

Political Instability and Foreign Direct Investment: Empirical Evidence from Pakistan

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ABSTRACT

The goal of this research was the most important factor in the Union between the FDI (foreign direct investment), GDP (gross domestic product), the foreign currency corporate credit rating, trade openness and tolerance of the regime in Pakistan and uses the time series data in this research from 1972 to 2012. Education, employment testing Augmented to determine the integration order the test of Dickey Fuller (ADF) use the results is integrated into an order data. Openness to trade and durability testing regime variable ARDL reached the limit of relationships discovered. GRANGER multivariate causality Study of using FDI and the main factors that determine the direction of causality between. Cointegrated reveal that Currency exchange rates, open trade and foreign direct investment in the power supply and the determinants of GDP durability are positively related to foreign direct investment, while the credit rating is negative result with the FDI foreign direct investment in Pakistan. Influencing factors of foreign direct investment intensity. Multivariate granger causality results indicates that GDP and the FDI, credit rating, exchange rate and regime durability have bidirectional causal relationship in long-run. The causality test results among multivariate, short run and long run imply with at different time frame there is need to implement some other policies for Pakistan. There is need to apply changes in the policies of government.

INTRODUCTION

For many decades the foreign direct investment implies with the political risk in the country. FDI inflows increased in the first in 1980, when commercial banks to make loans to the economy dry, and the most of the countries helps to solve or reduce the restrictions or reduce the rates to taxes and subsidies that positively attract the foreign capital to invest for more earnings (Aitken and Harrison, 1999).

Therefore, gross domestic product (GDP) by the positive effect of foreign direct investment on another country and the host country brings foreign debts that helps to improve the foreign reserves and the balance of payments (BOP) for local development increase direct foreign investment technology companies to carry in foreign enhanced and modern technology and the foreign managerial techniques & methods that's help to enhance the balance of payment that increase the GDP of the country (Findlay, 1978). Foreign countries help or facilitate the transfer of technology and business expertise from one country to another developing economies in the next 'ideas gap "and developing and developed countries that raise the new innovative ideas that can spread innovative ideas in the financial industry I take expand, and increasing the productivity of companies in the process (Rappaport, 2000).

Research Questions

The political risk of FDI response in Pakistan, the following questions in the study.

- Does foreign direct investment influenced by gross domestic product?
- Does foreign direct investment influenced by credit rating?
- Does foreign direct investment influenced by exchange rate?
- Does the effect on foreign direct investment on openness to trade?
- Does regime durability have an influence on foreign direct investment?
- Does any relationship exist between foreign direct investment and its determinants?

Research Objective

In recent years, the impact factors of foreign direct investment were of special importance. That focuses mainly on GDP and direct major impact on foreign direct investment.

- To investigate the effect of GDP on the foreign direct investment.
- To investigate the credit rating effect on the foreign direct investment (FDI).
- To investigate the exchange rate effect on the foreign direct investment (FDI).
- To investigate the effect on foreign direct investment by trade openness.
- To investigate the effect of regime durability on the foreign direct investment.
- To examine cause and effect of relationship between main determinants and foreign direct investment.

Hypothesis

Hi: There is an impact of Political risk on FDI

H0: There is no impact of Political risk on FDI

LITERATURE REVIEW

There was also a problem with the stability of the foreign direct investment in several studies. Religious and ethnic tensions and internal conflicts, to reduce foreign investment (Kolstad , Tondel, 2002). Negative annual revolutionary war in the Falklands Islands and the transition of Japanese direct investment in 12 countries in Latin America, the movement caused by the deaths (Tuman and Emmert 1999)

Asiedu (2002) gets in an amazing array of only 71 developing countries the results of the model. On the basis of the number of revolutions of the murder and does not affect a significant portion of FDI. In addition, property usage, plant and equipment expenditure in the year in the U.S. (Stevens ,2000)

Died in the violence and meaningless, because of the mistakes and the military Government, and how they came to power. (Biswas ,2002). There are, however, other researchers have found that higher wages are not always possible to prevent FDI to all sectors of the industry and was a positive correlation between income and foreign (Moore, 1993 , Hidalgo, 2000).

Show, a large, high-tech industries, research work problems, low productivity and low quality employment chooses high-quality labor force. (Wheeler and Mody, 1990)

Political instability is a qualitative phenomenon is a complex issue, investors believe political risk by precise measurements and investment restrictions. Econometric tests to identify foreign direct investment and the risk of political relationships often fail. (Jun and Singh 1996)

In developed countries, the assessment of risk capital in developing countries for political work. International business investment, a stable economy and you want to choose a place in the administration. Due to the country's political stability, an important factor for multinational companies to choose their own investments. In order to reduce the threat of a more stable environment for multinational companies to help. (Lucas ,1993)

The macro-economic factors of FDI in Japan, America and the Association of East Asian countries, foreign direct investment, trade and other macroeconomic variables. The analysis will focus on East Asia, the structural differences in the provinces and and classify them according to statistical studies, long-term exposure models

with panelinius data. This study helps explain how Japanese and U.S. International investing in the East Asian countries ' production base in the world of marketing strategies. (Nakamura and Oyama 1998)

Political risk factors affecting the system. National institutions to promote or restrict fast performance, as the economic activity of enterprises, institutional trading strategies within the Foundation of social control. (Peng, Wang and Jiang, 2008)

Systems of developing countries from the developed countries varied widely. Institutional defects of political risk are common in developing countries, for example, SSA. Developing countries (institutional) problems of corruption in Japan directly enhances the impact of investment on economic growth. (With Susanna, 2006)

The world business environment survey (more). They are the most restrictive of foreign direct investment in the SSA decay is strongly recommended. UNCTAD (2000) also greatly limits the prospects for foreign direct investment flows to political corruption and active. (Stone, 2003)

Foreign direct investment and corruption, found a negative correlation, but she pointed out that corruption and weak law enforcement are caused by obstacles to effective business practices. Asiedu (2006)

In South Africa, describes flows of foreign direct investment have not damaged the relationship remarkably the inflow of foreign direct investment. Foreign direct investment have mixed results in the literature of risk is the flow of political influence. Several studies have shown that the political risks of foreign direct investment) and other high risk policies (early 2011)

The third group of minor relations between FDI flow to political risks and found too; MNE home country political risk other position argues that the impact of investments. The world business environment survey (WBE) provides a more detailed description. They have invested in advanced pharmaceutical corruption in SSA. Significant FDI of corruption and political outlook. (Unctad , 2000)

Political risk insurance is its appeal to foreign investors. The past two years of Latin America to reduce political risk and claim that they are responsible for A high level of foreign direct investment. Research and development, and 22 high political risk of host country found that Inflows of the foreign direct investment and economic development. Increased risk this is a very unstable political results and, therefore, reduce the interest of foreign investors. ICRG 12 components of the political risk index, in a FDI high increase in developing countries than political risk and a portion of foreign direct investment and a stable political environment and policy suggestions and conclusions. Therefore, promoting the Government to attract investment to maintain a stable political structure. (Baek & Sen, 2011)

METHODOLOGY

This study found that foreign direct investment, GDP, exchange rates, trade openness and durability of coating, to 2012, the Pakistan since 1972, and the annual data. In order to avoid that the seasonal bias reference value used in this study. At the beginning of the main objective, the choice of the political instability in Pakistan in 1971.Data Collection

Data for Foreign direct investment, GDP, credit rating, exchange rates, commercial opening and power durability is gathered Economic survey of Pakistan and Pakistan problems Statistical Yearbook. Each of these variables represents the natural logarithm. These variables were selected based on continuous improvement in Pakistan's economy must be.

Is found in this study focuses on exchange rates, trade, foreign direct investment, GDP, the credit rating of the open relationship between and regime durability in Pakistan.

FOREIGN DIRECT INVESTMENT FUNCTION

Political stability has much importance for normal macroeconomic level and a good business environment. It depends to a large extent, political stability and good governance of the Government (Husain, 2009).

Political instability is the human resources are not good, because it will have a negative impact, economic development of the country, its physical growth and Dent. If conditions were not very good for the political stability of the country, foreign investors did not hesitate to take all items until I am sure that the business environment will be useful and beneficial (Bradaetal,2005 years UNCTAD 2010 World Bank, 2011).

Thus, Foreign Direct Investment model is given below (see Equation 1):

$$FDI_t = f(GDP_t, CDT_t, EXR_t, TDO_t, RDU_t) \quad (1)$$

Customer's log-linear models, most preferred linear model by Khan and Ross (1977. Gujrati (1995) also proved with the evidence that hetrokedasticity can be Compress the slightest problem.

Raijal (2000) also conduct the research and results prove that the show in the research of Box and Cox (1964) Procedure also displays the linear transformation is more effective than that of log linear transformation. Log-linear models of production specifications which according to Varian (1988) help in forecasting and policy analysis.

$$\ln FDI_t = \alpha_0 + \alpha_1 \ln GDP_t + \alpha_2 \ln CDT_t + \alpha_3 \ln EXR_t + \alpha_4 \ln TDO_t + \alpha_5 \ln RDU_t + \varepsilon_t \quad (2)$$

Here in (Equation 3) ln denotes the natural logarithm, lnFDI_t is foreign direct investment, lnGDP_t is economic growth (GDP), lnCDT_t is credit rating, lnEXR_t is exchange rate, lnTDO_t is trade openness and lnRDU_t is regime durability. Distributed error term ε_t feel about white polyurethane and noise. Signs of parameters expected GDP, credits, exchange rate, trade openness and regime durability are $\alpha_1 > 0$, $\alpha_2 < 0$, $\alpha_3 > 0$, $\alpha_4 > 0$ and $\alpha_5 > 0$ respectively.

Unit Root Test

To solve this problem of false regression, time series econometrics and hold the economic variables, set the volume label. It is important that the stationary or non-stationary variables. Time series has a rootkit called Non-stationary time series, for a time, when the mean, the variance and the total time the constant.

Before you do any time series empirical work, it is important to root or Non-stationery, which is closely related to the investigative. All variables need to be set up, before the cointegration application, for Augmented Dickey Fuller (ADF) has been used.

Augmented Dickey Fuller Test (ADF Test)

Three types of various regression equations used by the Dickey and Fuller (see Equations 3, 4, 5) to verify that a unit root.

$$\Delta Y_t = \gamma Y_{t-1} + \varepsilon_t \quad (3)$$

$$\Delta Y_t = \beta_0 + \gamma Y_{t-1} + \varepsilon_t \quad (4)$$

$$\Delta Y_t = \beta_0 + \beta_1 t + \gamma Y_{t-1} + \varepsilon_t \quad (5)$$

In the all these regression equations the scale of interest is γ . Assuming that $\gamma = 0$ (where $\gamma = \rho - 1$, if $\gamma = 0$, then $\rho = 1$, has a unit root; The data the time series is non-stationary and the alternative hypothesis that is used in this research is γ and this is is not exactly zero, i.e., less than zero, that suggesting the time series data in is stationary. Dickey and Fuller (1979) have demonstrated that under $H_0: \gamma = 0$, in the mathematical statements given above by utilizing OLS after taking the τ (tau) statistics, the estimated t-value of the coefficient Y_{t-1} obtained. This statistic is called Dickey Fuller (DF) test. This was processed by the authors for computing the critical values of τ -statistic. However, these tables are not considerably sufficient completely.

DF test depends on the error term is not related to the suspect. Assuming that automatically connects to the above equation, change and expansion of the DF test augmented (ADF) tests, including the value of the variable

hysteresis increases delayed the above mathematical statement. The ADF assumes after an AR (p) process the Y series has taken and include dependent variable regression test on the right margin p lagged (Equation 6).

$$\Delta Y_t = \beta_0 + \beta_1 t + \gamma Y_{t-1} + \sum_{i=1}^m \beta_i \Delta Y_{t-i} + \varepsilon_t \quad (6)$$

Co-integration Test

Co-integration may be non-stationary random useful information relating to the relationship between the variables. Study on the integration of the long-term cooperation relationship of the theory of evolution changes the economic time series. Most of the speculation about long-term behavior. Thus check the Co-integration series connected long-term relationships. In terms of the fact a long term relationship is so changing movement together after a while, the long-term pattern of deterioration, will be dealt with in the short term. In the absence of Co-integration proposed a variable without any long term relationship: the standard they can float away from each other.

However, this relationship may be aggravated by balance in the short term and therefore error-correction model (ECM) is a fitting structure. Event variable in Co-integration, ECM model long-term cooperative relations in the near future called Granger's friends said elements.

Granger (1981) Brings up an interesting non-stationary process and the relationship between the idea of long-term balance. Engle and Granger (1987) suggested that the basic test link Gregory (this means that long-term balanced) this idea. EG method one of the best feature. It is simple and easy to implement. However, the important issues of the Engle-Granger method.

does not tell you what variables can also be used as a repressive and why. I mean, for example, two variables, X_t and Y_t can back or Y_t on X_t turned back the Y_t on X_t decided to order. It can be shown that, for example, tends to infinity of asymptotic theory and partner co-integration connections in these two remaining regression tests are exactly the same. However, in practice, economics, rarely have large samples, you may find a return to exhibits, whereas others do not. This is clearly not a desirable approach. Problem clearly gets more confusing when you have more than two variables.

The second question is, if two or more of the Cointegration relationship between variables cannot be more than one, and using the residuals from a Engle-Granger strategy alone connection can't handle it. Therefore, the fundamental problem is that it is not for us, that the number of Cointegration vectors.

The third and last question is, depending on the step two. The first step is to create a default batch and the second step in this sequence, to make sure that sequence of stationary or running back. So the first step for each error delivered to the second step.

All these problems are resolved by the usage of the Auto Regressive Distributive Lag bounds testing approach. cointegration between foreign direct investment and factors determining the limits of Pakistan's investigation suggested ARDL study.

ARDL Bounds Testing Approach

Test (Pesaran et al. 2001) and Autoregressive approximation models of distributed lag used the limits of economic growth (GDP) between the short term and the long term relationship (ARDL) to verify the existence of, oil consumption, the consumption of natural gas and coal consumption of the reserves in the context of Pakistan. According to economic theory, the set of variables integrated together if there is a linear combination between variables without stochastic trend. In this case there is long-term relationship the existence between these variables. But, the kind of implications this holds true if and only if it satisfies the requirements of the same kind of order of integration. Suppose, if a variable (which is stationary at a rate is shrinking) and another variable (which is non-stationary on firm level but unlike before), then it will produce a false regression and so produce misleading conclusions and unreliable.

The second is the order of integration of the variables is not appropriate should be the same, this is use as regression in the borders and that the mix of variables (1) and (0). As a result, the underlying data ARDL

techniques is beneficial because it does not require the classification of a specific order. The last technique is the technique of the third ARDL, suitable for small sample size or limited (Pesaran et al., 2001).

The following Pesaran et al., (2001), vector Autoregressive (VAR) of order p have been assembled, signifying VAR (p), to the following function (equation 7):

$$Z_t = \mu + \sum_{i=1}^p \beta_i Z_{t-i} + \varepsilon_t \quad (7)$$

Where x_t and y_t both are the vectors of Z_t . where y_t the dependent variable is defined as a foreign direct investment(FDI), x_t a matrix a vector representing a set of obvious variables, i.e., gross domestic product (GDP), credit rating (CDT), exchange rate (EXR), trade openness (TDO), regime durability (RDU) and t is the variable of time or trend. According to Pesaran et al., (2001), should (1) Y_t variable of regressor x_t , but may be I (0) or (1). More vector error correction models (VECM) has developed the following (Equation 8):

$$\Delta z_t = \mu + \alpha t + \lambda z_{t-1} + \sum_{i=1}^{p-i} \gamma_t \Delta y_{t-i} + \sum_{i=1}^{p-1} \gamma_t \Delta x_{t-i} + \varepsilon_t \quad (8)$$

Where Δ is the first differenced operator. Long-term multiplier array λ is given as (Equation 9) :

$$\lambda = \begin{bmatrix} \lambda_{YY} & \lambda_{YX} \\ \lambda_{XY} & \lambda_{XX} \end{bmatrix} \quad (9)$$

The diagonal elements of the matrix is not limited, the series can be selected I(0) or I(1). If $\lambda_{YY} = 0$, then Y is I(1), in contrast, if $\lambda_{YY} < 0$, then Y is I(0).

In testing by the Cointegration vector between the most one dependent variable and a set of regressors y_t x_t VECM the procedure outlined above is very important. To gain by propositions are made by Pesaran et al (2001), in the case of III followed, it was without any restrictions and without pressing the trend. After the restrictions were put in place $\lambda_{YY} = 0, \mu \neq 0, \alpha = 0$, the political Instability the following functions can be expressed as a model of infinite error correction (UECM) (Equation 10):

$$\Delta \ln(FDI)_t = \beta_0 + \beta_1 \ln(FDI)_{t-1} + \beta_2 \ln(GDP)_{t-1} + \beta_3 \ln(CDT)_{t-1} + \beta_4 \ln(EXR)_{t-1} + \beta_5 \ln(TDO)_{t-1} + \beta_6 \ln(RDU)_{t-1} + \sum_{i=1}^p \beta_7 \Delta \ln(FDI)_{t-i} + \sum_{i=1}^p \beta_8 \Delta \ln(GDP)_{t-i} + \sum_{i=0}^q \beta_9 \Delta \ln(CDT)_{t-i} + \sum_{i=0}^r \beta_{10} \Delta \ln(EXR)_{t-i} + \sum_{i=0}^s \beta_{11} \Delta \ln(TDO)_{t-i} + \sum_{i=0}^t \beta_{12} \Delta \ln(RDU)_{t-i} + u_t \quad (10)$$

Where Δ is termed as the operator of first-difference and u_t is white-noise disturbance term. $\ln(FDI)$ is the natural log of foreign direct investment, $\ln(GDP)$ is the natural log of gross domestic product, $\ln(CDT)$ is natural log of credit rating, $\ln(EXR)$ is natural log of exchange rate, $\ln(TDO)$ is natural log of trade openness and $\ln(RDU)$ is natural log of regime durability.

The equation given above (equation 10) can see also as a rule ARDL (o, p, q, r, s, t). This equation shows that the values of past political instability or impact affect FDI. Schwarz information criterion (SIC) used to build the structure of slowness. The estimated coefficients UECMs, one left a Description variable (multiply by a negative sign) and divided by the lagged dependent variable of coefficients on which long-term political instability (Bardsen, 1989). For example, in the above equation (Equation 12), long term economic growth, foreign direct investment, political instability (β_2/β_1), (β_3/β_1), (β_4/β_1), (β_5/β_1) and (β_6/β_1) respectively. In equation given above (Equation 10) the first difference of variables are helpful in capturing short-run coefficients.

To distinguish long-term relationships between variables of concern, Wald test (F-statistics) is calculated after the above regression equation. To carry out the necessary restriction of Wald tests should undergo long-term estimates of no coefficient, economic growth, the number of customers. The null and alternative hypothesis is as follows (Equation 11):

$$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0 \text{ (no long-run relationship)} \quad (11)$$

Against the alternative hypothesis (Equation 12):

$$H_A: \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq 0 \text{ (a long-run relationship exists)} \quad (12)$$

The value of an F-test to the critic Pesaran et al. (2001): the table CI (iii) values to be evaluated. According to these authors believe, critical limits, the explanatory variables X_t is integrated with the order, or the zero (0), while the critical values for the ceiling, thought that the integrated or X_t (1). For this reason, there is no correlation between the uncertainty and political factors shall be calculated as if the F statistic is less than the minimum value of the bond. Instead, the political uncertainty and the determinateness for a long term relationship, sharing, if calculated on the level of the F-statistic greater than the upper limit. On the other hand, the results can be concluded if an F-test to the limit between the upper and lower

MULTIVARIATE GRANGER CAUSALITY TEST

The presence of a time series between Gregory does not mean causation. Granger causality tests that will present, at all levels, and Granger-causality, if Gregory connections around the variables suggested by. Engle and Granger (1987) says that if the vector Autoregressive (was) as opposed to the structure, causality tests Granger led, and then around Gregory will be permanent. Therefore, to get the causation-in the longer term, the review of the conditions, such as the exponent correction can help us.

In this way, to figure out that power consumption during and between causal factors affecting the Granger causality test based on vector error correction model (VECM) should be used. After the estimated VECM, causality orientation (equation 13):

EMPIRICAL RESULTS

The study was done the ADF Augmented Dickey Fuller Test (ADF) for the analysis of the main units to determine the sequence of stationary and integration of the series, the ARDL associated analysis of causality tests Granger test for multivariate Cointegration. In this part, there results will be discussed in detail.

Unit Root Test

Unit root test of Dickey-Fuller increases do for all variables on their property. detailed in Table 1.

Table 2: ADF test results on first difference and level.

Augmented Dickey-Fuller (ADF) test on the first difference levels of the variables (1972 - 2012).							
Variables	Level			First Difference			Decision
	None	Constant	Constant and trend	None	Constant	Constant and trend	
LNFDI	7.2406 (1)	6.0639 (0)	2.9739 (1)	-0.3952 (0)	-1.0354 (0)	-9.7709* (0)	Non-stationary at the level but stationary at first the difference, i.e. I (1)
LNGDP	3.1826 (1)	2.2108 (1)	-0.9526 (1)	-0.9816 (0)	-2.6981*** (0)	-3.8951** (0)	Non-stationary at the level but stationary at the first difference, i.e. I (1)
LNCDT	1.8476 (2)	5.5492 (1)	4.8942 (1)	3.4727 (0)	2.8938 (0)	-4.4326* (0)	Non-stationary at level but stationary at the first difference, i.e. I (1)
LNEXR	4.6582 (0)	2.2027 (0)	-1.0122 (1)	0.3712 (0)	-5.1185* (0)	-6.0171* (0)	Non-stationary at the level but stationary at the first difference, i.e. I (1)
LNTDO	-0.0143 (0)	-3.2337** (0)	-3.3098*** (1)	-6.3937* (0)	6.3133* (0)	-6.2253* (0)	Stationary at the level, i.e. I (0)
LNRDU	-1.1183 (0)	-3.2873** (1)	-3.2515*** (1)	-5.2363* (0)	-5.1667* (0)	-5.1091* (1)	Stationary at the level, i.e. I (0)

The results revealed that while all differentiated variables early period 1972-2012 all stationary or integrated sequence of the series (1) but the TDO and RDU, level stationary so are I (0).

ARDL Bounds Testing

The relationship between the variables examined in this study. Model approach to common specifications and Hendry sequence delay maximum of two selected for conditional ARDL-VECM. For the purchase of Dynamics system for sequence data analysis of annual maximum delay of three years is enough (completed 2004). As a result, the order of adjournment ARDL (1, 0, 0, 0, 0) contains the best of the minimum AIC. Test results related to the F-statistics when each variable is considered as the dependent variable in the regression ARDL OLS- shown in Table 2.

Table 3: Results of ARDL bound testing approach to cointegration

Results of bound testing to cointegration		
Dependent variable	F-statistics	Outcome
$F_{LNFDI}(LNFDI LNGDP, LNCDDT, LNEXR, LNTDO, LNRDU)$	6.4902*	Cointegration
$F_{LNGDP}(LNGDP LNFDI, LNCDDT, LNEXR, LNTDO, LNRDU)$	4.8518	Inconclusive
$F_{LNCDDT}(LNCDDT LNFDI, LNGDP, LNEXR, LNTDO, LNRDU)$	4.4746	Inconclusive
$F_{LNEXR}(LNEXR LNFDI, LNGDP, LNCDDT, LNTDO, LNRDU)$	1.2761	No cointegration
$F_{LNTDO}(LNTDO LNFDI, LNGDP, LNCDDT, LNEXR, LNRDU)$	3.5540	No cointegration
$F_{LNRDU}(LNRDU LNFDI, LNGDP, LNCDDT, LNEXR, LNTDO)$	4.2691	Inconclusive
Significant level	Critical values	
	Pesaran et al. (2001)	
	Lower bonds I(0)	Upper bonds I(1)
5 % level	3.5724	4.8813
Note: The asterisks *, ** and *** denote the significant at the 1%, 5% and 10% level.		

Based on the Pesaran et al. (2001), out of all six model specifications, i.e. F_{LNFDI} , F_{LNGDP} , F_{LNCDDT} , F_{LNEXR} , F_{LNTDO} and F_{LNRDU} only one is significant at 5% level, i.e. F_{LNFDI} significant at 5% level. Therefore implies a Cointegration of long-term relationship, null hypothesis of no Cointegration is rejected.

The results are shown in table 2 means that long-term foreign direct investment, the gross domestic product, debt, exchange rates, trade opening and the duration of the scheme they are moving together and cointegrati for the long term relationship between 1972-2013 in the case of Pakistan, although in the short-term deviations can occur. It also implied that the obvious variables set correctly, if there is a genetic algorithm (Perman, 1991).

Multivariate Granger Causality Test

The existence of Cointegration between the gross domestic product, foreign direct investments by credit rating, exchange rate, resilience and opening the trade regime concluded that there should be no lower than a way for Granger causality, but shows the bearing of causality. Therefore, to test for Granger causality pads proposes to evaluate the VECM to prove causality between the field of gross domestic product, foreign direct investments by credit rating, exchange rate, trade openness and resilience of the regime in Pakistan. Table 5 shows in short term and long term Granger causality results. It was established that the VECM provides short and long-term causal relationship between gross domestic product, foreign direct investments by credit rating, exchange rate, trade openness and resilience of the system. Long term Granger causality are analyzed through the meaning of the term late-term correction of errors

Table 4: Multivariate Granger Causality

Multivariate Granger Causality Analysis.								
Short-run								Long Run
Model	Dependent Variable	$\Delta \ln FDI_t$	$\Delta \ln GDP_t$	$\Delta \ln CRT_t$	$\Delta \ln EXR_t$	$\Delta \ln TDO_t$	$\Delta \ln RDU_t$	ECT_{t-1}
		F-statistics [p-values]						
A	$\Delta \ln FDI_t$	–	6.6138* [0.0017]	5.8286** [0.0491]	3.2789** [0.0492]	3.0373** * [0.0801]	9.5239* [0.0007]	-0.5472*
B	$\Delta \ln GDP_t$	4.8750** [0.0452]	–	2.1489** * [0.0969]	1.5496** [0.0493]	0.6573** * [0.0913]	6.7970* [0.0043]	-0.4816**
C	$\Delta \ln CRT_t$	9.2903* [0.0017]	3.3482** [0.0496]	–	2.6427 [0.1808]	1.4397** [0.0464]	4.5250** [0.0483]	– 0.3641***
D	$\Delta \ln EXR_t$	4.7286** [0.0474]	0.9046** [0.0338]	0.8926** * [0.0782]	–	0.0958 [0.2089]	2.0938** * [0.0889]	– 0.3403***
E	$\Delta \ln TDO_t$	3.9926 [0.1492]	0.6619 [0.1888]	0.2452** * [0.0942]	0.5428 [0.2244]	–	2.0675** * [0.0897]	-0.3021**
F	$\Delta \ln RDU_t$	4.6523 [0.1479]	0.5382 [0.2416]	0.4682 [0.3262]	0.3741 [0.3844]	0.3023 [0.3984]	–	– 0.2872***

Note: The asterisks *, **, and *** denote significance level at 1%, 5%, and 10%, respectively.

With the short term starting, the results of causality observed shows that foreign direct investment is found to be statistically significant in the gross domestic product (model B) credit rating (model C) and exchange rate (model D). Gross domestic product is statistically significant in the exchange rates (model D), a credit rating equations (model C) and foreign direct investment (model A) respectively. Statistically significant credit rating in terms of FDI (model A), the gross domestic product (model B), the exchange rate (model D) and open trade (model E) equation respectively. Exchange rate is found to be statistically significant in the equation FDI (model A) and statistically significant in the equation gross domestic product (model B). Trade openness statistically significant in terms of FDI (model A), the gross domestic product (model B) and credit (model C). Duration of the scheme is statistically significant foreign direct investment (model A), the gross domestic product (model B) credit (model C), level (model D) and trade (and model). This shows that, in the short term there are one-way causality runs from credit ratings for exchange rates, commercial opening of foreign direct investment and gross domestic product and the strength of the regime abroad, foreign direct investment, the gross domestic product, credit, foreign direct investment and gross domestic product. While there is a two-way causation between foreign direct investment and gross domestic product, foreign direct investment and credit rating, foreign direct

investment and exchange rates, gross domestic product and credit rating, GDP and the exchange rate, the value of credits and opening of trade.

While turning to causality the long-run, there is found different indications in comparison with the causality short-run. The confirmation of experiential pointed that the a period lagged error-correction terms ECT_{t-1} were refused in foreign direct investment, gross domestic product, credit rating, exchange rate, trade openness and regime durability equations. The empirical outcome show that the estimate of ECT_{t-1} i.e. -0.5742 for foreign direct investment, -0.4816 for gross domestic product, -0.3641 for credit rating, -0.3403 for exchange rate, -0.3021 for trade openness and -0.2872 for regime durability is statistically significant. This infers that a 0.5742% progression in foreign direct investment, 0.4816% changes in gross domestic product, 0.3641% changes in credit rating, 0.3403% change in exchange rate, 0.3021% change in trade openness and 0.2872% changes in regime durability are remedied by divergence in short-run towards long-run equilibrium path.

CONCLUSION

With the help of counter action and causality analysis effort is to explore the function of direct foreign investment to Pakistan since 1972-2012. In contrast to the existing literature on the subject, openness and durability, for trade-credit rating is to increase levels of previous studies on solid reviews FDA and the alliance of political stability has been created by the Government involved in.

View from existence to check the use of ARDL long-term foreign direct investment, GDP, credit balance, exchange rate, trade openness and durability for the relationship between the limits of Government in Pakistan

To examine the causal variables concern multivariate Granger causality test between applies. The results show that FDI and its determinants is the main cointegrated in Pakistan. Gross domestic product, exchange rate, trade regime openness and sustainability are positively related to foreign direct investment; while negatively affect credit rating on long-term foreign direct investment. Results show that there is one-way causality run from credit ratings to rate from trade opening of foreign direct investment and gross domestic product and duration of FDI, the gross domestic product, credit rating.

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