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Effects of corruption and budget deficit on private investment: Evidences from Pakistan

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Abstract

An essential feature of many developing countries is the prevalence of corruption at public sector level and sustained deficit in budget. Persistent and widened budget deficit and different methods of financing the deficit may have important impacts over economy and particularly on private investment. Corruption may also prove to be harmful for private sector investment. The objective of this paper is to empirically measure the effects of corruption and budget deficit on private sector investment in Pakistan. Johansen and Juselious(1990) method is used for checking the cointegration between the variables and to examine the short run relationship between the variables, an Error Correction Model is employed. Annual time series data for the period 1984 to 2015 is taken for examining the long run ans short run relationship. Theoretically, the variables under examination leaves negative impact over the private investment. The results of the study supported for crowding out effect of budget deficit. Furthermore results also reveal that corruption leaves significant negative impact over private investment. On the basis of study results it is suggested that efforts should be done by government to reduce deficit in budget. Government should adopt strict measures to cater corruption which is strongly negatively effecting private investment and thus seems main constraint for development.

Keywords: Budget Deficit; International Country Risk Guide (ICRG); Crowding Out; Pakistan

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1. Introduction

According to the Transparency International, the annual index of perceived corruption shows that public sector corruption has increased worldwide. This indicates public sector officials may be expected to spend public resources secretly on those projects and items in which they can impose heavy bribes. Economists and policy makers are concerned about the various adverse consequences of corruption on the economy. There are various channels through which corruption lowers economic growth of the country; one of the important channel is investment.

Budget Deficit is also blamed for high inflation, low growth, deficit in current account and crowding out of private investment and consumption (Chudhary and Abe,1999). Budget deficit will have magnified effects if accompanied with high level of corruption. Reason behind is that revenue and expenditure sides of government budget are strongly affected by public sector corruption. At the revenue side, less revenue is collected due to bribes of public officials. Public official give fee waive, or exemption in various charges to the people after taking bribes. On the other side government expenditures are falsified or misrepresented with their composition. Many inefficient projects are taken for investment on account of bribes.

Unfortunately, Pakistan's economy is prone to corruption at institutional level and among public sector officials. World Economic Forum's (WEF) Global Competitiveness Index (GCI) for the year 2015-2016 indicated that corruption is the top most problematic factor discouraging business activities. Transparency International Pakistan (TIP) has stated that Public sector corruption such as political system, Police and Judiciary, Privatization etc. is the biggest challenge in Pakistan[1]. "Corruption prevails in several forms in Pakistan, which includes financial and political corruption, nepotism, and importantly abuse of power. Corruption is prevalent in country at small and large level both (Chene, 2008).

Economy of Pakistan is also facing persistent deficit in budget. The deficit leads to rise public debt which is a critical concern. This situation may leads to ineffective resource allocation. Resources when allocated to public debt repayment becomes a constraint for productivity and will breed crowding-out effects. Pakistan's alarming situation in this regard threatening the future of economy as the problem of external debt and debt servicing have continued to grow with time (Ali and Mustafa, 2012). This results in negative impact over investment. Private investment is negatively affected by internal and external debt servicing, total debt stock and the tax burden (Kiptui, 2005). Public borrowing following the persistent fiscal deficit results in financial crowing out because it takes up the savings that could have been used for private investment (Hyder and Ahmed, 2003)

Developing countries face problems of poor infrastructure, high rate of unemployment and modest lifestyle of their people which can be solved by making an investment on them in the form of physical and intellectual capital (Gillani et al., 2009). Investment is the best way to solve these issues.

[1] Zubair Choudhry. "The economic cost of corruption". The Express Tribune. http://tribune.com.pk/story/652319/the-economic-cost-of-corruption/(29/12/2013)

It is highly desirable to boost the private investment for long run sustainable growth and development of the country. Economic as well as social and institutional factors effecting private investment need to be explored in this context. Thus the objective of this research paper is to examine the factors effecting private investment in Pakistan. Economic factors alone do not seem sufficient to address the issue in concern so institutional factor effect is also captured in the study. Economic determinant as budget deficit and GDP, non-economic factor of corruption have been evaluated to see resulting effect on private investment. The present literature emphasized that a large number of developing countries are suffering with quite higher levels of budget deficits and corruption. (Jalles, 2011; Anthony and Matthias, 2007).

The rest of the paper is organized as follows; section two discusses literature review related to private investment and its economic and noneconomic factors, methodology is discussed in third section, section four discusses econometric analysis and results. Finally, last section carries conclusions and policy recommendations.

2. Basic hypotheses

To promote long term economic growth and to enhance economy's productive capacity, the investment plays an important and vital role (Jongwanich and Kohpaiboon, 2008).

The present research idea has been initiated by the important and interesting work done by Symon Kibet (2013). The main objective of his study was to measure empirically the impact of corruption and budget deficit over private investment. An interaction term of deficit and corruption has been generated to see the impact. Annual time series data for the panel of 70 developing countries was taken for the period of 1984 to 2010. Besides the interaction term of deficit and corruption many other macroeconomic variables were examined. Results of the study generated support for crowding out hypothesis. Moreover, the study result shows that budget deficit leaves negative and statistically significant impact on private investment. Additionally, corruption leaves a negative and statistically significant effect on private investment. The reason might be the insecurity and more transaction cost due to corruption.

2.1. Role of corruption

The literature related to effects of corruption over economy has broadly determined that corruption hampers economic growth (Jain, 2001; Boycko et al., 1995, 1996; Gupta et al., 2001; Kaufmann, 1997; Mauro, 1995, 1997, 1998; Murphy et al., 1991; Porta and Vannucci, 1997; Tanzi and Davoodi, 1998).

An important study is done by Mauro (1995, 1997) in this regard by investigating the relationship between corruption, economic growth and investment across the countries. The index provided by Business International (BI) is used to cater corruption. Annual data for the period of 1960 – 1985 was used for econometric analysis for 67 countries in the sample. Results reveals that more corrupt countries experience both statistically significant lower investment rates. Findings concludes that corruption has reduced the economic growth through investment channel. The empirical results confirms that a one standard deviation

improvement in corruption index results an increase in investment by 5% of GDP and GDP per capita growth rate by 0.5% points. These findings are in line with working of Rahman et al. (1999), Pelligrini and Gerlagh (2004). These studies explored empirically the direct and indirect diffusion channels through which growth is effected by corruption.

Sajawal and Arshad had an important contribution to the literature capturing the effects over private investment (2007). The rationale of the work was to explore the factors of private investment in case of Pakistan. Annual time series data from 1972-2005 was taken for analyses. The results concludes that most of the customary economic factors have very weak or generating no effect on private investment for Pakistan. Hence support for the non-traditional, social and poitical factors for private investment such as quality of institutions, governance, entrepreneurial skill, etc. These results supported the idea that quality of institutions is poor in Pakistan which may be blamed for low investment in country. The crowding out effect of investment also highlights the wasteful utilizing of public sector funds or corruption on the part government officials.

2.2. Role of deficit

There are different school of thoughts regarding the impact of budget deficit on private sector investment. Neo classical school of thought is of the view that budget deficit will crowd out private investment. They are of the view that interest rate rises because of deficit financing and this will negatively effect private investment. According to Keynesian school of thought government adopts expansionary fiscal policy to cater deficit in budget and this situation will leads to increase private sector investment. Expansionary fiscal policy will provide supportive and optimistic environment to producers and they increase their investment. Ricardian equivalence is third school of thought. It states that budget deficit is the result of excessive government consumption which leads to rise taxes in future. This will lead to increase current savings not consumption which inturn will have no impact over interest rate and private investment.

Oskooee (1999) did an interesting study for the economy of United States regarding the crowding in or crowiding out effects of budget deficits on Private Investment. Basic objective was to generate empirical support for any one school of thought in the long run. Annual data for the period of 1947-1992 was taken to check the existence of long run relationship between real fixed investment and budget deficit. The results of the study have shown the existence of three cointegrating vectors among investment, income, interest rate, and the budget deficit. Final results of research supported Keynesian hypothesis by concluding that, In the long run US federal budget deficit crowd in private investment.

Private investment is crucial for economic growth and development of any country. Chhibber and Dailami (1993) highlighted the role of fiscal policy in this regard. Macro economic variables are examined to investigate the link with fiscal policy. Role of private investment in the regulation of developing economies in the form of resource competition between public and private sector, size of deficit and deficit financing, its impacxt over private investment, exchange rate and real rate of interest. Twenty nine developing countries data for the period of 1970-1988 was taken for analysis. Even though the examination of the variables is theoretically done but empirical references of Blejer and Khan (1984), and Chhibber and Wijnbergen (1988)

are added for support in the study. Public and private sector directly competes for domestic scarce financial resources in developing economies. Private sector could not avail resources due to deficit hence results reveal that higher fiscal deficit negatively affect private investment. Government also reduce the expenditure following the deficit which is another channel negatively effecting private investment. A stable public sector developmental expenditure leaves healthy impact over the private sector and discourage crowding out. Tax strategy also plays crucial role in investment decisions. Reduced fiscal deficit and financial liberalization can play significant role for private sector investment.

In the light of above literature review it may be concluded that effects of budget deficit on private investment goes in three dimensionss, i.e. crowd in, crowd out and no effects, but corruption generally leaves negative impact on private sector investment. It is interesting to explore these variables and their impact on private investment in case of Pakistan. Whether the empirical findings support crowding out effect of budget deficit and corruption? Therefore, this study is an effort to evaluate the budget deficit as an important economic determinant for private investment; because economic variables alone may be insufficient in the determination so corruption has also been empirically tested.

3. Methodological issues involved

3.1. The model

The study seeks to investigate the crowding out effect of budget deficits and corruption on private investment. Pakisdtan has been experiencing budget deficits and corruption at public sector during the study period and the study seeks to analyse whether these have detrimental effects on private investment.

To examine the relationship between private investment (PI), Budget deficit (BD) and corruption (ICRG) we have modified the model developed by Biza R. et al. (2013) and Kiprop Symon Kibet (2013) as follows.

$$PI_t = BD_t + Y_t + ICRG_t + e_t \quad (1)$$

where PI_t is private investment, BD_t is budget deficit, Y_t is real growth rate of GDP and ICRG International country risk guide is used to capture the impact of corruption. It is used in the current study due to its concentration over public sector corruption. The corruption by the high ranlking government officials in the form of bribes for various official assignments such as import and export licenses, control over exchange, taxation and police protection is measured by ICRG index. The mean value of the ICRG variables ”Corruption”, ”Law and Order” and ”Bureaucracy Quality”, scaled 0-1. Many studies used this index for corruption which includes, Knack (2001), Knack and Philip (1995), Tanzi and Davoodi (2002), Everhart et al. (2009).

3.2. Data and sources

This study utilised annual time series data of Pakistan over the period 1984 to 2015 to empirically examine the effects of budget deficits and corruption on private investment. The time period of study has been

selected on the basis of availability of corruption index obtained from the Political Risk Service‟s International Country Risk Guide (ICRG) which is available by 1984. Economic variable data like budget deficit (BD), GDP and Private Investment (Pvt Inv) has been taken from *World Development Indicators (WDI)*, *Handbook of Statistics on Pakistan's Economy (SBP)* and *Economic Survey of Pakistan*.

3.3. Econometric methodology

The estimation of the model will be done through three step procedure. Augmented Dickey Fuller (ADF) test is applied to check the stationarity at first. Than Johansen (1988) and Johansen and Juselius (1990) method will be used to check the co-integration among the variables of the equation. Thirdly after getting the long run results the error-correction model will be used for short run results of the equation.

To determine the long-run relationship between time series variables, we use co-integration analysis to examine how a change in one variable brings about changes in other variables.

To examine the long-run and short-run effects of budget deficit and ICRG on private investment of Pakistan, we employ the following three steps Method.

- Unit root test
- Johansen Maximumlikelihood Cointegration test
- Dynamic model

Step 1: ADF (Unit Root Test)

Cointegration anlysis assumes that all the variables are integrated of the same order. So augmented Dickey-Fuller (ADF) test will be used to detect whether the time series data is of stationary or not. Augmented form of Dickey Fuller is used because Dickey Fuller regression models sometimes suffer from autocorrelation in the error terms. In this case ADF is used instead of DF test.

$$\Delta Z_t = \alpha + \beta t + \gamma Z_{t-1} + \sum_{i=1}^{p} \delta_i \Delta Z_{t-i} + \epsilon_t \qquad \therefore \gamma = (\rho - 1)$$

where, βt is deterministic trend term in model. And α is intercept term. ϵ_t is normally distributed with 0 mean and constant variance. Where, Z_t denotes the time series variable to be tested, used in model. t is time period, Δ is first difference and γ is root of equation. The numbers of augmented lags (p) determined by the dropping the last lag until we get significant lags.

Step 2: Johansen and Jusilious Maximumlikelihood Method of Cointegration

If the combination of two non stationary variables generates linear combination, so they are called cointegrated. Two step residual based Cointegration test was proposed by Engle and Granger (1987). This test has the limitation of not more than two variables, so Johansen and Juselius (1992) presented the Maximum likelihood test for estimating more than one Cointegration vector. Let us assume that the vector of variables Z has the following representation, it is general form of long run CI relationship.

$$Z_t = \mu + \sum_{i=1}^{'} A_i Z_{t-i} + \gamma Dt + V_t$$

In this we can estimate the Cointegration relation as follows:

$$PI_t = BD_t + Y_t + ICRG_t + e_t$$

As this equation is explained before, where Z_t contains all n variables; it is a vector of non- stationary variables and $\Delta Z_t = (1 - B)$ is a vector of stationary variables. V_t is a vector of random errors. This model can also be represented in the form of dynamic error correction model ECM as:

$$\Delta Z_t = \sum_{k=1}^{i-1} \Gamma_k \Delta Z_{t-k} + \Pi Z_{t-1} + \mu + \theta D_t + V_t \qquad \therefore v_t \sim N(0, \sigma^2)$$

where k = 1, 2, 3,……, i-1 is the lag length. $\Gamma_k = -(I - A1 - A2 - A3 \ldots Ak)$ is the coefficient of the short run dynamic relationship and $\Pi = -(I - A1 - A2 - A3 \ldots Ak)$ is a matrix of long run coefficients of order (k x k). The no. of cointegration vectors are determined by the rank of Π matrix.

Where, $\Pi = \alpha\beta'$ and α is speed of adjustment parameter of matrix and β' is matrix of long run coefficients. The μ, vector of constant is further decomposed into $\mu = \mu_1 + \delta_1 t + \mu_2 + \delta_2 t$, where $\mu_1 + \delta_1 t$ are the constant and trend term in the long run cointegration equation and $\mu_2 + \delta_2 t$ are the drift and trend term in the short run vector autoregressive model (VAR). And θ indicates coefficient of shock dummies.

Step 3: Dynamic Error Correction Model

The residuals of long-run cointegrating vectors are used as an important determinant of error correction model (ECM). These residuals are also known as disequilibrium estimates or error correction terms. They measure the divergence from long run equilibrium and provide speed of adjustment information toward equilibrium. Thus we formulate the error correction model for private investment as following:

$$\Delta PI_t = \beta_0 + \beta_1 + \sum_{i=0}^{\cdot} \delta_i \Delta BD_{t-i} + \sum_{i=0}^{\cdot} \gamma_i \Delta Y_{t-i} + \sum_{i=0}^{\cdot} \sigma_i \Delta ICRG_{t-i} + \pi ECM_{t-1} + \epsilon_t$$

Where Δ is the difference operator and ECM_{t-1} is an error correction term. The expected Sign of the parameter should be negative which will measure the speed of adjustment of short run disequilibrium towards the long run equilibrium.

3.4. Diagnostic tests

The preferred dynamic model satisfies the number of diagnostic tests. For example, Godfrey Lagrange Multiplier (LM) (1978) test is used to test the null hypothesis of serial correlation in the residual term of error correction model. Then to check the autocorrelation conditional heteroskedasticity (ARCH) in the residuals, Engle's (1982) LM test is used to ensure that there is constant variance in the residual series. For testing the normality of the residual of the model Jorque Bera (JB) test is used. Stability of the estimated parameters of the model is examined by utilizing the Cumulative Sum of Recursive Residuals (CUSUM) and

Cumulative Sum of Squares of Residuals (CUSUMSQ) test [Brown, Durbin and Evans (1975)] is implied to ensure that the mean and variance of the model is stable.

4. Results and discussion

For empirical representation of the results, we will follow three steps. In the very first step we will find out the order of integration of all the variables which are incorporated in the model. In the second step we will test the co-integration by using Johansen and Juselious (1990) method. For the estimation of short run relationship between the variables, an Error Correction Model is employed.

4.1. Unit root test

To find out order of integration of the variables, we will apply Augmented Dickey Fuller (ADF) test. All the variables underlying study are linear.

Table 1. Results of Augmented Dickey Fuller Test (Annual Data (T =32)) *Level*

Variables at Level	Lags	ADF tau-stat	Outcome	Variables at First Difference	Lags	ADF tau-stat	Outcome
PI	1	-0.3363	I(1)	**ΔPI**	**0**	-9.6168	I(0)
Bd	0	-2.5435^{c,t}	I(1)	**ΔBd**	**0**	-6.6802^{c}	I(0)
Y	0	-1.1905	I(1)	**ΔY**	**0**	-7.1829	I(0)
Icrg	0	0.7008	I(1)	**ΔIcrg**	**0**	-6.2030	I(0)

"c" indicates the constant term is significant; c, t indicates that both the constant and trend are significant. All the variables are significant at 5% level of significance.

It can be seen that from the Table (1) that all the variables are non-stationary at level. After applying first difference all the variables become stationary. Thus order of integration of all the underlying variables is I(1). As all the variables are integrated at the same order I (1) so we can use the cointegration analysis. Now in order to find out the long run relationship between the variables we will imply the Johansen Maximum Likelihood Method.

4.2. Dynamic Analysis of Budget Deficit, ICRG and Private Investment

i. Long Run Analysis

To check the serial correlation between the variables Johansen (1988) likelihood ratio test will be used firstly to determine the optimal lag length of vector autoregressive (VAR) system.

VAR model is estimated with four variables ($PI_t, BD_t, Y_t, ICRG_t$) and one exogenous dummy variable (dummy = 2007). In 2007, the whole world was suffering from the severe financial crisis so the prices were high all over the world (Hamilton, 2011). Now the numbers of lags which are included in the analysis are as following:

Table 3. VAR Lag Order Selection for Private Investment and Budget Deficit

VAR	**LM-Stats**	
	Lag 1	**Lag 2**
1	17.34272(0.3638)*	24.11389(0.0870)*

Therefore, the VAR (1) model is selected. The lag length of VAR model is selected on the bases of Johansen (1995) multivariate LM test.

Two test statistics are presented by Johansen (1988) to check the order of cointegrating vectors i.eTrace test and Maximum Eigenvalue test. The results are given in Table 4.

Table 4. Private Investment & Co-integrating Factors: Johansen Test

Trace Statistics				**Maximum Eigen Value Statistics**			
H_0	**H_A**	**Test Statistics**	**Critical Value**	**H_0**	**H_A**	**Test Statistics**	**Critical Value**
r = 0	r ≥ 1	75.320398*	63.87610	r = 0	r = 1	33.37403*	32.11832
r ≤ 1	r ≥ 2	41.94636	42.91525	r = 1	r = 2	22.92614	25.82321

The trace test shows that the null hypothesis of no cointegration (r = 0) is rejected, but it is failed to reject the null hypothesis of onecointegrating vectors at five percent level of significance. While, the maximum eigenvalue statistic with the null hypothesis r = 0 is rejected but the null hypothesis r = 1 is not rejected and refers to one long run relationship exists among the variables.

As trace test is more powerful as compare to maximum eigenvalue test because it considers all (k-r) values of the smallest eigenvalues [Kasa(1992) and Serletris and King(1997)]. So we continue our analysis on the bases of trace test. After finding the no. of cointegrating vectors, we will estimate the long run relationship by using Maximum likelihood method. As we have found that there exists one cointegrating vectors, so we estimate one cointegrating relationship among the variables. So the normalized long run coefficients are given in equation 2. The chi-square values are given in parentheses.

$$0.240369 - 4.173726BD_t + 7.668571\,Y_t - 13.11305ICRG_t \quad (2)$$

(0.16132)** (1.69303)** (1.13942) (67.9820)*

This equation shows that there is inverse relationship between budget deficit and private investment. This result shows that whenever budget deficit is increasing then it will cause the private investment to decrease in case of Pakistan. This reveals the support of crowding out effect of budget deficit. This result is consistent with Yasmeen and Burney (1989),Ball and Mankiv (1995), Chhibber and Wijnbergen (1990).There is positive but insignificant relationship in GDP growth and private investment. These results are in line with results of Blejer and Khan (1984), Ahmed and Qayyum (2007) and Khan and Khan (2007). ICRG has negative but significant relationship with the private investment in Pakistan which has confirmed expected theoretical hypothesis.

ii. Short Run Dynamic Error Correction Model

Once we have observed that variables are cointegrated, we move forward to estimate the short run dynamic relationship between the variables. In this section the results of error correction model are present. The residuals of the long run cointegration equation are the important determinants of the ECM. Theses residuals are known as error correction term. This measures the disequilibrium from long run in period t-1 and provides information about the speed of adjustment. The ECM is estimated by ordinary least square (OLS) method. By considering general to specific approach (David Hendry, 2005) the general model is estimated by incorporating the drift term, dummy variable (dummy = 2007), lag of error correction term and lag length one for each first difference variables. We have the following model after dropping the insignificant variables. The short run ECM model with t-values in parentheses is shown as follows;

$$\Delta PI_t = 8.009961D - 0.699740ECM_{t-1}$$

(3.009311) (-3.348543)

Real GDP has positive but insignificant impact on private investment in the short run. This finding is in line with Khan and Khan (2007). Budget deficit is also insignificant in short run, as per neo classical perpective, the temproray deficits have either a negligible or perverse effect on most economic variable (Bernheim 1989). Corruption is also insignificant in short run. Public sector corruption weakens the institutions but as the institutions take longer time to change so corruption will also negatively affect private investment in long run.

iii. Diagnostic Tests

Cointegration analysis assumes that the preferred dynamic model satisfies the number of diagnostic tests. Breusch Godfrey LM tes for checking Autocorrelation, Engl's 1982 ARCH LM Test is used for Hetroscadasticity and JarqueBera test of Normality.

$R^2 = 0.667587$ $\bar{R}^2 = 0.656124$ DW = 2.3019

JarqueBera test of Normality $\chi 2_{(2)} = 0.4204(0.810)$,

Breusch Godfrey LM test of Autocorrelation [χ2 (1) = 0.05481 and χ2 (2) = 0.0643] Engl's 1982 ARCH LM Test for Hetroscadasticity [χ2 (1) = 0.8131and χ2 (2) = 0.9116] The dynamic model (5.6.2) is diagnosed through the residuals of the model. Firstly, the normality is tested; the chi-square value of JarqueBera test is 0.4204 which tells us that the residual are normally distributed as the null hypothesis is not rejected. Then the serial correlation of the residuals is tested by LM test as [χ2 (1) = 0.05481 and χ2 (2) = 0.0643]which shows that null hypothesis is not rejected so no problem of serial correlation. The residuals also have equal spread of variance as Engl's 1982 ARCH LM Test for [χ2 (1) = 0.8131and χ2 (2) = 0.9116]. The values of $R^2$and adjusted $\bar{R}^2$ are 66% and 65% which shows the goodness of fit of the model respectively.

In equation (5.6.2), the ECM term is significant and negative which is according to the theory.

As the negative sign of ECM term confirms adjustment towards equilibrium. So the value of ECM term indicates that error is correcting with the speed of 69% in one year. The significance of this term also ensures the long run relationship between the variables.

In equation (5.6.2) the dummy=2007 has positive and significant impact on private investment in the short run. Global financial crises of 2007 had badly effected the Private investment. Pakistan's current account balance deteriorated due to global financial crisis, additionaly worst energy crises and poor law and order results in investment decline (Haq, Khan and Parveen, A. 2014).

Finally, the stability of the dynamic model is tested by utilizing the CUSUM and CUSUMSQ test (Brown et al, 1975). The figure 5.6.1 and 5.6.2 show that there is no structural instability and residual variance is also stable during the analysis period as CUSUM and CUSUMSQ remain within the 5% critical bound.

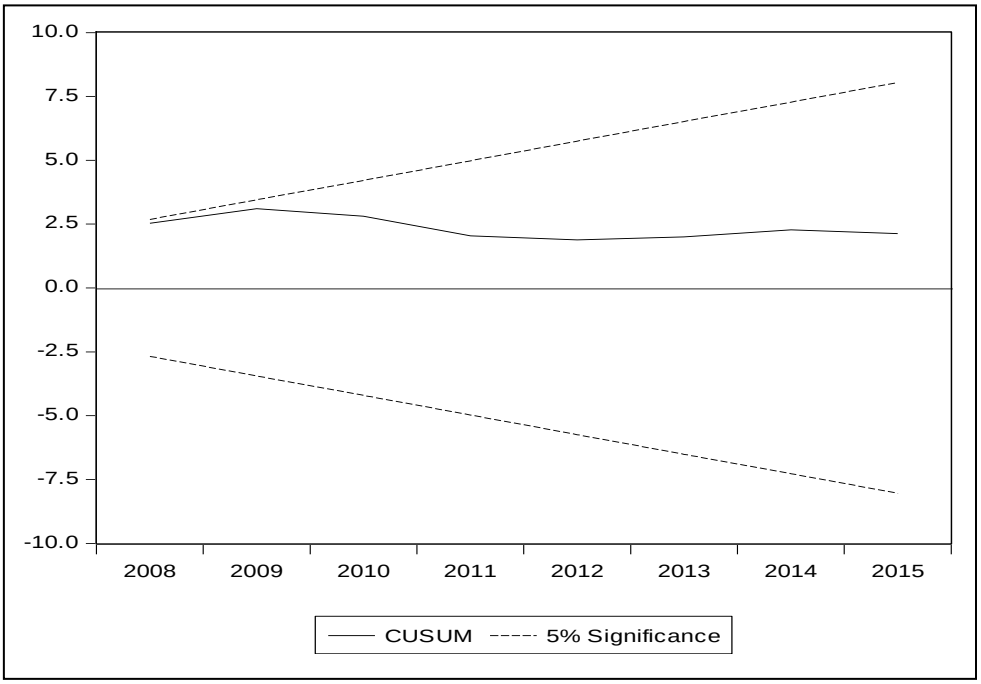

Figure 2. CUSUM of Mean Stability for Private Investment

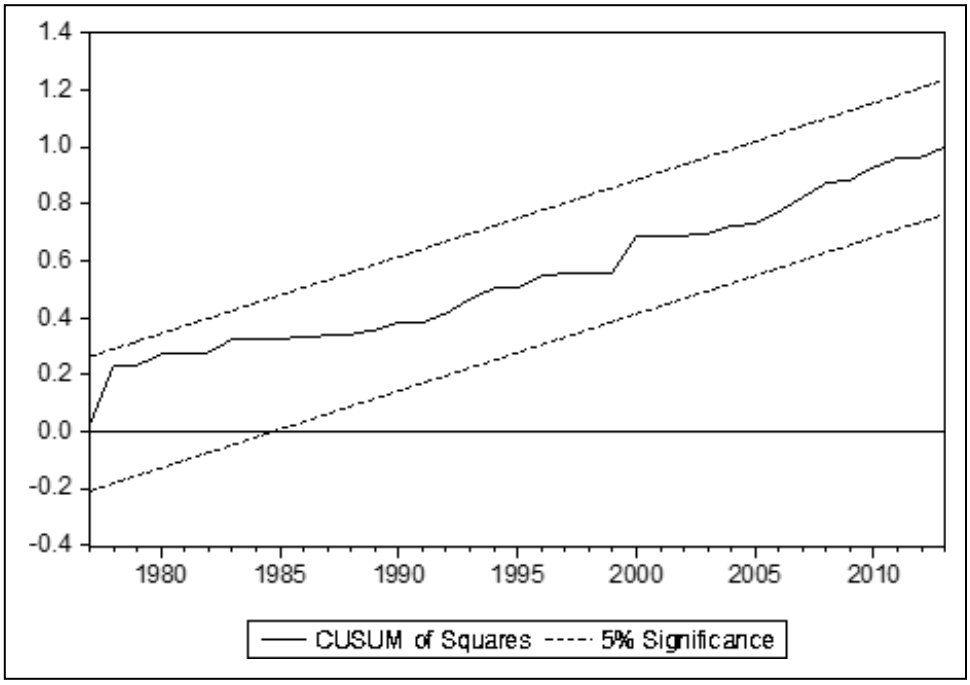

Figure 3. CUSUMSQ of Variance Stability for Private Investment

5. Conclusion

In this study we have examined the relation between private investment, budget deficit, GDP and corruption in case of Pakistan. Although many studies have worked over the determinants of private investment in case of Pakistan, but the impact of non economic factors such as corruption over private investment in the country has rarely been empirically tested. For this purpose Johansen and Juselious(1990) method has been used to check the cointegration between the variables. Using annual time series data for the period 1984 to 2015 the long run ans short run relationship has been examined. The results of the study reveal that there exists positive relation between GDP and Private investment. The Deficit in budget leaves negative impact over private investment in Pakistan. The impact of budget deficit over private investment depends over the ways of deficit financing adopted by the government. If government adopts public borrowing to finance the deficit it may raise the interest rate and thus private investment crowds out. Corruption for which index of ICRG is used exerts highly significant impact over private investment in case of Pakistan. Lack of governance, poor institutional quality and corruption among the public sector discourages the private investment.

6. Policy implications

On the basis of conducted study results, following policy implications have been formulated. There is a need to adopt strict fiscal measures to reduce or cut all unnecessary and unhealthy government expenditures. Strict and uniform policy needs to adopt for Revenue collection. This may reduce the size of deficit. In case of

Pakistan its true to quote that 'we are raising debt to repay debt'. This results in persistent deficit in budget so efforts should be done to reduce reliance over debt.

There is a serious need of the time to adopt strict national corruption control policy. Government is responsible to create environment conducive for private sector investment. Improvement in governance, better institutional quality and particularly control of corruption practices among public sector officials will generate investor confidence. This is highly desirable for the long term economic growth of the country. Finally, by analyzing the role of corruption and persistent budget deficit on private sector investment, this study will prove to be helpful for policy makers while formulating investment policies in Pakistan.

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