

Investigating the Role of Foreign Trade in FDI in Pakistan

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Abstract:

FDI is considered an essential catalyst for trade liberalization and economic growth in both developing as well as developed countries. From the past several-decades countries around the world are struggling to attract foreign investors for filling their capital, skills and technological gaps and consequently FDI had grown at least twice as rapidly as trade. This study is an attempt to thoroughly analyze these two crucial modes of resource and knowledge diffusion for Pakistan by empirical analysis of foreign trade and FDI from 1980-2016. ARDL approach is utilized for the statistical analysis with support of various techniques applied to FDI being dependent variables in econometric models. The empirical results of this study shows positive and significant effect of foreign trade on FDI inflow to Pakistan; coinciding with theory and supported by both sign of the coefficient and probability value.

Keywords: FDI, Foreign Trade of Pakistan, ARDL Approach, Stability Analysis



Introduction:

FDI role in economic development has been recognized widely in developing as well as in developed countries. Pakistan, being a developing country, ensures a very successful market for foreign investors with its wide customer ground of over 180 million populations. Individuals require food, clothing, energy and other facilities for prosperous living. In the natural resources, energy sector and infrastructure there are great potential for MNC's. As well as there exists enormous investment opportunities in hydro power and coal-based projects, alternative energy such as wind energy and transmission of natural gas from overseas. Due to lack of infrastructure the country needs investment in this sector and in other sectors like world class education systems, exploration and exploitation of natural resources and the modernization of industries. Hence there is huge market for various business opportunities in Pakistan for foreign investors to utilize.

Foreign capital inflow has significant effect on economic development. Capital inflow to Pakistan had boost up the economy since previous few decades (Burki 2001). From 1990s and onward the FDI inflow is enormously increased to Asian countries. FDI contribution to Pakistan's

economy increased to record level in 2006-2007 and the economy continue to grow by 6%, 7% stable rate. Pakistan's foreign direct investment was \$853.5 million in 2012-13, comparative to \$ 658.2 million in year 2010-11, revealing the total growth of 29.7%. Oil and gas exploration persisted to be the main sector for foreign investors. The Board of Investment (BOI) had endorsed a new investment plan to deliver a more favorable investment atmosphere for investors, so that economic growth supported by exports can be attained and a chain of investment opportunities can be created.

Pakistani economy has been deteriorating due to increase in imports besides large amount of paper money inflow into the system. If government is not able to take it back as a part of tax, it will remain in the system, production process become costly. So, only option remains is to import product to fulfil the demand gap. FDI is consider to be the substitute of trade, fills the capital, skill and technological gap but in developing countries like Pakistan to set up business, foreign investors also need to import the technology and equipment in form of both skilled, expert labour and high quality infrastructural material needed for establishing the industry. While in some cases even the raw material is imported frequently due to unavailability of the resource or high cost of extraction at host country. Furthermore as indicated in Product Life Cycle theory by Raymond Vernon at the ultimate stage of a product life, the production process of the specific good is shifted from the country of its origin to other countries with more cost effective production process and factors. This can be generalized to the study of MNCs investing in export industry of a country with cheaper labour and resources, thus complementing exports of the host country and substituting imports. In general FDI and foreign trade have bi-directional cause and effect relationship in developing countries, so it is indispensable to avoid one of these in a study of trade related research.

Contribution & Significance of this Study:

Pakistan is one of the most important trade routes of the world. Yet, according to World Trade Organization data, the share of exports in global trade has fallen by forty percent to just 0.13 percent from 0.21 percent since 1999. Pakistan's trade balance with its fifty-three trading partners has been in deficit for most of the time. Negative trade balance with major trading partners recorded during 2009-10 included China \$3.56 billion, Japan \$1.431 billion, Kuwait \$2.316 billion, Malaysia \$1.550 billion, Saudi Arabia \$2.992 billion, UAE \$3.308 billion and India \$957.2 million. So, It is necessary to evaluate the importance of foreign trade and FDI and examine historical data of international trade and FDI of Pakistan to figure out the importance of these two important determinants of development and to forecast future foreign trade and FDI in Pakistan. This will assist in overcoming the deficit in Balance of Trade through avoiding past mistakes and planning according to the future estimation.

Both foreign trade and FDI have significant barometer of economic growth and development. Much of research has been done on international trade and FDI all over the world. It is one of the main indicator of development of an economy, and Pakistan is having deficit on its balance of trade account since many decades, almost except few years of trade history it remain deficit. Time series analysis is one of the most important techniques to know about chronological phenomenon and to forecast for future on the basis of past circumstances.

FDI has been suggested as the alternative approach and source of technology and resource diffusion and it increases the growth rate continuously. However most of the studies neglects international trade in their theoretical framework, which is the second capable channel of knowledge diffusion and has great empirical significance. Furthermore, most of past empirical studies didn't identify the temperament and tendency of the effect of external openness for FDI and trade.

Objective of the Study:

The main objectives of this research study are

1. To evaluate the inter-linkage between International Trade and FDI of Pakistan.
2. To analyze the role International Trade in FDI.

3. To observe the behavior of supporting variables of International Trade towards FDI.
4. To investigate relationship (long run or short run) among International Trade and FDI.

Literature Review:

Foreign direct investment (FDI), which alongside technical innovation stream remains a molding element for trade volume and its pattern, got significant place in the trade theory from 1960s. Consideration was attracted to what was seen as the "product life cycle" (PLC) of innovation and technology seeking foreign investment and trade streams (Vernon 1970; Posner 1961; and Hufbauer 1966). Advancement which directed towards appropriation of new technical innovation in the leading developed nation which was considered "new" commodities that were manufactured, consumed, and sent out to world emerging economies. With the "developing" of innovative product, innovation and also capital should move to rest of nations and to manufacture comparable products, which thusly are export back to the lead or origin developed country.

Less developed nations import these products from the relevant developed nation/nations that are responsible for the initial two phases of product's generation. Though, with the passage of time, manufacturing of that novel product progressively begins in the less developed nation as well as the commodity seems to be "standardized," in this way finishing the life cycle of the commodity. Innovation at this phase of the PLC has effectively transferred, alongside capital, at first from most developed to other developed countries, lastly to these less developed nations who now export the commodity to developed countries. With commodity details (novel, developing, standardized) and the underlying control over the market by developed nations, the PLC hypothesis of technology seeking trade consolidates both differentiation of the commodity and imperfections of the market.

A similar accentuation was put on technology led trade streams and its pattern in models that infer the "technology gap" between countries in form of "demand lag" on behalf of purchasers and "reaction lag" on behalf of makers in the nation of origin, and also the "impersonation lag" on behalf of manufactures in the foreign nation (Posner 1961). While the fundamental idea of PLC and likewise other neo-innovation models relies on dissemination (or exchange) of innovation crosswise over countries, the procedure is ambiguous without an orientation to MNC activities related to parent organizations and the subsidiary. Perspectives aforementioned have remain a under the economics research field known as theory of industrial organization, which yet again, strays much more from the real world.

Generally more practical way to deal with the FDI-trade nexus comprises of the flying geese paradigm (Ozawa 1995), which attempted to clarify the reallocation of manufacturing and the moving export stages in Asia that had occurred since the 1980s. On perception, the literature related to PLC appears to have given a platform to an amalgamated way to deal with trade, innovation, and FDI while presenting commodity differentiation and in addition imperfections of the market. As compare to the previous thoughts regarding trade models in "old theories," which were basically location seeking (cost differences, resource enrichments), PLC hypothesis has presented commodity specific (novel, develop, standard) portrayals and furthermore organization-specific variables. Parenthetically, variables aforementioned (particularly the last two) also highlighted in the NTT models.

DeMello et al., (2000) analyzed the relationship between FDI and trade in some East Asian and Latin America countries for the period 1970-1994 using bi-variate VECM and causality analysis. The complementarily assumption among FDI and import was confirmed for all Latin American and the Southeast Asian countries except for Mexico, Philippines and Singapore. FDI seems to be the displacement of imports in the long run although the inference on the import-FDI link is not so significant.

Borensztein et al., (1998) explored that FDI is more beneficial for countries with high literacy and educated workforce. They found temporal causality between FDI and growth. Granger Causality test was used and found the direction of causality between FDI and growth mostly depends on the

determining factors of FDI. If those determining factor had robust association with growth, then growth might attract foreign investors.

Lin (1995) estimated demand equation for imports of Taiwan amplified with inward FDI from four countries Malaysia, Indonesia, Thailand and Philippines for period 1972 to 1992. The existing FDI revealed no effect on imports of Taiwan from the country of origin for the reason that the sign of the FDI variable input was rather positive but statistically insignificant. The exemption was the influence of FDI inflows on imports from Thailand. The significant negative sign was detected in this case, which reflect a level of transposition of imports by FDI.

Liu et al., (2001), Zhang (1999) and Lardy (1996) had inquired about the Chinese foreign direct investment and trade balance. The review demonstrated significant effects of FDI on the increase of exports and economic development. For this purpose they used panel data from 1987-1999 and applied Pooled least square approach to derive empirical findings. Tse, et. al., (1997) found that there is positive relationship between regional and provincial production, exports expansion and FDI, especially in coastal locale and central region of China.

Qayyum and Mahmood (2013) investigated the causality between FDI and foreign trade for Pakistan and its eight major trading partners for yearly data from 1985 to 2010. To check whether the two variables were substitute or complements VECM and Johansen Fisher Panel co-integration was applied. Their result supported that case of Pakistan; FDI encourages trade with its major trading partners.

Farkas and Handle (2012) purposed the investigation of positive externalities occurred due to MNC's in host country and the extent to which host country has the capability to adopt the technological progress for the attainment of maximum economic welfare. The study showed significant and positive effect of FDI on the observing capacity while the extent depends upon the level of human and financial capital and their development. As well as FDI was arbitrated as complementary rather than substitute for the economic indicators in developing countries.

Methodology (Developing the Econometric Model):

The present study examines the data for FDI and Trade liberalization of Pakistan to finds out the inter-linkage between FDI and Foreign Trade. It also encompasses an empirical analysis of FDI and liberalization of trade as well as the nature of their relationship either they have effect for each other in case of Pakistan covering the time period 1980-2016.

In order to observe the dynamic association with diverse levels of analysis and to gain more insight into the nature of spillovers that associates bilateral trade and FDI flows in a common nomenclature, dynamic econometric model will be applied for the observed data. The bilateral dimensions make it possible to manage common determinants of trade and FDI. This will be done by estimating two bilateral models developed for FDI and Foreign Trade.

FDI from non-traditional channels is seeking a lot of attention recently, especially in developing host countries by investment Promotion organization which can be more beneficial for economic growth and further FDI. On contrary, international trade or trade liberalization consists of the policies that are implemented by the nations to make the economy more open for foreign trade to attain rapid economic growth by rising exports and thus foreign reserves therefore act as “engine of economic growth”.

To go with the relevant theory and empirically analyze the relationship between FDI and trade liberalization of Pakistan the Bound testing approach will be applied to test the assumed objective and hypothesis of the study. The dynamic econometric model with auto-regressive variable is constructed and will be regressed through Auto-regressive Distributed lag (ARDL) approach. The fundamental idea for making the econometric model for this research study were taken from the studies of (Moulton, 1986; Tenreyro, 2006; Mehlum et al., 2006; Kolstad, 2009; and Burger et al., 2009) with slight amendments in formulating of the above studied model for this research study.

$$X_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 C_{it} + \beta_3 D_{it} + \beta_4 S_{it} \quad (3.1)$$

In the above equation (3.1) X_i is the two main inter-link variables (FDI and Foreign Trade), " X_t " is the basic variables, " C_t " is the characteristics Variables, " D_t " is the dummy or proxy variables and " S_t " is the specification variables.

1. Data analysis and Sources:

The present study is conducting to empirically analyze the relationship between Foreign Direct Investment (FDI) and Trade Liberalization or Foreign Trade of Pakistan based on annual time series data from 1980-2016. The data will be collected from different sources including Economic Survey of Pakistan, State Bank of Pakistan (SBP), Ministry of Investment and Privatization of Pakistan, World Economic Indicator, World Development Index (WDI), The Global Economy, Pakistan Bureau of Statistics, and other reports and sources.

2. To Empirically Analyze the Relationship between FDI and Foreign Trade of Pakistan

Foreign direct investment (FDI) is well said to be the most significant and effective source of accruing foreign exchange reserves from abroad. As well as it is also an important source of capital accumulation or infrastructure in developing countries around the world. Conversely, the ratio of investment from developing countries in rest of the world is not much considerable. However for developing countries, most of the studies revealed the positive and direct relationship of foreign direct investment with economic growth and development. FDI acts in favor of the economy by increasing aggregate productivity, creation of employment opportunities, larger outflow of exports and exchange of technological progressions among the investor and host country.

This research study aims to analyze the influence of foreign direct investment (FDI) in Pakistan for the period 1980-2016 and to observe the relationship FDI is regressed by foreign trade (FT) with assistance of other supporting macroeconomic variables namely domestic investment (DI), per capita income (PCI), exchange rate (ER), inflation (Inf), trade openness (TOP) and technology (Tech). Pakistan is a developing country with rapidly growing populations and slow economic growth. Pakistan is striving to make its way in the modern world by attracting FDI as the central objectives of macroeconomic policy. The theoretical model to analyze the impact of FDI on Foreign Trade is presented as;

$$FDI = f(IT, DI, PCI, Exr, Inf, TOP, Tech) \quad (3.2)$$

The econometric model following the theoretical model (3.2) can be written as

$$FDI_t = \beta_0 + \beta_1 IT_t + \beta_2 DI_t + \beta_3 PCI_t + \beta_4 Exr_t + \beta_5 Inf_t + \beta_6 TOP_t + \beta_7 Tech_t + \mu_t \quad (3.3)$$

The expected sign of the co-efficient will be;

$$\alpha_1 > 0, \alpha_2 > 0, \alpha_3 > 0, \alpha_4 < 0, \alpha_5 < 0, \alpha_6 > 0, \alpha_7 > 0,$$

2.1. Pre-Testing of Data through Unit Root Test:

For a time series data it is a prerequisite to attain the order of co-integration between variables before implication of regression analysis. To run a significant or suitable regression technique on the time series data, the data must have to be co-integrated of order zero or one i.e. $I(0)$, $I(1)$, as according to (Ouattara, 2004) in case of co-integration of $I(2)$, it is not possible to derive F-stats and also no good fit can be attained due to impossibility of running any proper regression technique to such data. Hence before proceeding regression analysis it is indispensable to check order of co-integration by means of unit root tests.

Here in this study, Augmented Dicky Fuller (ADF) has been run on the observed data, for the purpose to check stationarity, order of co-integration and existence of spurious relation in the data. Table (3-1) shows the results from ADF test, which revealed all the variables are co-integrated of order I(0) or I(1) with no spurious relation or outliers in the data, achieving the precondition of non-existence of I(2).

Table 1: Unit Root Test Results

Variables	Acronyms	ADF Values		ADF Critical Values
		At Level	At 1 st Difference	
Foreign Direct Investment	FDI	-2.527314	-5.275425*	-2.948404
International Trade	FT	-0.414939	-4.297434*	-2.945842
Domestic Investment	DI	-1.780263	-4.372814*	-2.948404
Per Capita Income	PCI	-1.913247	-3.957556*	-2.948404
Exchange Rate	ER	-3.453769*	-4.370893*	2.960411
Inflation	Inf	-3.312767*	-6.775690*	-2.948404
Trade Openness	TOP	-4.583588*	-5.093162*	-2.945842
Technology	Tech	-1.292453	-3.303092*	-2.945842

2.2 Regression Analysis of the Model-1 (Variables Data):

Table (1) represents ARDL regression short run results for FDI being regressed by foreign trade and other supporting macro economic variables. The empirical findings shows that 1% change in foreign trade of Pakistan will bring about 36% increase in overall FDI of Pakistan, coinciding with theory, supported by both sign of the coefficient and probability value at 5% critical value. Similarly, domestic investment having quite conflicting influence on FDI in various countries varying region to region and nature of the investment, however in general theory it has positive impact as also can be seen from this empirical study i.e., with an increase of one percent in rate of domestic investment FDI observe 23% increment.

Current per capita income also shows positive impact (18%) on FDI with an significant probability value of 0.000. In short run Exchange rate shows a highly significant decreasing impact on FDI with indication of about 23% decline in FDI by a single unit increase in ER at 1% significance of p-value=0.0144 As far as inflation rate of Pakistan is concerned it revealed significant negative effect on the FDI with coefficient value showing (-0.154948) with significant p-value= 0.0457

Trade openness (TOP) has revealed insignificant impact on FDI of Pakistan that is in general inconsistent to economic theory, however empirical findings is quite controversial and depends on the pattern and nature of investment and trade. In case of Pakistan it can be accepted to be right as only few of the FDI till the time period observed were counted in capital formation which directly needs favorable trade policies to import inputs etc. while in case of consumer products in most of the cases it is easy to import from neighboring countries like China etc, while in textile and food business Pakistan is almost self-sufficient.

As expected and as theory suggests technology is the key for any kind of investment, the model also support a significant positive role of technology in FDI developments. A single unit increase in Technology can bring rise in FDI about 38.7% with a significant p-value=0.000. Generally the model supports that FDI is more vulnerable and conscious about previous year's progress and patterns of macroeconomic indicators rather than prevailing situation for the most of the part as observed from the empirical findings of this model. The phenomena can be supported by the argument that investors usually follow speculations about future from past trends before initiation of new business ventures.

Error correction term (ECT) shows the speed of adjustment towards equilibrium and it depicts that in long run relationship runs from trade and other supporting macroeconomic variables towards FDI, or simply the model will adjust FDI to its equilibrium or desired level at the speed of 38.8% (-0.388410) at 1% significance (p-value=0.00). The coefficient of ETC must have to be negative for its significance for the model.

Table 2: Regression Results of the Variables (FDI as Dependent Variable)

<i>Variables</i>	<i>Acronyms</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Prob.</i>
Constant	C	0.674967	0.307218	5.106237*	0.0000
International Trade	FT	0.231079	0.084171	2.131626**	0.0265
Domestic Investment	DI	0.187738	0.047957	3.914683*	0.0007
Per Capita Income	PCI	-0.232818	0.087577	-2.658435**	0.0144
Exchange Rate	ER	-0.154948	0.073145	-2.118363**	0.0457
Inflation	Inf	0.108391	0.199328	1.238965	0.3783
Trade Openness	TOP	0.387690	0.184971	4.755816*	0.0000
Technology	Tech	0.367690	0.140962	2.608440**	0.0160
Error Correction Term	ECT	-0.388410	0.126563	-3.068896*	0.0000
Lag of FDI	D{FDI ₍₋₁₎ }	0.474367	0.128572	3.689496*	0.0013
R-squared	0.956919	Durbin-Watson stat		2.093204	
Adjusted R-squared	0.940764	Prob(F-statistic)		0.000000	

(*) & (**) shows significance at 1% and 5% respectively

2.3 ARDL Co-integrating and Long Run Form:

The discussion on the relationship between trade and FDI and its comparative importance for any economy has been reviewed by several economic analysts. There exist a wide range of both theoretical as well as empirical literatures on these two significant macroeconomic indicators. In this era of globalization and economic integrations, foreign trade and investment become indispensable and unavoidable economic determinants for rapid development.

Throughout history international trade has been observed as most crucial and debating phenomenon however in 20th century it is accompanied by debates related to FDI. Since then both are considered equally important channels of resource, capital, skill and technology diffusion. Like foreign trade, FDI also has been exposed to conflicting reviews varying across different economies, however, whatever impact positive or negative, foreign trade and FDI have for any economy both of these cannot be neglected while investigating the main determinants of economic growth for a country. As the importance of these two macroeconomic international determinants for any economy is understood fact, similarly the correlation between these cannot be ignored. Therefore current study is an attempt to investigate the relationship between foreign trade and FDI of Pakistan.

Table 3: ARDL Co-integrating and Long Run Form

<i>Variables</i>	<i>ARDL Co-integration</i>			<i>ARDL Long-form Coefficients</i>		
	<i>Coefficient</i>	<i>t-statistics</i>	<i>Probability</i>	<i>Coefficient</i>	<i>t-statistics</i>	<i>Probability</i>
D(IT)	0.255532	3.723495	0.0000	0.314054	3.024093	0.0010
D(DI)	0.511140	3.997174	0.0018	0.173245	4.363405	0.0002
D(PCI)	0.116038	5.715779	0.0000	0.156277	4.396820	0.0000
D(ER)	-0.239365	-5.716158	0.0000	-0.149348	-5.284430	0.0000
D(INF)	-0.071654	-2.267677	0.0322	-0.096414	-2.067096	0.0492
D(TOP)	-0.004264	-0.145151	0.8870	-0.217370	-1.372681	0.1950
D(TECH)	0.296084	3.352553	0.0026	0.249524	3.591300	0.0014
CointEq(-1)	-0.386596	-4.514518	0.0000	--	--	--

2.4 ARDL Bounds Testing & WALD Test Approach:

Bounds testing approach and WALD test are applied to verify the long run relation among variables and the results of both tests integrated in table (3-4) & (3-5) indicates the existence of long run relation among the variables for the period of 1980-2016 in case of Pakistan.

Table 4: ARDL Bounds Test (Null Hypothesis: No long-run relationships exist)

Bounds Test Value		Critical Value Bounds	
Test Statistic	Value	I(0) Bound	I(1) Bound
F-statistic	5.361546*	2.45	3.61

(*) Shows rejection of null hypothesis at 5%

Table 5: Wald Test Results

	Value	Probability
F-statistic	119.9218*	0.0000
Obs*R-squared	839.4528*	0.0000

(*) Shows rejection of null hypothesis

2.5 Diagnostic Analysis of the Model-1:

To assure the validity and goodness of the fit, there are several diagnostic checks to attain BLUE out of a regression model. To confirm the significance of the current model, some of the basic diagnostic checks are applied on the observed model.

One of the key issues with time series analysis is the serial correlation and spurious association. To analyze the existence of Serial Correlation, the Breusch-Godfrey Serial Correlation LM has been widely used among few other tests. Here Breusch-Godfrey Serial Correlation LM Test is used to confirm the absence of serial correlation which is needed for the model to be significant. Key findings of the test are given below in table (3-6) which indicates no presence of auto-correlation, serial correlation and spurious relation.

Table 6: Breusch-Godfrey Serial Correlation LM Test Results

	Value	Probability
F-statistic	0.189792*	0.6670
Obs*R-squared	0.266763*	0.6055

(*) Shows rejection of null hypothesis

Usually heteroskedasticity is consider to occur in and affect cross sectional models however there are minor chances of the issue to exit in time series data therefore to make sure about the significance of the model Breusch-Pagan-Godfrey Heteroskedasticity test is applied to investigate the variance between the variables and avoid concerns about heteroskedasticity.

Breusch-Pagan-Godfrey Heteroskedasticity test showed signs of normal distribution of the variation among variables therefore confirm no heteroskedasticity in the model. Key findings of the test can be found in table (3-7).

Table 7 : Heteroskedasticity Test: Breusch-Pagan-Godfrey

	Value	Probability
F-statistic	1.508986*	0.1978
Obs*R-squared	14.62118*	0.2005

(*) Shows rejection of null hypothesis

To check the specification biasness and analyze stability of the model the Ramsey RESET test is used. The results are given in table (3-8) revealed and signifies the

stability of the model. Moreover it indicates there is no issue of miss-specification and variables incorporated in the model are fitting and don't have any inappropriate variable.

Table 8: Ramsey RESET Stability Test Results

	Value	Probability
F-statistic	0.882011*	0.3878
Obs*R-squared	0.777943*	0.3878

(*) Shows rejection of null hypothesis

Conclusion:

FDI emerged as growth and development catalyst in the recent era of globalization and integration for less developed and emerging economies. Addressing their needs of investment and capital demand, productive utilization of available recourse and financing most needed infrastructural projects. FDI opens new ventures and avenues of progress through direct and indirect effects in form of built in capital formation, technological influx, employment creation, skill enhancement and efficient production, etc... subsequently it uplift per capita income, employment rate, consumer interest and total output. In short it brings all the economies which enhance the growth of the economy through business ventures. Therefore it wouldn't be wrong to consider any research study related to globalization incomplete without FDI in the modernized universal economy.

In general Trade and FDI has been connected in a complementary connection, though the concept of FDI was to entertain business activities in areas where it was impossible or hard to trade for inputs embodied in host countries or output to be sold abroad to gain higher profits of its specialization. Somehow the initiation of FDI seems to be a substitution for trade but with the development of FDI and globalization it turnout to be facilitator and complementary element to each other. Usually a multinational company needs to import some capital goods for its flawless production in host country where as some other MNC specialize in a product with the help of domestic labor and resources and exports its output to rest of the world from host country. On the other hand, to encourage and improve export industry, FDI brings innovative technology and bring value added phenomena to domestic tradable merchandize.

This study is an attempt to thoroughly analyze these two crucial modes of resource and knowledge diffusion for Pakistan by empirical analysis of foreign trade and FDI from 1980-2016. ARDL approach is utilized for the statistical analysis with support of various techniques applied separately to FDI and foreign trade of Pakistan being dependent variables in econometric models. To check the stationarity and level of integration of the variables Augmented Dicky-Fuller unit root test is applied, resulting in conformity of level and first order co-integration therefore confirming their suitability for ARDL model. To attain the nature of long term and short term association and co-integration equation between dependent and independent variables, the Bound testing approach, Wald test are applied, ARDL co-integration approach. The empirical result indicates positive and complementary effect of trade and FDI on each other; with empirical findings revealing 1% change in foreign trade of Pakistan will bring about 23% increase in overall FDI of Pakistan. The model will adjust FDI to its equilibrium level at the speed of 38.8%. Various diagnostic and stability tests namely, Breusch-Godfrey serial LM test to check serial and auto-correlation, Ramsey RESET test for model specification, Breusch-Pagan-Godfrey test for heteroskedasticity are applied to confirm the consistency, reliability, and acceptability of the derived model. It would be factual statement to state that both FDI and foreign trade are the modern day necessities.

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دراسة دور التجارة الخارجية في الاستثمار الأجنبي المباشر في باكستان

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المخلص:

يعتبر الاستثمار الأجنبي المباشر محفزاً أساسياً لتحرير التجارة والنمو الاقتصادي في كل من البلدان النامية والمتقدمة. من البلدان العديدة الماضية في جميع أنحاء العالم تكافح من أجل جذب المستثمرين الأجانب لملء رأسمالهم ومهاراتهم وثغراتهم التكنولوجية، وبالتالي فإن الاستثمار الأجنبي المباشر قد نما بمعدل ضعفي سرعة التجارة على الأقل. هذه الدراسة هي محاولة لتحليل هذين الأسلوبين الأساسيين لنشر الموارد والمعرفة لباكستان عن طريق التحليل التجريبي للتجارة الخارجية والاستثمار الأجنبي المباشر من عام 1980 إلى عام 2016. يستخدم نهج ARDL للتحليل الإحصائي بدعم من التقنيات المختلفة المطبقة على الاستثمار الأجنبي المباشر المتغيرات التابعة في نماذج الاقتصاد القياسي. تظهر النتائج التجريبية لهذه الدراسة تأثير إيجابي وهام للتجارة الخارجية على تدفق الاستثمار الأجنبي المباشر إلى باكستان. بالتزامن مع النظرية وبدعم من كلا من علامة معامل وقيمة الاحتمال.

الكلمات المفتاحية: الاستثمار الأجنبي المباشر، التجارة الخارجية في باكستان، نهج ARDL، تحليل الاستقرار.