7 StMktCap_{jt} + \beta_8 DomCrdtFinSec_{jt} + \beta_8 PrvtCrdtBnks_{jt} + \xi_{jt}$	0.0000
9	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_6 StMktTO_{jt} + \beta_7 StMktCap_{jt} + \beta_7 DomCrdtFS_{jt} + \beta_8 PrvtCrdtBnks_{jt} + \beta_8 PrvtCrdtBnk\&inSec_{jt} + \xi_{jt}$	0.0000

Table No.4 Matrix for Correlation

Serial No	Name of Variables	1	2	3	4	5	6
1	FDI	1					
2	Market Size	0.7665	1				
3	Income Level	0.0255	0.1293	1			
4	Trade	-0.123	-0.2855	0.6000	1		
5	Inflation	-0.147	-0.1522	0.4527	0.4373	1	
6	Exchange Rate	-0.024	0.0341	0.2483	-0.0246	-0.0521	1
7	Stock Market Turnover Ratio	0.1787	0.1402	0.1545	0.2066	0.0446	-0.3493
8	Stock Market Capitalization	0.0557	-0.0654	-0.1290	-0.1754	-0.321	0.4742
9	Private Credit by Banks	0.4554	0.3265	-0.1896	-0.2942	-0.4239	0.0790
10	Private Credit by Banks and Financial Institutions	0.4693	0.3325	-0.1713	-0.1713	-0.4472	0.0462
11	Domestic Credit to Private Sector	0.4307	0.2986	-0.1648	-0.2892	-0.4042	0.1147
12	Domestic Credit by Financial Sector	0.4693	0.3325	-0.171	-0.296	-0.447	0.0462

Serial No		7	8	9	10	11	12
7	Stock Market Turnover Ratio	1					
8	Stock Market Capitalization	-0.2649	1				
9	Private Credit by Banks	0.0235	0.5758	1			
10	Private Credit by Banks and Financial Institutions	-0.0469	0.2928	0.7187	1		
11	Domestic Credit to Private Sector	0.0138	0.6015	0.9919	0.9944	1	
12	Domestic Credit by Financial Sector	0.0341	0.5772	0.9676	0.7385	0.9669	1

de between fixed effect and random effect panel estimation regression models, the Hausman Specification Test (1978) was executed for the regression undertaken with the results reported in Appendix 2. The Hausman Specification test (1978) accepts the hypothesis for some models while rejecting the null hypothesis for others based on the probability values given in appendix 2. Fixed Effect estimation technique is used for models four, five, six, seven, eight as the tests rejected the null hypothesis proving that the results obtained with random and fixed effects are not the same. However, in the rest of the models, the random effect was used as the Hausman test failed to reject the null hypothesis and conclude that the random and fixed estimation methods are the same.

4. Results, Discussions and Sensitivity Analysis

Using Hausman Specification Test (1978), the results for some models are based on fixed effect estimation techniques while others employ random effect estimation techniques provided in Appendix No. 2. The results for models four, five, six, seven, and eight are based on fixed effect estimation panel regression, while models one, two, three, and nine are based on panel regression's random effect estimation method. Both the techniques for all models are included to check for sensitivity analysis of the results obtained through the two methods of panel regression, Shah (2017).

Based on both the random and fixed effect estimation panel regressions, it is evident from all the models that the coefficients for the GDP, which is a proxy representing the market size of a country, are significant at one percent in all models with strong coefficients results showing that inward FDI is very responsive to large markets. This confirms the hypothesis that inward FDI is attracted to large markets of economies.

Gross domestic product per capita (GDPPC) is used as a proxy for the development level of a country. The whole array of results for all models shows that GDPPC is significant at one percent significance level rejecting the null hypothesis that there is no relationship between GDPPC and inward FDI with solid results that FDI seeks to enter into markets with higher income levels, and all the models of panel regression

support this notion. This confirms the hypothesis that FDI is responsive to markets of the world having higher GDPPC.

The level of trade, which is a proxy for a country's openness, represents the extent to which a country is liberalized. It is evident from all the models especially models one and nine, that the results are strongly positively significant at a one percent significance level, again suggesting that the flow of FDI into a country is strongly contingent upon the extent to which a country is open liberalized. So the more liberalized a country is, the more foreign investments will be attracted into the country because trade barriers no longer impede the flow of FDI into that country. The results are equally supported by the fixed effect and random effect estimation panel regressions at one percent significance with strong coefficients for all models.

The whole progressive effect of trade liberalization reveals that market reforms and opening economies indicate a general decline in governmental barriers, which then improves the host country's business climate and carrying the green signal to multinational investors to invest in these economies, which then increases the flow of *FDI* to the host country. The results, therefore, corroborate the hypothesis that liberalized and open economies are attractive to inward FDI.

Inflation and the rate of currency exchange are the factors representing macroeconomic stability that is also taken into account. It is argued that an increase in inflation or an increase in consumer prices discourages inward *FDI*. When the purchasing power of a dollar decreases, investors abroad are discouraged from investing in the host country where the inflation rate is high. This implies that a well-functioning macroeconomic environment and the host country's ability to control inflation encourage foreign investment flow. Using direct quotation equation, that is, $1 \text{ US\$} = \frac{\text{numbers of host country's currencies' units}}{\text{conversion rate}}$ gives a negative coefficients *FDI* literature. It indicates that the home country's currency depreciation induces a decrease in local production cost in terms of overseas currency, encouraging more investment inflows to the host country. The results obtained for a country's currency exchange rate against the US dollar and its inflation contradict the null hypothesis, which states that they are negatively associated, but the obtained coefficients are weakly and positively associated with inwards FDI. This, though contradict their negative connectivity with FDI, can be explained that a generally steady and slight increase in prices would not deter inward FDI, given that inward FDI has to seek other country's characteristics such as sound macroeconomic, openness, and dynamic financial systems.

Thus small changes in currency exchanges and consumer prices do not necessarily deter inward FDI. The weak coefficient results obtained for inflation and exchange rates empirically prove that they are positively associated with inward FDI and do not deter inward FDI. Instead, inward FDI enters into stable markets where inflation and the volatility of exchange rates are within limits. At the same time, too much volatility in the exchange rate and galloping inflation can impede inward FDI, thus leading the researcher to conclude that pocket-sized fluctuation of exchange rate and steady and well-handled inflation do not obstruct inward FDI.

The stock market efficiency is proxied by the stock market turnover ratio and the stock market capitalization treated in models four and five acting as foundation models for these variables. The stock market turnover ratio is significant at 5% level

in model nine. In contrast, the stock market capitalization is significant in all the models indicating that efficient stock markets greatly influence the interest of foreign investors to direct their investment into the host country. The array of coefficients for stock market capitalization is positively significant in all the regression results. Thus a well-functioning financial market of the host country is a green signal to foreign investors, and this confirms the rejection of the null hypothesis, leading the researcher to accept the alternate one.

The financial market is proxied by the country's domestic credit to private and financial sectors, private credit by lending institutions, and private credit by banks and financial institutions. All these proxies for the financial development of a country are positively significant except for the Private Credit by Banks. The results are given in table No.1. This supports the argument that the ease of local credit availability in a host country strongly encourages investors from abroad.

In summary, the research results indicate that FDI is a function of market size, bilateral trade agreements, and unwavering macroeconomic environment. The study showed that well-functioning stock markets and vibrant financial sectors also affect FDI from abroad.

5. Conclusion

This study has explored the macroeconomic, stock market, and financial market variables' effect on inward FDI in China, India, Indonesia, Iran, Malaysia, Pakistan, and Turkey. Using yearly data of the economies of these countries covering the period from 1990 to 2015, the study found that market size, the openness of a country, its stock markets, and financial development have a significant positive effect on FDI inflows. The results also substantiate that inward FDI is also responsive to a country's development level proved significant in their models. Between FDI and inflation and the exchange rate of a country's currency, a positive linkage exists.

The study result portrayed that FDI does not enter into small and financially underdeveloped markets and galloping inflation and high exchange rate volatility. Hence, stable macroeconomic and a vibrant financial sector are strong determinants of FDI inflows to the countries.

In light of the study findings, the countries of this study must focus on the following policy reforms to attract more FDI, i.e., liberalized markets, stable macroeconomic environment, and developed and sound stock market and financial sector of a country. The study will certainly help policymakers of the countries in making policies appropriate for encouraging foreign investors. However, the paper's findings are in line and limited to the countries of the current study. So, macro and socioeconomic modifications shall be made before any generalization.

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Appendix 1,**Table5: Results of the Variance Inflation Factor Tests of Multicollinearity**

No	Models Tested	VIF
1	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \xi_{jt}$	1.70
2	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \xi_{jt}$	1.68
3	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \xi_{jt}$	1.68
4	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_6 StMktTR_{jt} + \xi_{jt}$	1.67
5	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_6 StMktTR_{jt} + \beta_7 StMktCap_{jt} + \xi_{jt}$	1.72
6	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_7 SMCap_{jt} + \beta_8 DCFS_{jt} + \xi_{jt}$	2.09
7	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_7 SMCap_{jt} + \beta_8 DCPS_{jt} + \xi_{jt}$	2.01
8	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_6 SMCap_{jt} + \beta_7 PCB_{jt} + \xi_{jt}$	2.02
9	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_6 SMTR_{jt} + \beta_7 PCB_{jt} + \beta_8 PCBF_{jt} + \xi_{jt}$	1.98
The Variance Inflation Factor Values reported are the mean VIF values of the model tested		

Appendix 2: Results for Hausman Specification Test

No	Models Tested	P-Value
1	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \xi_{jt}$	0.6596
2	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \xi_{jt}$	0.7551
3	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \xi_{jt}$	0.9589
4	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_6 StMktTR_{jt} + \xi_{jt}$	0.0000
5	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_6 StMktTR_{jt} + \beta_7 StMktCap_{jt} + \xi_{jt}$	0.0000
6	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_7 SMCap_{jt} + \beta_8 DCFS_{jt} + \xi_{jt}$	0.0000
7	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_7 SMCap_{jt} + \beta_8 DCPS_{jt} + \xi_{jt}$	0.0000
8	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_6 SMCap_{jt} + \beta_7 PCB_{jt} + \xi_{jt}$	0.0000
9	$\alpha_0 + \beta_1 GDP_{jt} + \beta_2 GDPPC_{jt} + \beta_3 Trade_{jt} + \beta_4 Inflation_{jt} + \beta_5 ExchRate_{jt} + \beta_6 SMTR_{jt} + \beta_7 PCB_{jt} + \beta_8 PCBFI_{jt} + \xi_{jt}$.01165