

Relationship of independent variables with fdi economics essay

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Introduction:

According to World Bank, World Development Indicators: " Foreign direct investment is the net inflows of investment to gain a lasting management curiosity (10 percent or more of voting stock) in an enterprise operating in a country other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments". In general term, Foreign direct investment (FDI) is the process in which residents of one country (parent or source country) takes the ownership of assets for the purpose of manufacturing, distribution and for other activities of a firm in another country (host or target country). This FDI can be in the form of equity as like in joint venture and also in non equity forms like, franchising, licensing, subcontracting and product sharing. Investors do invest across the globe beyond their home country and it is based on a number of factors. It can be to get production and manufacturing benefits in a country, can be to get benefit from country strengths like low cost labour, skilled labour force and due to political conditions. On the other hand some investors want and like to enjoy the benefits of first movers in a particular economy. The best picture is described in knowledge-capital model by Carr (2001). Thus the capital flow in the form of FDI depends mainly on advantages of host country and on the motive of investment by investor. Worries about investment decision by an investor stem from the determinants of FDI and their behaviour. The FDI decision on the hand, hinges on the characteristics of a particular country or location and the level of investment. More than half of the global FDI is gained by emerging economies as per World Investment

Report (2011). FDI played a crucial role in economic growth of a country. Different countries have different policies aimed at to seek FDI, creating strong incentives for investors to get the FDI. But policy makers as well as investors, as I. A. Moosa (2006) argued that what are the particular aspects and criteria to estimate the determinants of FDI in a particular country. It is essential to unveil the determining factors to understand well the behaviour, why some countries are better in seeking FDI inflows as compare to others and what are the generalized factors effecting FDI in an economy. To identify the best determinants of FDI , a large number of studies has been conducted but no clear explanation came out at the acceptance of generalized set of explanatory variables that can be treated as a significant measure of determinates of FDI. Because of 1980 debt crises, developing countries looked at new sources to acquire capital and FDI was the good picture. Later on they realized it as good source against trade and opened the door with less barrier and more incentives to utilize it. FDI give access of foreign technology to host country and build the shape of the economy and also it allows exchanging host country labour, resources with parent firm country. So, FDI offers more benefit to the host country and especially if the host country lies among developing one. As Lipsey(2000) argued developing countries depends more on FDI as compare to trade. Developing countries are laggard in the field of technology and FDI is the best source to fill this gap within a small time. From this we can say that FDI give a host country more ways of financing, to prosper, to improve standard of living and also the movement of technology. From the last two decades, the flow of FDI has changed towards developing countries like China, India and it is increasing

day by day. Currently china is the second largest country that realized FDI as compare to whole world. As Sun (1998), Kamath (1990), said that FDI helped a lot to become economically stable and to prosper, created more jobs, to increase exports, to improve labour skills and gave access to improved technology. Studies show a significant and positive relation of FDI and economic growth of a country and countries try to make good policies to seek more FDI (Azam 2010 , Adhikary 2011). FDI not only provide capital to developing countries but also provide technology and employment to people Mottaleb and Kalirajan, (2010). With the effect of china and Pakistan joined WTO, FDI enriched with more factors contributing to the economic and financial prosperity. Where it gave investors more opportunities to invest, it also created new factors that contribute to FDI determination in a particular area. It varies largely by location as from coastal areas to main inland areas and in special economic zones. As Pravin Jadhav(2012) gave answer of the question , why FDI determinates are so important? Because they do facilitate the decision of policy maker as well as of the investor and help them to monitor the flow of FDI. FDI is realized mostly on the geographical, incentives offered by the government and sectoral basis, but to do so, it is not clear, are there any more factors that influence the decision. The decision based on these three dimensions will be good but it will not elaborate how one is doing and it will lack the big picture explanation of the decision. E. g. in case of the decision is based on geographic dimension, than the factors behind this decision can be labor cost or resources in comparison with home country to host country. It is intuitive that FDI flow depends on the economical, environmental (country risk and business risk), infrastructural, human

capital, trade and terrorism in a country. The main purpose of this study is to reveal the main determinants of FDI. On the other hand we will also check whether factors change or remain same in a comparative analysis of China and Pakistan, based on the assumption that factors will change due to the fact that china is second largest FDI seeker in the world and have different challenges in seeking as well stabilizing FDI as compare to Pakistan. As Bruce A. Blonigen (2004) concluded that factors that determine the level of FDI activity vary methodically across less developed countries and developed countries . With this, an analysis based on result will show us a better way to distribute the best as well as least effecting FDI determinant variables in both economies. This study will help to fill the gap by using six dimensions with a set of 25 variables to define as well as to support the described dimensions. As we found a least study has been done in past in this field on both countries and determinants of FDI change as result of variation in other factors like policy variables and terrorism in a country. This study will help investor and policy maker while making a decision and will elaborate the weak and strong determinants which will provide choices for a better decision. On the other hand it will help to a reader to access the condition of different countries with same threats and opportunities in whole world.

LETREATURE REVIEW

A large number of variables have been studied that show a relation with FDI in the form of theories of FDI or either in the form of hypothesis to show a measuring sense of cause and effect relationship of determinants of FDI.

From the investor point of view, FDI is categorized into different categories

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depending upon the need of investment and situations in domestic as well as in global market. Dunning (1993) describes FDI can be horizontal FDI, if its purpose is to server local and regional consumers by local production in a host country. This type of FDI results in exports alternatives in a host country and get benefit by reaching nearer to consumer markets in a host country. On the other hand vertical FDI, particularly as it occur in manufacturing sector in which firms Invest in other countries to get resources such as, natural resources, raw material, labour etc. that are not available in home country. These two types have their own importance and a number of factors affect the form of FDI in a particular country. Recep(2009) argues that investor do invest in another country than home country on the basis of the type of project, host country environment and how investor can get benefit from it. In a good way of analysis of FDI within states of US Coughlin(1991) argued that investment decision is related with cost and profit and the decision is made based on the factors that contribute more to this relationship . If costs factors are high and show negative relation with FDI than investor will avoid to invest. FDI results in both positive and negative effects on the economic health of a country as Graham (1995) argues that positive effects can be transfer of technology and improved standard of living. On the other hand it also generates problem that may be FDI will reduce the domestic firm's performance and revenue, and increasing the competition (Richard 2004) among industries in a country that eventually will again result in both negative and positive ways. As Pravin Jadhav(2012) used different factors categorized into three dimensions and checked the effect of political , institutional and economical factors with FDI. He has founded that

economical dimension is more significant as compare to institutional and political. Literature is also filled with some confusing results that is due to different type and also due to different type of methodology applied on a data set . As Chakrabarti (2001) concluded that FDI has a sensitive relation with many variables (wages, openness, tax, tariffs, growth, exchange rate)and literature is not clear in defining the determinants of FDI. Variables like (labor costs, trade barriers, trade balance, exchange rate, R&D, tax) have both negative as well as positive relation with FDI. The table below shows the same confusing situation for twenty five variables.

RELATIONSHIP OF INDEPENDENT VARIABLES WITH FDI BUILT BY RESEARCHERS

variable POSITIVE NEGATIVE GDP Pravin Jadhav(2012), Faik(2012) James,(2010), Leitao (2010), James B. Ang (2008), Dr. Khondoker (2008), Ying and Riming(2008), Boudier-Bensebaa, F.(2005), Qian Sun (2002), Cheng (2000), Love (2000), Billington (1999), Wang and Swain (1995)

Inflation Pravin Jadhav (2012), Peter (2007) Fayyaz Hussain(2012), Ali Al-Sadig(2009), Recep(2009) Erdal Demirhan & Mahmut Masca(2008), Yartey and Adjasi(2007), Xiaoying li (2005), Yang (2000), Bajo (1994), Schneider & Frey (1985) CORRUPTION Peter Egger, (2005) Ali Al-Sadig(2009), Dr. Khondoker(2008), Voyer and Beamish (2004), Habib M & Zurawicki L(2002), Smarzynska(2002), Wei (2000) Patents Qian Sun (2002), STÉPHANE (1998)

Political Stability Theo S. Eicher(2012), Zenegnaw(2010), Schneider and Frey (1985), Wang and Swain (1995) Wheeler and Mody (1992), Christian (2007) Regulatory Quality Pravin Jadhav(2012), Christian (2007), Hussain Gulzar (2006)

internet Dr. Khondoker(2007), Changkyu Choi(2003)

Roads Sung Jin Kang(2007), Coughlin(1991)

Telephone lines Recep(2009), Erdal Demirhan & Mahmut Masca(2008), Imad(2005), Xiaoying li (2005)

skilled Labor force Christina Sakali 2013, Fayyaz Hussain(2012), Ali Al-Sadig(2009), Wenhui Wei(2005), Imad(2005), Noorbakhsh et al. (2001), E. Borensztein(1998), Harry (1997)

UNEMPLOYMENT Boudier-Bensebaa, F. (2005) Coughlin(1991)

reserchers Qian Sun (2002)

EXCHANGE RATE Anjum(2005), Campa (1993), Wang and Swain (1995) T. Bhavan(2011), Rana Ejaz(2010), James B. Ang (2008), Glauco De Vita(2008) Chakrabarti(2001), STÈPHANE (1998), Blonigen (1997) EXPORT Rana Ejaz(2010), Peter (2007), Imad(2005), Wenhui Wei(2005), STÈPHANE (1998), Singh and Jun (1995)

IMPORTS Zenegnaw(2010) Faik(2012), Peter (2007) Wang and Swain (1995) interest rates Xiaoying li (2005) Yong Ting Aw (2009), Wang and Swain (1995) major terrorist attacks

Agrawal(2011), Mihalache (2010), Abadie and Gardeazabal (2008), Blomberg and Mody (2007), Enders and Sandler (1996) gdp is used a measure of market size by researcher and it is positively related to FDI (Wheeler and Mody 1992, Billington 1999, James 2010). If we held constant other factor, the larger the market size the greater will be the revenue expectation from an investment in a market and bigger will be the investment. On the other hand, larger market size enables an investor to achieve economies of scale and it results in lower cost and lower prices. In analysis of FDI determinants in central and eastern Europe, Resmini(2000) founded that larger population size attract big size of FDI. Literature review showed that GDP has a positive effect on FDI and is used widely as measure of market size of an economy by the researchers and it is a prominent determinant of FDI. From the table we see that FDI has a positive relation with FDI. Erdal Demirhan & Mahmut

Masca(2008)concluded in his cross sectional analysis that country with less Inflation is good in attracting more FDI. Host country volatile inflation rate discourages FDI and create problems for investors for price setting, as devaluation of currency is also associated with inflation rate and reduce the earning of the investor (Peter2007). Fayyaz Hussain (2012), Fayyaz Hussain(2012), Ali Al-Sadig(2009), Recep(2009) , Erdal Demirhan & Mahmut Masca(2008) used inflation as a measure of economic measurement of a country founded that it hinders the flow of FDI and has negative relation with FDI. Less as well as stable inflation in developing countries results in attraction of FDI. James (2010) on the other hand did not find any significant effect of inflation on FDI. POVERTY in general is considered to be an opportunity to be a first mover to take advantage of investment in a particular economy. Poor countries have less technology and fewer facilities with poor standard of living. Poverty matters a lot while making the decision by the investor as well as in making the policy by the policy maker. Andrew Sumner (2005) argued that poverty cannot be missed as it has strong effect and influence in making the FDI policy. Investor can get benefits in the form of low wages, unemployment, income inequality and scare capital in a country.(Lensink and Morrissey (2001), Dollar and Kraay (2001), Soto (2000), GASTON GOHOU (2011), Khalid Zaman (2012))founded that FDI played a key role in economic development of a country and reducing poverty and have a positive relation with poverty. Unfriendly business environment deter FDI (Dr. Khondoker). An environment with less corruption can encourage FDI, as it reduces transaction costs of business. Investor perceive business environment to be clear so that contracts and disputes can be settled down

easily and with fairness, as in case of patents and corruption, China seems like a good market (Wanda). In his work, Imad (2005) concluded that, developed countries with good business environment (high openness and less country risk) attract more FDI. Asiedu (2002) argued that efficient environment is essential to attract FDI and infrastructure yield a positive impact with FDI. This means that if the environment of a country is good with good infrastructure, that country will attract more FDI. CORRUPTION (CPI) generally defines corruption as "the misuse of public power for private benefit". Corruption affects the economic health of a country and it is in almost everywhere. As Smarzynska (2002) and Wei (2002) argued that corruption increase burden of foreign investor, increase the value of the contract as well makes contract more dependent on local partner and also reduce the fairness of bureaucracy of host country. As it happens mostly in case of intellectual property rights among local and foreign companies. Corruption effects the economic development of a country Abed (2002). A higher intensity of corruption is usually related with an unfavorable country environment. In a cross section analysis of 89 developed and less developed countries Habib and Zurawicki (2002) founded that corruption tends to hinder FDI. On the other hand Peter Egger (2005) argued that corruption is an incentive for a forgeries investor and has positive relation with FDI. He argued that this happens mostly in low income countries, where government officials take money as a share from investor profits. Where (Habib M and Zurawicki (2002), Smarzynska (2002) Wei (2000), Dr. Khondoker (2008)) argued that corruption has a negative relation with FDI and investor perceive it as a risk and tend to avoid in making investment in a country with more

corruption. Business Environment of a country is examined well by this variable as it effects and have relation with other variables, like patents etc. A country with a high number of registered Patents shows that the environment for business is safe and law enforcement in the country is well established . Investor worries about the threat of stealing and copy of the trademarks, industrial designs and innovation. Qian Sun (2002) who used patents as a measure of the level of scientific research and level of human capital with collaboration of expenditures of R&D in country founded that it is a prominent variable and have a strong relation with FDI. Another researcher Stephane Dees (1998) founded a positive relation of FDI with number of patents registered in host country and argued that investor perceive it a positive and good sign to secure his investment in a country and it predicts as good sign of business environment in host country . Trademark AND Industrial Design also comes under the same dimension to check the best measure of the business environment of a country. Political Stability generally affect the decision whether to invest or not in a particular location (Dunning 1993, Moosa 2002). It is linked with the country risk which indicates the political actions that interrupts the sales or causes harm to property or personnel which includes, riots, operational limitations reducing their abilities to carry out certain actions, and governmental invasion of property and it is used widely by the researchers as a measure of the institutional performance in a country.(Chakrabarti 2001, Wheeler and Mody 1992, Wang and Swain 1995) argued that political risk has a negative relationship with FDI and prevent FDI. Where the study done by (Theo S. Eicher 2012 Zenegnaw A. H. 2010 Schneider and Frey 1985 Wang and Swain

1995) showed that FDI is strongly connected with the political stability and it assure an investor a sign of good business environment and against this, political instability hinders the FDI. Countries with good business environment and good infrastructure seem to be good in seeking and attracting FDI. Regulatory Quality is also used to evaluate the institutional stability and performance in a country as well as how a government regulate and form policies. CHRISTIAN(2007) concluded that with an increase of one standard deviation in regulatory quality variable leads to an increase in FDI factor by 2 and founded that regulatory quality of a country is a robust variable that have a strong positive relation with FDI. so countries with good economic and regulatory policies tend to attract more FDI and by improving regulatory quality they can increase the flow of FDI . Hussain Gulzar (2006) also founded that regulatory quality is positively related with FDI and investor like to invest in a host country with high trade openness and good regulatory, economic and investment policies. Pamina Koeniga(2011) in his work founded that countries with good policies and those having less price controlling policies attracted more FDI and investor like to invest in such economies against those where price regulations are monitored and altered by the country institutions and are quite volatile. Colin Kirkpatrick (2006) argued that regulations must be considered when to make a decision of investment as in case of investment in infrastructure sector, he founded that FDI in infrastructure are strongly reliable of the regulations and countries with good regulation attract more FDI. Infrastructure plays a vital role for seeking FDI, better infrastructure of a country enables it to attract more FDI , where poor infrastructure increase the business transaction cost (James

2010, Dr. Khondoker2008). As in case of china (wanda 2002, Harry 1997) founded that good communication and transport infrastructure in coastal areas has attracted more FDI as compare to others. James B. Ang (2008) argued that infrastructure matters in the development of a country and have strong positive relation with FDI. Investor seems good infrastructure of a country as a measure to operate functionally and effectively as well as to expand business easily by using minimum resources. E.

Borensztein(1998) argued that for transmission of technology , technology import , technology adoption and human capital possession are important factors. FDI boost the level of technology in a host country by different channels like multinational corporations. By this the economy of a country flourishes. As developing countries mostly lack in technology and FDI is a good way to fill technology gap by the transfer of technology from developed countries to developing countries Recep(2009)in cross country analysis of 14 source and 53 host countries, Changkyu Choi (2003) found that FDI inflows increase to more than 20 %when INTERNET users in a host country are 10%. In a era of globalization, internet users in a country accounts for the well developed infrastructure of the country and investor look it as an ease to conduct business operation and with the use of E-commerce, internet is the main place for business to grow. (DePrince & Ford, 1999) argued that Internet use can lessen the cost of holding inventories by allowing large suppliers to detour retailers and contact customers directly. Dr.

Khondoker(2007) concluded that countries with good infrastructure attract more FDI and by this the economic condition of those countries boost. Sung Jin Kang (2007) founded that highway variable is significant and is positive

for coastal areas but it is negative for non coastal areas. Roads, total network (km) in a country can influence the FDI if the country have good roads and highways that link big as well as small cities , so making transportation flow smoothly and giving an investor an opportunity to save logistics and transportation cost. Coughlin (1991) founded that FDI is positively related with this variable and enrich the infrastructure measure with air transport and railway variables. Recep(2009) argued in Analyses of FDI determinants in developing countries that Telephone lines (communication) is the best significant and positive determinant of FDI. Number of telephones per 1, 000 inhabitants is used as a measure of infrastructure development by many researchers (Asiedu (2002) and Ancharaz (2003), Dr. Khondoker(2007)). Good infrastructure of a country attracts investor and increase the flow of FDI , Erdal Demirhan & Mahmut Masca(2008), Xiaoying li (2005), Imad(2005) founded that telephone lines used as a measure of infrastructure have a positive and significant impact on FDI. E. Borensztein(1998) in his study of cross country regression analysis postulated that economic growth depend on FDI when a host country have enough knowledge and ability to absorb and to gain advance technology. This is possible when host country have skilled and educated human capital. FDI is positively related to economic growth of a country when a country has human capital available. The location decision of an investor is associated with cheap and skilled labour availability in a country (Harry 1997). From the prior literature review it is arguable that a country with better economic condition, good business environment, and modern infrastructure and with skilled and educated human capital can attain good position in attainment of

FDI. Secondary school enrolment rate is used widely as a variable to measure the level of skilled labor force in a country. Fayyaz Hussain(2012), Ali Al-Sadig(2009), Wenhui Wei(2005) , Imad(2005) , Noorbakhsh et al. (2001) , E. Borensztein(1998), Harry (1997) founded that skilled labour force have a positive relation with FDI and does not hamper the flow of FDI.

Availability of skilled labour force is an important factor and considered by researcher while estimating the determinants of FDI. Fayyaz Hussain(2012) in his study founded that increasing the level of skilled labour force result in to an increase in the attainment of more FDI. Ali Al-Sadig(2009) argued that skilled labour force with 1 percent level of significance and having a positive impact is a good and robust variable for determining the effect of different variables with FDI. UNEMPLOYMENT is assumed to be as a measure of availability of labour force at minimal wage rate in a country .

Unemployment in country gives an investor benefits to choose good and competitive people at his own principles and this factor attracts FDI by having a positive relation Head (1998). On the other hand it also allows an investor to use the skilled people on multiple tasks and in his own way.

Boudier-Bensebaa, F. (2005) used unemployment as a measure of the labour availability and founded that high unemployment rate prevailing in a country attract more FDI and this factor is a good determinant of FD. reserchers are used as a measure of labour quality . A country with more number of researcher will have strong consideration in getting FDI and study done by Qian Sun (2002) showed that this variable is significant and have a positive relation with FDI. On the other hand it is also can be placed in a order to find the R&D affect on FDI, Eiichi Tomiura (2007) founded that it has a positive

association with FDI and it is a robust variable. FDI and trade have a strong relation, literature shows that trade is being offset by the trade, in the form of horizontal and vertical FDI by investor. If the benefits are less to produce from home country or parent plant than foreign market and economies of scale can be achieved in foreign market than FDI will occur, as mentioned by J. Peter Neary (2009). So a negative relation of FDI and trade is cited, if the trade related cost decrease than it will discourage FDI activities. Although FDI is considered to be substitute of trade, as it reduce cost but other factors also matters as José Pedro (2007) argued in his study of non-monotonic relationship between FDI and trade. Literature is rich in describing horizontal and vertical FDI and its effect on trade as a trade offset. On the other hand Chakrabarti (2001), James B. Ang (2008) postulated that openness to trade (proxied by exports plus imports to GDP) is correlated positively with FDI. EXCHANGE RATE is considered to be an effective determinant of FDI; also it matters a lot while accessing the country risk of a country. The general behaviour of FDI associated with exchange rate is that in case of appreciation of host country currency, FDI will increase and in case of depreciation of host country currency, FDI will decrease. In accordance to this if a firm invests with an approach to get higher future profit, than according to Campa (1993), and Edwards (1990) appreciation of host country currency will provide better opportunity and investment level will increase. Besides this, Sung and Lapan, (2000) stipulated both positive and negative relation based on the decisions made by the investor on factors, like risk, cost and timing to start business. Contrary to these FDI increases, if currency of host country is lower or depreciated, as investor will spend less on assets

and other business cost by enjoying the benefits of difference between home and host country currency (Walsh 2010, Froot and Stein (1991). As Anjum (2004) argued that coefficient for exchange rate can be positive if foreign investors are taking into consideration it as lower cost of capital and negative if they are expecting a higher return on their investments. Rana Ejaz(2010)founded that FDI increase to 0. 41% with a 1% decrease in Pakistani currency exchange rate. So depreciation in Pakistani currency increases FDI. Dramatic changes have been seen in the currency price of different countries, since the exchange rate has been started to be measured based on the supply and demand system, letting them to move freely and let the decision of settlement of exchange rate to be done by the market. This had changed the whole structure of managing exchange rate . while examining the effect of volatility in exchange rate on FDI in ASIAN countries, Ghulam(2012) argued that volatility can be due to Production Flexibility and Risk Aversion arguments, where Production Flexibility has positive relationship of exchange rate volatility with FDI and Risk Aversion arguments has inverse. EXPORT by a firm or an aggregate of firms in an industry to a foreign market were related to the firm's investment or production or employment in that market. Export orientation for a country is very important for attracting FDI Singh (1995). The decision to invest in a country depend to a great extent on, whether the host country facilitate and is export promoting (EP) Bhagwati (1978). Cheaper business costs and EP are the main contributing factor in attracting FDI and also it helps in economic growth of a host country(Bhagwati, 1985). Imad(2005)has used export as a percentage of GDP and concluded that developed countries with high

openness attract more FDI. The higher export to GDP ratio, the more will be FDI in a country based on the relationship of FDI to trade openness and also it shows the degree and extent of a export oriented FDI attraction in a country. Rana Ejaz(2010) argued that in case of Pakistan , export has a positive relation with FDI and this shows that Pakistan has a policy to facilitate the export and like export oriented FDI. Due to this, investor can get benefit of cheap labour as well as resources availability in a host country. Economic condition of a country grow and boost when a developing country use export promoting policies and tend to seek export oriented FDI Balasubramanyam (1996). Wenhui Wei (2005) china is a best place for producing in bulk and doing business with export orientation Yun-Wing Sung (2000) argued that china likes export oriented FDI and it resulted into the development of china mainland while giving a lot of benefits to Hong Kong. From investor point of view , (Richard 2004) founded that foreign firms like exports and it increase the competition in domestic market as foreign firm have better facilities and good resources. Bhagwati (1978) argued that host country like to attract such FDI that can reduce its IMPORTS and can improve the exports. It also depends what a country is importing? As in case of china Zhao (1995) founded that imported technology has played a significant role in improving the technological capability of china. Peter (2007) founded in his work of Chinese outward FDI determinants that imports are significant but are negatively associated with FDI. The purpose of this variable is to check the same thing as Wang and Swain (1995) did, to find out the relation between FDI and import and to conclude whether it hinders the FDI flow or FDI is a substitute of imports. Imports in a country provide opportunities for

local investor to produce alternatives of imported goods but it need technology, resources and skilled labour. Besides this as Zenegnaw(2010) argued that for a foreign investor it can be in negative form affecting the imports when he will decide to invest in country in the same industry by which imports will be substituted. If a foreign investor finances his investment through borrowing from a host country, it increases the host country interest rates. A. E. Harrison (2003) argued in his work that foreign firms face fewer obstacles than domestic firms for getting credit and some time incentives offered by policy maker in a country especially developing ones enrich this opportunity for foreign firms. Wenhui Wei (2005) founded that interest rate is a fragile variable and have positive relation sign in case of china and negative in case of India. Yong Ting Aw 2009 founded that interest rate is significant but has negative sign under the test of ADF and PP unit root test Since the 9/11 terror attacks in New York City in 2001, terrorism factor became a subject to be determined and mentioned while taking a decision of FDI. Advancement in technology allows terrorists to acquire latest weapons that can be used easily and with best results to cause a large destruction. Investor likes to invest in country free from risks, to secure his business. As Wagner (2006) argues that, to invest in a country, the decision mainly depend upon the condition of law and order in a particular country, cost of doing as well as running the business difficulty in doing business. These all factors show the level of country risk in a particular country. It is hot subject that is changing the world and is affecting all aspects of business world. Abadie (2008) concluded that terrorism results in a decrease in FDI in a host country after diversification of investment country portfolio by an

investor. While accessing the political risk and its effect on FDI, Busse and Hefeker (2007) argues that terrorism is the main contributing factor to detain FDI, whether it is in the form of a religious one or other. Terrorism in a country effects business sectors, industries as well as human resource. Michael (2010), in his work, said that terrorism effects the business internally and externally, its policies, strategies and human resource. Literature reviews (Enders, Abadie, Blomberg, Mihalache, Agrawal) shows that terrorism has a significant and negative relation with FDI. Syed Ejaz Hussain(2010) in his work on terrorism in Pakistan, found that different types of terrorism is effecting the country a lot . In case of Pakistan , Muhammad Arshad(2011) argued that decline in FDI in Pakistan , is due to political instability , east Asian financial crises and war against terrorism.

Hypothesis Formulation:-

Based on the above mentioned model, literature review and on the data description that will be described in the later part, we will form the general as well as dimension wise hypothesis to check the dependency of FDI on different dimensions as well as on different explanatory variables. A time series data of 17 years have been used to explain in depth the relation of explanatory variables with FDI. To find the determinants in two countries based on six dimensions, the general hypothesis will be elaborated based on the theories of FDI and prior work done in this field of study by researchers and it will come in this form. H0: COUNTRY HAVING GOOD ECONOMIC CONDITION, GOOD BUSINESS ENVIRONMENT, BETTER INFRASTURE, RICH IN HUMAN CAPITAL, GOOD TRADE FIGURES, WITH LESS OR NO TERRORISM WILL BE GOOD IN ATTARCTING FDIWe will further breakdown the general

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hypothesis into dimensional hypothesis to classify them and to estimate the result based on the above mentioned model. The economic condition will be examined by the larger market size, less inflation and positive affecting poverty or less poverty . These variables will describe the true and fair picture of the economic condition of a country and the hypothesis for this dimension will be elaborated in this way. H1: COUNTRY WITH GOOD ECONOMICAL CONDITION WILL ATTRACT MORE FDI For environment dimension, we divided it into two parts, country risk and business risk. Corruption, political stability and regulatory quality are added into country risk while trademarks, industrial designs and trademarks are added into business risk. The hypothesis will describe well the both things and it is postulated on the basis of the variables. H2: COUNTRY WITH GOOD BUSINESS ENVIRONMENT WILL SEEK MORE FDIAs Imad (2005) argued that, infrastructure can be best defined by adding; roads; railway and Air transport with telephone lines as it provide a good way to reduce transportation costs of a business and facilitate the business. Based on this, we enriched infrastructure dimension by adding roads, railway, air transport, telephone, internet, electricity production and high technology exports to describe well the infrastructure. Hypothesis is generated based on the variables descriptions and it is described below. H3: COUNTRY HAVING BETTER INFRASTRUCTURE ATTARCT MORE FDI Three variables are used to measure the extent of human capital influence on FDI attraction in a country. Skilled labour force, unemployment and number of researchers in a country will mention well the dimension and hypothesis is listed below. H4: COUNTRY RICH IN HUMAN CIAPTAL WILL ATTRACT MORE FDI In case of trade dimension,

hypothesis is maintained based on the exports, imports, and exchange rate and interest rate variables. The use of these variables will describe the trade conditions of a country with best robustness as indicated in the literature review . the hypothesis is formed on the basis of trade relation of FDI in a country. H5: COUNTRY WITH GOOD TRADE VARIABLES WILL BE ABLE TO ATTAIN MORE FDI For terrorism dimension, data from START (Study of terrorism and responses to terrorism) is used which classify the every minor as well as major terrorism attack in a country. The hypothesis is elaborated based on the prediction that a country with less terrorism will be good in seeking FDI and terrorism deters FDI. H6: DOES TERRORISM DETER FDI, COUNTRY WITH LESS TERRORISM WILL BE GOOD IN SEEKING FDI

VARIABLE

DIMENSION

exp. sign

DATA SOURCE

GDPEconomical

+

WDIINFLATIONEconomical

-

IMF, economic outlook

databasePOVERTYEconomicalWDICORRUPTIONEnvironment(Country Risk)

-

INTERNATIONAL TRANSPERANCYTrademarkEnvironment(Business Risk)

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WIPOIndustrial DesignEnvironment(Business Risk)

+

WIPOPatentsEnvironment(Business Risk)

+

WIPOPolitical StabilityEnvironment(Country Risk)

+

WGIRegulatory QualityEnvironment(Country Risk)

+

WGIHigh-tech exportsInfrastructure

+

WDInternetInfrastructure

+

UNCATDRoads, total network (km)Infrastructure

+

WDITelephone linesInfrastructure

+

WDiskilled Labor forceHuman Capital

+

UNCATDUNEMPLOYMENTHuman Capital

+

WDIresearchersHuman Capital

+

WDIEXCHANGE RATETrade

-

WDIEXPORTTrade

+

WDIIMPORTSTrade

-

WDIinterest ratesTrade

-

WDImajor & MINOR terrorist attacksTerrorism

-

STARTStudy of terrorism and responses to terrorism

Econometric Model Formulation

To justify the above stated hypothesis, we will use regression analysis and the relation will be best determined by sub dividing the hypothesis according to six dimensions. The result of seven regression analysis will be used to compare the results of two countries and also to check which variable is strong as well as fragile one in seeking FDI. As we doing a comparison of two countries, we will use a dummy variable within a single multiple regression model for each dimension to estimate well the behaviours of different

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variables. Dummy variable with name country is used with 0 for china and 1 for Pakistan. The general regression model will take this form.

$$(\text{FDI})_t = \alpha + \beta_1 (\text{ECO})_t + \beta_2 (\text{ENV})_t + \beta_3 (\text{INFRA})_t + \beta_4 (\text{HUM})_t + \beta_5 (\text{TRA})_t + \beta_6 (\text{TERR})_t$$

++ μ_t

Where , the ECO describes the economical dimension , ENV is for environmental , INFRA shows the infrastructure dimension , HUM is for human capital , TRA is used for trade and TERR is for terrorism in general multiple regression model. Where μ_t , is an error term. RESULTS:-To estimate and to investigate the affect of the explanatory variables in each dimension on dependent variable (FDI), the results are displayed into tables with country 0 for china and 1 for Pakistan. As far as economical model is concerned, table () shows the results. For china, the model explains that GDP is the robust variable and it shows that market size is a prominent determinant of FDI. This proves the market size hypothesis, that larger market size, greater will be FDI. Inflation is negatively related but it is not significant, which shows in china inflation is low but still affecting the decision of the investor. On the other hand, the poverty is insignificant in china. The R square for the model of china is . 903 which shows 90% variation in FDI in china. The F-statistics is 43. 302 and the significance level is . 000, which shows that results in the model are statistically significant and explain well the relation with dependent variable.

Model 1**Country China****0****Country Pakistan****1****variable****GDP****INFLATION****POVERTY****GDP****INFLATION****POVERTY****coefficient****. 900****-. 402****. 006****5. 030****-2. 780****. 035****t-statistics****sig****2. 587**

-. 169

. 914

. 023

. 377

. 410

6. 036

-3. 649

3. 187

. 000

. 003

. 007

Model 1 Country China (0)

R-squared . 903 Adjusted R-squared . 881 Durbin-Watson 1. 601F-statistic
43. 302 Sig. . 000

Model 1 Country Pakistan (1)

R-squared . 854 Adjusted R-squared . 820 Durbin-Watson 1. 877F-statistic
25. 316 Sig. . 000In case of Pakistan, the model explains 85% variation in
FDI, as the R square is . 820. The F- statistics is 25. 316 with significance
level of . 000 which describes that the model is statistically significant and
explains the relation of explanatory variables with FDI. The results of
explanatory variables for Pakistan model is more good and well explaining
the results. GDP is positively related and significant . With 1% increase in
GDP , FDI tend to increase up to 5. 030, showing that market size is the

robust determinant in seeking FDI. Whereas inflation is significant and negatively related to FDI. With 1% of inflation, FDI reduces to -2.780, which proves that inflation deters FDI and it is negatively affecting the FDI. Poverty is positively related in the Pakistan model with 0.007 significance level and it supports the prediction that more poverty is positively related with FDI and gives more opportunities to investors. The extent of autocorrelation among residuals in the model is examined and the Durbin-Watson statistics for the Pakistan model is 1.877, which shows almost no correlation among variables. The results show that there are more opportunities for an investor in Pakistan as compared to China with a more good market but inflation makes this market risky as compared to China. As the environment dimension is split into two further parts, country risk and business risk. The result will be evaluated on the basis of the two models for one hypothesis. While accessing the results for the country risk model as shown in the table (), the results show that China is a less risk country and country risk is low as corruption is also positively related with FDI with 0.85 significance level and it shows us the role of Guanxi in China. Other variables are insignificant in this model. The model is significant with F-statistics of 5.025 and R-square is .537 which shows that the model explains 53% variation in FDI.

Model 1**Country China****0****variable****coefficient****t-statistics****sig****CORRUPTION****5360384019.320****1.862****.085****POL. STABILITY****-16870109.853****-.800****.438****REG. QUALITY****1961069.789****.148****.884****Model 1****Country Pakistan****1**

CORRUPTION**-214646708. 690****-3. 765****. 002****POL. STABILI****-1501720. 964****-2. 722****. 017****REG. QUALITY****838892. 248****3. 716****. 003****Model 1 Country China (0)**

R-squared . 537 Adjusted R-squared . 430 Durbin-Watson 1. 525 F-statistic 5. 025 Sig. . 016

Model 1 Country Pakistan (1)

R-squared . 701 Adjusted R-squared . 6331 Durbin-Watson 1. 425 F-statistic 10. 181 Sig. . 001 But the situation is different and opposite in Pakistan model, corruption is negatively related to FDI and is significant, with an increase in corruption level in Pakistan, FDI deters to a larger amount. With corruption, political stability is also negatively related, which shows that Pakistan is facing problem of political instability and this factor also is a hurdle in attracting FDI. On the other hand, regulatory quality is positively

related and with 1% increase in this variable leads to an increase in FDI and the estimation result shows that this variable is significant with t statistics value of 3. 716. All the results for country risk model for Pakistan are significant. The model explains 70% variation in FDI and the F statistics is 10. 181 and model is significant. For accessing the business risk, the business risk estimation model results shown in table () will describe the situation in a country for hypothesis 2. The estimation results for registered trademarks and industrial designs in china are showing positive relation with FDI and are significant but the number of patents registered in china have negative relation, with 1% increase in patents result into a decrease in FDI up to -356. The model explains the china business risk situation with a 91% variation in FDI, with R square of . 917 and F statistics of 47. 711 with significance of . 000.

Model 1

Country China

0

variable

coefficient

t-statistics

sig

TRADE MARK

69. 6633. 475. 004

INDUSTRIAL DESIGN

163. 0753. 116. 008

PATENTS

-355. 903-4. 676. 000

Model 1**Country Pakistan****1****TRADE MARK**

241. 0053. 606. 003

INDUSTRIAL DESIGN

-2306. 994-. 911. 379

PATENTS

23315. 2122. 304. 038

Model 1 Country China (0)

R-squared . 917 Adjusted R-squared . 898 Durbin-Watson 2. 251F-statistic

47. 711 Sig. . 000

Model 1 Country Pakistan (1)

R-squared . 774 Adjusted R-squared . 722 Durbin-Watson 1. 147F-statistic

14. 867 Sig. . 000T statistics for trademark is positive and it is significant in

Pakistan model and the estimation shows that with 1% increase in

trademarks increase the FDI to 241. induatrail designs are negative and

patents are significant and positive related to FDI. The model shows a

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variation of FDI up to 77% with R square of . 774 and F statistics of 14. 8, and all these factors contribute to make the model significant at significance level of . 000. The two models describe well the variation in explanatory variables for accessing business risk in both countries and show that factors differ according to country. The results of high technology exports, internet, roads and telephone to measure the influence of infrastructure dimension are shown in the table (). High technology exports and internet are positively related to FDI with significance of 0. 28 and 0. 00 respectively in case of china . telephone is also positive but it is significant at 0. 083 and show a good variation in FDI. The roads are negatively related to FDI, with significance of 0. 068 which shows that larger area makes transportation cost to increase. The model is significant and shows a variation of FDI up to 90%.

Model 1**Country China****0****Model 1****Country Pakistan****1****variable****coefficient****t-statistics****sig****H-TECH EXPORTS****7. 652E+11****2. 495****. 028****INTERNET****. 037****5. 970****. 000****ROADS****-. 022****-2. 004****. 068**

TELEPHONE**. 000****1. 893****. 083****H-TECH EXPORTS****-2. 611E+12****-2. 230****. 046****INTERNET****. 25****2. 845****. 015****ROADS****. 039****2. 315****. 039****TELEPHONE****. 005****3. 376****. 006****Model 1 Country China (0)**

R-squared . 900 Adjusted R-squared . 866 F-statistic 26. 865 Sig. . 000

Model 1 Country Pakistan (1)

R-squared . 828 Adjusted R-squared . 771 F-statistic 14. 465 Sig. . 000 In case of Pakistan model, the model R square is 0. 828 and is also significant. High technology exports are negatively related to FDI, showing the impact of technology gap in deterring FDI. This means that Pakistan is less advanced in technology and less skilled people as well as adequate advance infrastructure. On the other hand, telephone, internet and roads are positively related to FDI and are significant, proving the best way to measure the infrastructure of a country. Table() shows that results for human capital dimension are describing that skilled labour force in china is insignificant and also the number of researchers in china is insignificant. The only variable that is significant is unemployment and it is positively affecting the FDI. With 1% increase in unemployment, FDI increase to 3. 357. The model R square is 0. 864, explaining the variation in FDI up to 86% with F statistics of 18. 98 and the model is significant.

Model 1**Country China****0****variable****coefficient****t-statistics****sig****SKILLED LABOUR****136.606****.397****.701****UNEMPLOYMENT****3.357****7.516****.000****RESEARCHERS****14.654****.755****.470****Model 1****Country Pakistan****1**

SKILLED LABOUR**-1844. 069****-2. 537****. 039****UNEMPLOYMENT****4. 079****3. 485****. 010****RESEARCHERS****4. 257****. 757****. 474****Model 1 Country China (0)****R-squared . 864 Adjusted R-squared . 818 Durbin-Watson 2. 457****F-statistic 18. 981 Sig. . 000****Model 1 Country Pakistan (1)****R-squared . 744 Adjusted R-squared . 635 Durbin-Watson 2. 250****F-statistic 6. 788 Sig. . 018**

For Pakistan, the model explains the variation of FDI up to 74% with R square of 0. 744 and F statistics of 6. 788 and the model significance level is 0. 18.

Skilled labour force is negatively related to FDI and is significant showing

that with 1% increase in skilled labour force variable, FDI tend to reduce to 1844, which shows that a country with less skilled labour force deters FDI on the basis of the deficiency of people knowledge and skills to use well the technical tools and to work well on machines. Unemployment is also positively related with T statistics of 3. 485 and with significance of 0. 010. But researcher variable is also insignificant as it is in case of China. For FDI-TRDAE relation, the results in the table () are showing that in china, exports are positively related are significant at 0. 030. this shows that china has adopted export oriented FDI policies and with 1% increase in exports, FDI increase to 0. 129. imports are negatively related and is insignificant . where as the interest rate and interest rate are positively related to FDI with 0. 000 significance . This explains that these two factors are affecting positively as they are minimum and are controlled well and these variables are not a hurdle in the flow of FDI. The model is explaining the variation in FDI to 83% and the F statistics is 15. 07 with, 0. 000 of significance.

Model 1**Country China****0****variable****coefficient****t-statistics****sig****EXPORT****. 129****2. 467****. 030****IMPORT****-. 125****-1. 923****. 079****INTEREST RATE****. 003****4. 727****. 000****EXCHANGE RATE****. 008****4. 763**

. 000

Model 1

Country Pakistan

1

EXPORT

-. 304

-2. 480

. 029

IMPORT

. 381

9. 110

. 000

INTEREST RATE

-. 002

-5. 490

-3. 166

. 000

. 008

EXCHANGE RATE

. 000

Model 1 Country China (0)

R-squared . 834 Adjusted R-squared . 779 Durbin-Watson 2. 279 F-statistic 15. 070 Sig. . 000

Model 1 Country Pakistan (1)

R-squared . 885 Adjusted R-squared . 847 Durbin-Watson 2. 822 F-statistic 23. 144 Sig. . 000

If we examine the results of Pakistan model, we will see different results. The exports are negatively related to FDI and are significant. With 1% increase in exports, FDI reduce to 0. 34. On the other hand, imports are positively related and are significant, these results show that Pakistan is more dependent on imports and FDI flow is based on imports. The T statistics for interest rate is negative and is significant. Interest rate is more affecting than other variables and with 1% increase in interest rate, the FDI reduce to 0. 002. Exchange rate is also negatively affecting the FDI and is significant. The R square for model is 0. 885, F statistics is 23. 14 and the model is significant.

Model 1**Country China****0****variable****coefficient****t-statistics****sig****GDP****.024****9.042****.000****TERRORISM****.000****-1.516****.152****Model 1****Country Pakistan****1****GDP****0.65****4.718****.000**

TERRORIS

-3.30

-3.369

.005

Model 1 Country China (0)

R-squared .858 Adjusted R-squared .838 Durbin-Watson 2.084 F-statistic
42.336 Sig. .000

Model 1 Country Pakistan (1)

R-squared .637 Adjusted R-squared .585 Durbin-Watson 0.801 F-statistic
12.262 Sig. .001 Table () shows the results for last dimension of terrorism
and of hypothesis. Terrorism variable is negative but insignificant in china.
The model R square is .858, showing a variation in FDI up to 85%. The F
statistic is 42.336 and the model is significant. these all results supports
that china is facing less terrorism and this variables is fragile in case of china
to estimate the determinants of FDI and making China a country free from
terrorism and giving and investor opportunity to invest with less risk. On the
other hand, the terrorism variable is negatively related with FDI and is
significant. With 1% increase in terrorism, FDI deters to 3.30. The model R
square is .637 and F statistics is 12.262, making the model significant.

CONCLUSION:-