

## **RESEARCH ARTICLE**

#### MACROECONOMIC FACTORS OF FDI INFLOWS IN ASIAN ECONOMIES: A STUDY OF 14 ASIAN COUNTRIES.

#### Qamar Rasheed.

The University of Lahore, School of Accountancy and Finance, Lahore, Pakistan.

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#### Manuscript Info

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#### Abstract

..... The study conducted to analyze the relationship between foreign direct investment and macroeconomic factors, which were affecting foreign direct investment in Asian economies over the period of 2003 to 2017. The fixed effect model applied in order to anticipate the foreign direct investment inflow into the overall Asian economies and simple regression analysis organized for each economy individually to determine the foreign direct investment inflow. The result of the fixed effect model presented strong evidence that trade openness has a statistically significant and affirmative association with foreign direct investment inflow into different Asian economies. On the other hand, exchange rate found closer to significance with foreign direct investment inflow. However, the macroeconomic variables of the study jointly and significantly affected foreign direct investment inflow. The results of simple regression analysis found that GDP, trade openness, and exchange rate have a significant impact on foreign direct investment inflow in China, Indonesia, Jordan, Pakistan, and Vietnam. Meanwhile, labor cost and tax rate have positive significance to foreign direct investment in Hong Kong and Philippines. The conclusive remarksare that macroeconomic factors played a significant and decisive role to attract foreign direct investment in the Asian region and in each country as well.

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#### **Introduction:-**

Foreign direct investment can be define as per OECD Benchmark concept of Foreign Direct Investment (1996) that FDI is the long run association between foreign investor who is resident person in one economy and make direct investment in another economy, has meaningful control over the management of host country. In the foreign direct investment, initial transaction and succeeding capital transactions are involved (Chaudhuri and Mukhpoadhyay, 2014). Schwab (2018) revealed that, in the last 30 years, large economic changes have appeared and massive investment has taken place at the global level. It has all happened because of trade of goods and services between different countries around the world. Globalization and shifting of capital from one country to another country accelerate economic growth of the hosting country. Globalization enables poor and developing countries towards skilled labor, technology transfer, trade openness and inflow of capital. When domestic firms do business with multinational firms then trade and flow of capital increases.

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#### **Corresponding Author:-Qamar Rasheed.**

Address:-The University of Lahore, School of Accountancy and Finance, Lahore, Pakistan.

In developing countries low labor cost, small saving, small investment and low production level need foreign investment to boost their economies. Developing countries access to international markets, technology transformation, raise in efficiency level and increase in economic output and macroeconomic level changes occur to gain prosperity and economic activities. Scattered global markets turning into aggregate global platform to strengthen investment sector and flow of foreign investment increasing with the course of time. Global economies struggling to liberalize their economies and making policies to attract more and more investment (Chaudhuri and Mukhopadhyay, 2014).(Sahoo et al., 2014) taken a look, there are eight countries included in South Asian region. They are participating actively in global economic activity. South Asia GDP was growing at 4.5% per year during 1960 to 1970. However, the decade wise average growth of the region recorded at 7% during 2001 to 2010. This impressive changes playing a role to reduce poverty level and providing more opportunities for human development. Foreign direct investment playing its role in different form such a JV (Joint Venture), M&As (Merger and Acquisitions) and Greenfield investment. In joint venture, foreign firm makes agreement with firms of host country or government institution. In merger and acquisition, existing ownership replaced by foreigners in which selling, buying and combining is included. In the Greenfield, there is no such kind of facility available in the host country. In which production, distribution, and other facilities begin newly so this form of investment is very costly for foreigners. Therefore, government policies can make it easy to gain economic activities like employment opportunities and value added for the host country (Pazienza, 2014). Trade liberalization enhance the market size and provide an edge in labor division, access to international markets, raise in productivity, advantage of specialization and increase in innovation activities. Trade openness changes the competiveness of firms and it effect the export and economic growth of the country. Few countries leading the world in technology and innovation so transfer of both is only possible through trade openness and foreign direct investment (Hofmann, 2013).

According to the Kearney Foreign Direct Investment Confidence Index (FDICI 2018), United States is still top of the list to gain investor trust. US is the largest market in the world with the perspective of FDI for the last six year. China and USA competed each other during 2010 to 2014 with respect to FDI but US did upswing to attract FDI in large part. US making such kind of policies that are attracting foreign investor like reduction in corporate tax rate. United States, Canada and Germany are taking lead to attain confidence of foreign investor as per FDICI 2018. China dropped down its position to fifth place. Foreign investors reluctant to invest in Chinese market and perceive atmosphere is becoming less appropriate or less favorable for foreign investment. European countries perform well to provide favorable platform to foreign investors.

(Organization for International Investment 2017 and FDIUS 2017) Foreign firms commence new investments every year, which provide advantages to the American Economy in different ways. Foreign companies construct new factories, invest in R&D, and begin well-established operation in US. Foreign investors provide many well-paid jobs to Americans. United States still attractive location for foreign investment and once again world prime destination for FDI.(Morrison 2018) explored that economists and financial expert say that main reason behind the rapid economic growth of China is the large-scale capital investment. It consists of two major determinants, foreign direct investment and large domestic savings. Chinese economic reforms boost national economy and enhance resources to gain further foreign investment. China is the world's largest manufacturer according to UNO and Global Manufacturing Competitiveness Index. However, US would overtake China again by 2020 to turn into the world's most manufacturing competitive economy because of its huge investment in R&D, top ranked universities, and large capital investment in advanced technologies. China placed 28<sup>th</sup> position out of 138 world economies in Global Competitive Index 2016-2017 as per The World Economic Forum meanwhile US placed 3rd position. (UNCTAD 2018) United States, China, and Hong Kong China placed 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> positions in inward foreign direct investment with respect to top 20 hot economies. In the meantime, United States, China and Japan ranked 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> positions in outward foreign direct investment in terms of top 20 home economies. The whole world FDI decreased by 23% in 2017 while FDI trend fell in developed countries and remained stable in developing countries in 2017.

#### Literature Review:-

Many experts and researchers have tried to figure out the relationship between foreign direct investment and its macroeconomic factors. A number of studies have carried out at the global level and domestic level on foreign direct investment along different variables. Tampakoudis et al. (2017) examined the influencing factors of foreign direct investment in average income countries. The panel data employed over the period from 1980 to 2013 from 15 moderate-income countries. The gross domestic product, inflation, trade openness, infrastructure, population growth, and export have taken with respect to independent variables meanwhile foreign direct investment considered as a

dependent variable. Unit root conducted to know the stationarity in the variables and run panel ordinary least square method for regression analysis. The conclusion made that GDP, trade openness and population growth of the country play a vital and significant role to attract foreign direct investment in the selected countries. Koojaroenprasit (2013) explored the factors that affect foreign direct investment in Australia. The panel data collected from 1986 to 2011 with the perspective of three leading foreign direct investing countries such as the United Kingdom, the United States, and Japan. Market size, labor cost, trade openness, customs duty, interest rate, inflation rate, corporate tax rate, research, and development treated as explanatory variables. The results showed that market size, research, and development factor positively affect foreign direct investment. In the meantime, appreciation in the exchange rate, increase in corporate tax rate, and customs duty negatively affect foreign direct investment.

Ferrer and Zermeno (2015) probed the relationship between foreign direct investment and gross domestic product of China during 1995 to 2012. Vector autoregression model applied, unit root test with augmented dicky fuller and Johansen cointegration used. The results disclosed that foreign direct investment has a marginal impact on the economic growth of China.Makun (2018) analyzed the role of foreign direct investment along with other influencing determinants in Republic of the Fiji Islands. Annual quantitative data from 1980 to 2015 taken from World Bank about participating variables. Unit root test and cointegration analysis with ARDL estimator utilized for the long-run association between GDP, FDI, imports and remittances. The study drawn conclusion that FDI has a positive influence over economic growth of Fiji so government should make policies to attract more FDI to gain economic growth.

Rehman (2016) observed the determinants of foreign direct investment with the perspective of Pakistan during the period of 1984 to 2015 by using unit root test, Johansen cointegration and Vector Error Correction Model (VECM) to know the short-term and long-term influence of market size, trade openness, inflation and natural resources over foreign direct investment. The results revealed that all explanatory variables have a statistically significant and positive relationship with FDI in term of attracting factors.Sichei and Kinyondo (2012) studied in Africa about 45 African countries about foreign direct investment during the period of 1980 to 2009. A number of macroeconomic factors used as independent variables in the econometric fixed effect and random model to interrogate the impact of FDI. The outcomes discovered that agglomerate economies, growing economies and natural resources of the countries attract foreign direct investment positively.

Musah et al. (2018) evaluated the role of foreign direct investment and its impact on the financial performance of different banks in Ghana over a period of ten years. Unit root, panel correlation, short run and long run estimation of financial indicator conducted to draw decisive research. The conclusion made that FDI has a positive association with the profitability of banks and economic growth in the short and long term.Gharaibeh (2015) conducted a study in Bahrain regarding the inflow of FDI and its influencing factors with respect to macroeconomics. For this purpose time series data taken from 1980 to 2013. The OLS (ordinary least square) regression model explored that macroeconomic factors play a significant role in the surge of foreign direct investment.Qamruzzaman (2015) examined factors that affecting FDI in Bangladesh. GDP, exchange rate, trade policy, and black market premium considered as explanatory variables. The study consisted of fourteen-year data from 2000 to 2013. The data analyzed with the help of fixed effect and random effect regression models. The study made the revelation that mostly determinants increase the inflow of FDI.

Muraleetharan et al. (2018) observed determinants of FDI by applying time series data from 1978 to 2015 in Sri Lanka. Inflation, GDP, interest rate, exchange rate, infrastructure and international trade volume used as the explanatory variables. Augmented Dickey-Fuller test applied to check the stationarity in the data and ordinary least square regression model applied to know the relationship between variables. As per the results of this study, all attractive factors of FDI play a positive and significant role to increase foreign direct investment in Sri Lanka.Mitic and Ivic (2016) analyzed the export performance of 11 European countries with respect to foreign direct investment over the period of 1993 to 2013. The correlation analysis of the study showed that the export sector performed better in highly innovative and advanced countries and foreign companies have a significant impact on export of European countries.leitao and Rasekhi (2013) probed the association between economic growth and foreign direct investment about Portugal. Panel data statistical approach employed to prove that FDI and GDP have a significant and positive relationship in Portugal's perspectives.

Bouyahiaoui and Hammache (2017) attempted to prove the relationship between country risk and foreign direct investment in the Middle East and North Africa region (MENA) from 2010 to 2012. They deduced that political

instability and uncertainty are the major factors to attract foreign direct investment. These factors have a large impact on the inflow of foreign direct investment. Alzaidy et al. (2017) studies the influence of FDI on the economic growth of Malaysia from 1975 to 2014 by applying ADRL technique. The study proved that the inflow of FDI has a highly significant and positive impact on economic growth.

Shah (2013) examined the attracting factors of foreign direct investment in Bangladesh through a qualitative approach from 2005 to 2010. The study recommended and emphasized to improve infrastructure, reduction in corruption and political stability.Jindal (2016) explored the domination of foreign direct investment over the Indian economy by qualitative approach. The conclusion made that FDI is a tactical factor of investment to achieve economic goals and make stronger the level of economic activity in India.Svedin and Stage (2016) analyzed the effect of FDI on the efficiency of Swedish manufacturing firms. The panel data used in the study from 1980 to 2005 to draw a conclusion by Maximum Likelihood estimator that foreign investment plays a significant and positive role to enhance the efficiency and productivity of Swedish firms.Lily et al. (2014) observed the relationship of the exchange rate and foreign direct investment of Singapore, Malaysia, Philippines, and Thailand over the period of 1971 to 2011. Based on the ARDL approach, FDI behaves positively against the exchange rate for sample countries except for Thailand. It indicates that FDI makes appreciation in the value of the home currency.

Castro et al. (2013) probed the dominant factor of foreign direct investment in Brazil and Mexico over the period of 1990 to 2010. The study took GDP, trade liberation, exchange rate, and international commodities prices as explanatory variables and FDI as a dependent variable. The relationship defined by Vector Error Correction model that foreign direct investment depends on trade openness and economic growth of the country.Lloyd (2017) conducted a study over the determinants of foreign direct investment in Panama by employing two data sets. First one consisted of 1989 to 2000 and second one consisted over 2001 to 2012. Multivariate regression model and ANCOVA techniques used in first and second data set respectively. The outcomes showed a positive indication of economic prosperity.Shukurov et al. (2016) explained the inflow of foreign direct investment and its determinants in the commonwealth of independent countries from 1995 to 2010. The research applied the fixed effect, random effect and Hausman test with a generalized least squares approach. The results proved that investors speculate their success in CIS countries based on previous foreign investment and market of the host country.

Wasseja and Mwenda (2015) observed the important factors those effects in the inflow of foreign direct investment in Kenya during the period of 1980 to 2013. The conclusion revealed based on OLS (Ordinary Least Square) model that economic growth is the most important factor to enhance inflow of foreign direct investment in Kenya.Hasli et al. (2015) analyzed the enhancement of foreign direct investment in five developing countries from 1993 to 2013 with the help of fixed effect and random effect. The study employed 12 determinants to interrogate FDI. As per outcomes, unemployment rate, low pollution, low debt level of the country, infrastructure, and liberal money supply policy play a vital role in foreign capital and investment.Belascu and Horobet (2015) attempted to explore the institutional performance of Romania with respect to foreign direct investment between 2002 to 2012. The research consisted of 06 WGI indicators. As a conclusion, governmental policies such as control of corruption and accountability measures attracting FDI in Romania.

Gocer et al. (2012) found the impact of foreign direct investment on the export of Turkey. The research consisted of monthly data from 2000 to 2010 along with error correction model as a statistical approach. According to the results, foreign direct investment has a positive and significant impact on the export performance of Turkey.Polat, and Payasloglu (2014) probed the factors of foreign direct investment in Turkey by applying panel data from 2007 to 2012. The conclusion made that turnover indices and new investment incentives have a positive relationship with the manufacturing sectors in Turkey.Kim (2010) argued that corporate governance of hosting countries has a strong positive relationship with the inflow of foreign direct investment in 28 sample countries over the period of 1990 to 2002.Ridzuan, Ismail, and Hamat (2017) suggested that financial development and trade openness has a positive relationship with economic growth and foreign direct investment in Singapore under annual data set during the period of 1970 to 2013.

Akalpler and Adil (2017) asserted that foreign direct investment positively relates to the economic growth of Singapore however, in some way FDI effect adversely due to ineffective government policies. Dias and Hirata (2014) observed the relationship between foreign direct investment and productivity of Brazilian economy from 1992 to 2011. The study defined the relationship through the SVAR approach that long run productivity growth of the Brazilian economy attract FDI. Karthik and Kannan (2011) investigated the influence of FDI on the stock market

of India. Based on ARDL and error correction model approaches, FDI plays a magnificent role in the development of the stock market in India.

Pandya and Sisombat (2017) examined the GDP growth of Australia with respect to foreign direct investment. As per regression results, FDI inflow makes the contribution in employment, export performance, and GDP growth rate, however, policymakers should make investment planning to attract more foreign direct investment.Sane (2016) attempted to describe the dominant factors of foreign direct investment in the ECOWAS (Economic Community of West African States). The research used a number of variables and panel data during the period from 1985 to 2015. The conclusion made that macroeconomic variables play a positive role to attract FDI in ECOWAS states.Masipa (2018) provided the association between FDI and GDP growth rate by applying data span from 1980 to 2014. Vector Error Correction Model employed to prove the impact of FDI on GDP. As per the main finding of the research, FDI shares positive association with GDP in South Africa.Enisan (2017) asserted the attracting elements of FDI in Nigeria by inserting quarterly data from January 1986 to April 2012. The study consisted of the data sets of different macroeconomic variables. The outcomes disclosed that macroeconomic variables play a significant role in the enhancement of FDI in Nigeria.Thach and Pongtaveewut (2016) conducted a study on FDI and economic growth in Vietnam from 1968 to 2006. Economic reforms deriving more FDI in the economic development of Vietnam particularly in the manufacturing sector and providing employment opportunities as well.

Radzuan et al. (2018) presented the study about foreign direct investment, trade openness, domestic investment, population, and their impact on economic growth of 05 Asian countries. The research contains annual data from 1970 to 2013. They conducted a unit root test for stationarity, error correction model and ARDL statistical approach for the short run and long run relationship among variables respectively. As per results of the study, Malaysia, Indonesia, Thailand and Philippines taking benefit from FDI to improve economic growth while Singapore taking advantages of FDI in the short run to increase economic growth.

## Empirical Model, Data, and Methodology:-

#### Data:

In order to analyze the foreign direct investment, historical panel data of Bangladesh, China, Hong Kong, India, Indonesia, Jordan, Malaysia, Pakistan, Philippines, Singapore, South Korea, Sri Lanka, Turkey, and Vietnam over the period of 2003 to 2017 are taken from The World Bank and KPMG. The objective of this study is to enhance existing research on the influencing factors of FDI in Asian countries by employing econometric techniques. The macroeconomic data consisted of macroeconomic variables with respect to a specific country. Only 15 years of balanced panel data regarding 14 Asian countries is obtained due to the accessibility and availability of data. The Table 1, presents description of the study variables.

#### Methodology:

The study began with various econometric approaches to reveal the sensitivity of outcomes in the underlying models. The research methodology is based on the standard panel setting. A panel data technique has a big advantage over cross sections and in time series (Dellis et al., 2017). The study employs pooled OLS (Ordinary Least Squares), fixed effects and random effects models that consisted of macroeconomic variables along with foreign direct investment.

#### **Model Specification:**

Based on the literature review and past studies, there is a model being probed in this research that consisted of macroeconomic factors and each country influencing variables on foreign direct investment. Different variables are exercised to express a couple of factors probably have influence over foreign direct investment as per empirical models and past empirical researches. These influencing variables computed for regional countries cumulatively and for each country separately over the period under the study. Equations run on STATA (Software for Statistics and Data Science) to explore the influencing factors that affect foreign direct investment in different Asian countries in terms of integrated and discrete analysis.

 $FDI_{i,t} = \beta_{0 i,t} + \beta_1 \text{ GDP}_{i,t} + \beta_2 \text{ TRADE}_{i,t} + \beta_3 \text{ LABOR}_{i,t} + \beta_4 \text{ XR}_{i,t} + \beta_5 \text{ TR}_{i,t} + e_{i,t}$ 

 $\beta_0$ : Intercept,  $\beta_1$ : coefficient of GDP,  $\beta_2$ : coefficient of TRADE,  $\beta_3$ : coefficient of LABOR,  $\beta_4$ : coefficient of XR,  $\beta_5$ : coefficient of TR, e: error term

Where  $FDI_{i,t}$  presents percent inflow of foreign direct investment of i'th country against its GDP and performance in year t. Where  $\beta$  is the constant and GDP <sub>i,t</sub> is the country annual logarithm of nominal GDP. Trade openness is denoted by TRADE <sub>i,t</sub>. Where LABOR <sub>i,t</sub> represents the annual wages and salaries of male in these countries. XR<sub>i,t</sub> denotes each country exchange rate against us dollar on annual basis and TR <sub>i,t</sub>signify the annual corporate tax rate of each country. Where e<sub>i,t</sub>, is a disturbance term.

Variable	Abbreviation	Description
Foreign Direct Investment	FDI	FDI is net inflow to the recipient economy rather than an investor (Net Inflow in term of percentage of GDP in the reporting economy)
Gross Domestic Product	GDP	Nominal GDP in US Dollar transformed from domestic official currencies (GDP US Dollar values converted into GDP log values)
Trade Openness	TRADE	Sum of goods and services traded in term of import and export in the reporting economy (Trade values are used in the percentage of GPD)
Labor Cost	LABOR	Male employees basic salaries and wages based on written or verbal employment contracts as per International Labor Organization
Exchange Rate	XR	The average annual official exchange rate of the participating country determined with respect to US Dollar
Corporate Tax Rate	TR	Corporate tax is a direct tax applies by the government at the state or country level (Normally corporate tax imposed on company annual net profit)

**Table 1**:-Description of Variables:

## Empirical Results:-

## **Asian Regional Level Results:**

The Table 2, displays the regression results regarding our data set. The study conducted on standardized panel evaluation techniques such as pooled OLS (ordinary least square), fixed effect and random effect. Breusch-Pagan Lagrange multiplier test (1980) and Hausman test carried out to reject and accept the following models. Firstly, the Breusch-Pagan Lagrange Multiplier test performed to reject the pooled OLS model over the random effect model based on the outcomes.

	Pooled OLS							
Independent Variables	Coef.	S.E	t-Stat.	P-Values				
Log GDP	0.1001	0.5576	0.1800	0.8580				
TRADE	0.0688	0.0039	17.6600	0.0000				
LABOR	-0.0393	0.0317	-1.2400	0.2170				
XR	-0.0002	0.0001	-2.3600	0.0190				
TR	-0.1644	0.0799	-2.0600	0.0410				
Constant	3.5215	8.1596	0.4300	0.6670				
Model Summary								
$\mathbb{R}^2$	0.7453							
Adjusted R <sup>2</sup>	0.7391							
Prob. F-Stat.	0.0000							

 Table 2:-Pooled OLS Regression Results

#### **Heteroscedasticity Test:**

Null Hypothesis	: There is no heteroscedasticity in the data	$(H_0 = Constant Variance)$
Alternative Hypothesis	: There is heteroscedasticity in the data	$(H_1 = Heteroscedasticity)$

The Breusch-Pagan employed to test for the existence of heteroscedasticity. The probability value of the test is 0.00. Therefore, Alternative hypothesis is accepted and reject the null hypothesis. Heteroscedasticity is a difficulty because OLS regression supposes that residuals are taken from data that has a constant variance. It also causes of biased results and estimation. The study has chosen the random effect model over pooled OLS to make valid outputs.

#### Hausman Test:

Null Hypothesis	: Random effect model is appropriate				
Alternative Hypothesis	: Fixed effect model is appropriate				

The Hausman test applied to determine the appropriate model between the random effect model and the fixed effect model. The probability value of the Hausman test is less than 5%. Consequently random effect model is not consistent over the fixed effect model. The study rejects the null hypothesis in favor of the fixed effect model.

Independent		Fixed	Effect	Random Effect				
Variables	Coef.	S.E	t-Stat.	P-Values	Coef.	S.E	t-Stat.	P-Values
Log GDP	3.6943	2.3330	1.5800	0.1150	1.8590	1.1860	1.5700	0.1170
TRADE	0.0669	0.0140	4.7800	0.0000	0.0658	0.0086	7.6900	0.0000
LABOR	0.1490	0.1338	1.1100	0.2670	0.0592	0.0565	1.0500	0.2950
XR	-0.0007	0.0004	-1.8300	0.0690	-0.0001	0.0002	-0.7700	0.4420
TR	0.1409	0.0843	1.6700	0.0960	0.0660	0.0774	0.8500	0.3940
Constant	-55.2107	24.3747	-2.2700	0.0250	-28.1344	14.7606	-1.9100	0.0570
Model Summary								
$\mathbb{R}^2$		0.85	0.3117					
Adjusted R <sup>2</sup>		0.84	0.2948					
Prob. F-Stat.		0.00	000		0.0000			

Table 3:-Fixed Effect Model and Random Effect Model Regression Results

#### **Regression Analysis:**

The regression analysis employed to determine the relationship between macroeconomic FDI influencing factors and FDI in order to know the inflow of FDI in different Asian countries. Coefficient ( $\beta$ ) of variables, standard error, t-Statistics, probability values, R2, Adjusted R2 and the probability of F-Statistics considered making the decisions. The Table 2, presents regression results of pooled OLS but which was rejected over the random effect model based on heteroscedasticity problem. The results of the fixed effect model and random effect model revealed in the Table 3. However, the study rejected the random effect model based on the Hausman test. Therefore, the study focused to express the fixed effect model concisely.

Talking about *GDP*, that is insignificant and having a positive association with FDI of selected Asian countries. The coefficient of GDP (3.6943) is one of the macroeconomic independent variable among others that has the highest positive relationship with FDI inflow. The probability value of TRADE (0.000), the t-Statistics value (4.780) are highly significant and the coefficient of *TRADE* (0.0669) is favorably associated with FDI in all countries. In the Asian region, if any country wants to accelerate its FDI. It should make sure trade openness in their county to attract foreign direct investment. The model shows that *LABOR*, *XR*, and *TR* are insignificant as per their probability values and t-Statistics values. However, the coefficient of labor cost (0.149) and tax rate (0.140) are positively associated with foreign direct investment into the different Asian economies. *XR* is the key determinant of a macroeconomic explanatory variable to foreign direct investment. It also has a slightest significant impact on FDI

asprobability value (0.069) and t-Statistics (-1.83). XR is expected to be significant as per regression analysis. Overall, almost 85.58% influence on FDI is explained by explanatory variables based on  $\mathbf{R}^2$ . Consequently, the probability value of F-Statistics (0.00) determines that macroeconomic indicators jointly and significantly affect foreign direct investment into different Asian's economies.

## **States LevelRegression Results:**

#### Factors Influencing FDI in Bangladesh:

Taking into consideration the Table 4 (a) and (b). The Table 4 (a) and (b), report the outcomes of OLS between independent macroeconomic variables and FDI of each country. There is no significant relationship exist between FDI and macroeconomic variables as per regression analysis in Bangladesh. However, the value of R-Square is 0.6332, which indicates that independent variables have been influenced by 63.32% over FDI. Meanwhile, if it is necessary to incorporate more related independent variables in the same regression model then adjusted R-Square would be adjusted at the value of 0.4294. The probability of F-Statistic is 0.0666, which means F-Statistics is insignificant at the 5% level of significant so macroeconomic variables mutually neglect the FDI.

#### Factor Influencing of FDI in China:

The regression model reporting the influence of FDI in China is displayed in the Table 4(a) and (b). Only TRADE has a significant and positive relationship with FDI at the 5% level of significance. Macroeconomic variables contributing 89.95% dominance over FDI as per R-Square. All independent jointly affect FDI because the probability value of F-Statistic is 0.0003 in Chinese economic perspective.

#### Factor Influencing of FDI in Hong Kong:

The regression model presenting the influence of FDI in Hong Kong is obtained from the Table 4 (a) and (b). LABOR cost controls FDI as per probability value (0.03) and t-statistics (2.61). Other independent variables and LABOR cost have 82.12% influence over FDI. The probability value of F-Statistic (0.0035) revealed that macroeconomic variables have a significant impact on FDI inflow into Hong Kong economy.

#### Factor Influencing of FDI in India:

The regression results from the Table 4 (a) and (b) shows that independent variables have insignificant relationship with FDI. In the meantime, macroeconomic variables participating 37.89% deviation based on its R-Square value. The probability result of F-Statistic (0.4241) is greater than 5% at the 5% level of significance. Therefore, FDI inflow does not affect by any independent variable in Indian perspective.

Country	Log GDP		TRADE		LABOR		XR		TR	
	Coef.	P-Values	Coef.	P-Values	Coef.	P-Values	Coef.	P-Values	Coef.	P-Values
Bangladesh	3.04	0.11	0.04	0.08	0.00	1.00	-0.04	0.31	0.16	0.25
China	-7.80	0.24	0.08	0.03	0.36	0.34	-0.89	0.18	0.04	0.70
Hong Kong	-68.29	0.33	0.01	0.91	9.97	0.03	-91.06	0.46	4.59	0.29
India	8.98	0.28	0.03	0.64	-0.81	0.33	0.07	0.56	-0.28	0.49
Indonesia	4.23	0.04	0.20	0.00	-0.09	0.40	0.00	0.08	-0.31	0.11
Jordan	8.30	0.71	0.19	0.05	2.45	0.51	-4921.5	0.41	0.38	0.20
Malaysia	16.27	0.15	0.11	0.24	0.40	0.35	0.88	0.49	-0.34	0.69
Pakistan	10.66	0.00	0.11	0.33	-0.04	0.85	-0.12	0.00	-0.26	0.36
Philippines	7.58	0.13	0.00	0.92	-0.02	0.85	0.21	0.03	0.25	0.06
Singapore	44.00	0.46	-0.05	0.64	-5.63	0.34	36.38	0.41	0.06	0.85
South Korea	7.99	0.14	0.00	1.00	-0.54	0.06	0.00	0.10	-0.02	0.83
Sri Lanka	0.59	0.69	0.04	0.07	-0.17	0.07	0.01	0.31	0.03	0.18
Turkey	1.69	0.87	0.01	0.95	-0.20	0.67	0.00	1.00	-0.18	0.11
Vietnam	20.19	0.00	0.08	0.07	-0.15	0.55	0.00	0.00	0.31	0.30

 Table 4 (a):-States Level Regression Results

Country	Constant	P-Value	$\mathbf{R}^2$	Adj. R <sup>2</sup>	Prob. F-St.
Bangladesh	-35.7168	0.1160	0.6332	0.4294	0.0666
China	82.5717	0.2130	0.8995	0.8437	0.0003
Hong Kong	587.2909	0.5910	0.8212	0.7218	0.0035
India	-88.0018	0.3310	0.3789	0.0338	0.4241
Indonesia	-50.2944	0.0480	0.8376	0.7474	0.0023
Jordan	3184.6580	0.4490	0.7810	0.6594	0.0083
Malaysia	-222.9498	0.1260	0.2872	-0.1089	0.6216
Pakistan	-101.4802	0.0100	0.8538	0.7726	0.0015
Philippines	-99.9567	0.0590	0.8041	0.6952	0.0052
Singapore	-56.8584	0.9370	0.2603	-0.1506	0.6801
South Korea	-64.2466	0.2030	0.5825	0.3506	0.1089
Sri Lanka	0.2537	0.9890	0.5773	0.3424	0.1141
Turkey	-1.7140	0.9850	0.3924	0.0548	0.3969
Vietnam	-201.1358	0.0060	0.7833	0.6629	0.0079

Table 4 (b):-States Level Regression Results

#### Factor Influencing of FDI in Indonesia:

In accordance with regression results from the Table 4(a) and (b) display that GDP and TRADE are provided to an increasing rate in FDI over the period of 2003 to 2017. Both variables have a significant relationship with FDI because their probabilities values are less 5% at the 5% level of significance. The t-Statistics results of GDP and TRADE are placed between (-2) and (2). It also indicates the significance of both variables with FDI. The R-Square value found 0.8376, which reflects that macroeconomic variables with strong influence over the inflow of FDI into the Indonesian economy. The p-value of F-Statistics (0.0023) determined that all independent variables jointly affect the inflow of FDI in Indonesia.

#### Factor Influencing of FDI in Jordan:

As per regression analysis from the Table 4 (a) and (b), TRADE is one of the macroeconomic estimator positively and significantly effects FDI inflow to Jordanian economy. The t-Statistics value of TRADE coefficient is 2.26 and its probability value is 0.05 at the 5% level of significance. Both values determine the significant relationship of TRADE with the inflow of FDI. R-Square valued at 0.7810. This implies that 78.10% disparities of FDI have been explicit by the deviation of macroeconomic factors of the study. All Independent variables aggregately have a significant impact on the inflow of FDI into the Jordanian economy based on the p-value of F-Statistics (0.0083).

#### Factor Influencing of FDI in Malaysia:

The regression outcomes are presented in the Table 4 (a) and (b)about Malaysia. There is no macroeconomic factor significantly related to FDI in Malaysia. The value of the coefficient of R-Square (0.2872) suggests that 28.72% variability in FDI is the cause of all independent variables. FDI behave insignificantly against the aggregate effect of macroeconomic factor as per probability value (0.6216) of F-Statistics.

#### Factor Influencing of FDI in Pakistan:

The Table 4 (a) and (b), show the regression results regarding factors influencing of FDI in Pakistan. The coefficient of GDP and XR have a significant impact on FDI into Pakistani's economies. The p-value of GDP and XR are 0.00 and 0.00 respectively, in the meantime, the t-Statistics value of GDP and XR are 4.13 and -4.09 respectively. The macroeconomic variables have 85.38% dominance over the changes of FDI as per R-Square (0.8538). The probability value of F-Statistics (0.0015) signifies that independent variables cumulatively and significantly affect the inflow of FDI.

#### Factor Influencing of FDI in Philippines:

Taking into consideration of regression results of the Table 4 (a) and (b). XR has a significant relationship with FDI however, the probability value of TR (0.055) and its t-Statistic value (2.60). Therefore, TR is closer to statistical significance. Investors need to contemplate on both macroeconomic indicators before investing capital in

Philippines as per regression outcomes. The value of R-Square is 0.8041, which means that independent variables have been influenced by 80.41% over FDI inflow into Philippines. Meanwhile, the probability value of F-Statistics found significant, which is less than 5% at 5% level of significance. Its means that all independent indicator mutually affect FDI.

#### Factor Influencing of FDI in Singapore:

According to regression outcomes of the Table 4 (a) and (b), there is no significant relationship exist between FDI and macroeconomic indicators. However, macroeconomic variables contributing 26.03% dominance over FDI as per R-Square. The probability of F-Statistic is 0.6801, which means that F-Statistics is insignificant at the 5% level of significant so macroeconomic variables cumulatively neglect the inflow of FDI in Singapore.

## Factor Influencing of FDI in South Korea:

The regression outcomes are presented in the Table 4 (a) and (b), about South Korea. There is no macroeconomic factor significantly related to FDI in South Korea. The value of the coefficient of R-Square (0.5825) suggests that 58.25% variability in FDI is the cause of all independent variables. FDI behave insignificantly against the aggregate effect of macroeconomic factor as per probability value (0.1089) of F-Statistics.

## Factor Influencing of FDI in Sri Lanka:

In accordance with regression results from the Table 4 (a) and (b), display that there is no significant relationship exist between FDI and other independent factors of the study. In the meantime, R-Square value found (0.5773) which means the macroeconomic variables have 57.73% dominance over the changes of FDI.

## Factor Influencing of FDI in Turkey:

In the case of Turkey as per the Table 4 (a) and (b), all independent economic indicator behave insignificantly as per their p values, t-Statistics values and probability figure of F-Statistics. Meanwhile, macroeconomic indicators have 39.24% dominance over the changes of FDI as per R-Square (0.3924).

## Factor Influencing of FDI in Vietnam:

The Table 4 (a) and (b), show the regression results regarding factor influencing of FDI in Vietnam. The coefficient of GDP and XR have a significant impact on FDI into Vietnamese's economies. The p-value of GDP and XR are 0.00 and 0.00 respectively, in the meantime, the T-Statistics value of GDP and XR are 3.47 and -4.41 respectively. Additionally, the T-Statistics value of TRADE (2.09) found closer to statistical significance. The macroeconomic variables have 78.33% dominance over the changes of FDI as per R-Square (0.7833). The probability value of F-Statistics (0.0079) signifies that independent variables collectively and significantly affect the inflow of FDI. Conclusive remarks, the investor need to have a look on GDP, XR, and TRADE before investing capital in Vietnam.

## **Conclusions:-**

The core objective of the study was to determine the macroeconomic indicators that affect foreign direct investment in different Asian countries by establishing panel data regression approaches. Firstly, Simple regression analysis use for each Asian economy to deduce the macroeconomic factors, which have an impact on foreign direct investment in a particular country. The study found that the macroeconomic indicators significantly affect the inflow of foreign direct investment in 07 Asian countries such as China, Hong Kong, Indonesia, Jordan, Pakistan, Philippines, and Vietnam. In these countries, the GDP significantly and positively enhancing FDI in Indonesia, Pakistan, and Vietnam. Trade openness brings significant, positive and favorable impact on FDI in China, Indonesia, and Jordan. Labor cost plays a significant role to derive FDI in Hong Kong. Exchange rate giving the potential advantage and has a significant impact on FDI in Pakistan, Philippines, and Vietnam. While Tax rate plays a significant role to boost FDI inflow into the Philippines economy. Secondly, for all countries pooled OLS model, random effect model and fixed effect model applied. The result of regression analysis revealed that trade openness is a decisive economic indicator to attract foreign direct investment into the selected Asian economies. Trade openness significantly and positively allows bringing foreign direct investment so it is necessary for the policymakers of Asian economies to take initiatives to improve collaboration among different countries. Meanwhile, the exchange rate is another economic indicator of little bit importance and point of interest with trade openness for offering foreign direct investment because it also closer to significance as per results.

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