The Lighthouse Journal of Social Sciences, Vol. 01, Issue 01, Summer 2022, pp. 12-21

Budget Deficit and Private Investment: An investigation to Pakistan's Economy

Sareer Ahmad[1], Ihsanullah Hussain[2], Majid Ali[3], Sameed Hussain[4]

ABSTRACT

The study scrutinizes the nexus between business freedom, budget deficit, and remittances that crowding-out or crowding-in private investment in Pakistan over the period of 1991 to 2015. The data has been taken from Pakistan Bureau of Statistics, the State Bank of Pakistan, and the World Bank. The sample size taken in the study is 25 as the entire variable met the assumptions of the model. The Ordinary Least Square (OLS) approach has employed for empirical analysis. The focused objective of the study has to find out whether deficit, business freedom and remittances budget positively or negatively affect private investment. The researcher has used budget deficit, business freedom and remittances as explanatory variables and private investment as the dependent variable. The conclusion of the present research study depicts the negative linkage between budget deficit and private investment. In contrast, business freedom, and private investment depict a positive relationship between them. Hence, from the evidence of the study, the researcher investigated that there exists both crowed-out and crowed-in effect between private investment.

Keywords: *Crowd-out, Ordinary Least Square, Private investment, Budget deficit, Business Freedom*

INTRODUCTION

The difference between fiscal spending and private investment reflects the volume of private investment which is an important subject of inquiry and discussion (Othuon, 2013), fiscal spending proved to be responsible for economic fluctuations both in developed and less developing economies across the globe. Karanikolos et al., (2013) examines the financial crisis of 2007-08 where a finding of fiscal deficit effect by the financial crisis of America, England and other European countries prompted the government to take strict measures to reduce fiscal spending to close the gap between fiscal spending and revenues. Lin (1994) on the other hand highlights that some necessary paths can be adopted to rise the growth that as public goods and infrastructures, social services, and targeted interference such as export subsidies.

Moreover, the phenomena of fiscal deficit and COE (crowed-out effect) on private investment suggests that when the economy goes through constant fiscal spending then private investment decreases hence resulting in a crowding-out effect. Chakraborty et al., (2006) thousands of private businesses in developed countries showed a result of the financial recession confusion in 2007 and 2008. The increasing existing current account and the deficit of the balance of payment, rising inflation rates, increasing the burden of external debt, and

[1] School of Economics, Quaid I Azam University, Islamabad, Pakistan, **Corresponding Author's Email: sareer@eco.qau.edu.pk**
[2] Department of Economics, University of Peshawar, KP, Pakistan, Email: lk8604202@gmail.com
[3] Department of Economics, Hazara University, Mansehra KP, Pakistan, Email: majidsikandari@gmail.com
[4] School of Economics, Quaid I Azam University, Islamabad, Pakistan., Sameedhussain.sh@gmail.com

Manuscript Submitted: May 05, 2022
Manuscript Accepted: June 10, 2022

declining growth rate stressed policymakers to modify advance strategies contrary to extensive government involvement and further towards the market for allotting and utilizing the capitals alongside the increasing private sector role.

In Pakistan's economy, the role of the private sector is certainly substantial not only as a foremost manufacturer of goods and services but the important funder in outlay and the highest owner. Its reputation can be determined from the statement that according to one assessment its influence on total Gross Domestic Product is approximately 19.206% of the world development index. When the undocumented casual economy (private sector) is taken into the description, its influence on Gross Domestic Product surpasses furthermore. In the era of 1970s, Pakistan implemented a strategy that endorsed a larger role of the unrestricted sector which stemmed in public sector investment exactly double as compared to private sector. This enlargement brought a change in the administration's role in investment activities united with its hitches in floating profits or cutting down disbursements, resulting in a high overall financial plan shortfall in contrast to the scope of the different economies. Since fiscal deficit tendency has sustained instead the change in government policies in the 1980s and headlong.

The fiscal deficit and its crowding-out impact on private investment are being devastated to a large extent by the government policies. Against this, Keynesian economists advocate the crowding-in impact when the government practices fiscal deficit as they believe that budget deficit increases the country's domestic production or local production, it inspires business activity to invest more Saulawa et al, (2012). While the Ricardian equivalence theory is against the two preceding theories by explaining that government deficit does not affect macroeconomic conditions. To the facts from the budget deficit theories, it is highly controversial whether fiscal deficit has a crowding-in or crowding-out effect, yet it was universally agreed among economists and officials to recommend fiscal policy as a strong anti-recession tool in the recent financial crisis Paiko et al, (2012).

This indirectly authorizes the Keynesian theory up to a greater extent as fiscal policy in the outcome of recent financial recession which strongly advocates monetary policy favorable to private investment Kaya et al, (2014). But this can only be true when government increases its capital expenditure which covers the way for private investment (Sen& Kaya, 2014) and pushes the economy from recession to an expansionary phase as a result of eliminating the lack of private-sector spending. Even if this results in the demand for loanable funds and moves the interest rate in an upward direction, it will not result in a crowding-out effect due to the assumption of lower interest elasticity of private investments Arica et al, (2013). In such a situation it becomes important to study the numerous aspects of fiscal policy; especially when there is a lack of adequate empirical proof.

It is important to know which taxes should be increased and which elements of the expenditures should be restricted to inspire growth prospects in the country. To explore the phenomenon that whether Budget deficit, Business freedom and Remittances have a crowd-in or crowd-out effect, this work aims to empirically examine it in case of Pakistan. Objective of this study, is to find out whether there exists any relationship between Budget deficit, Business freedom and Remittances on Private Investment or not?

LITERATURE REVIEW

Chakraborty., (2006) explored that budget deficit and capital formation crowd out India’s private sector investment in the period of 1970 to 2003 by estimating Vector autoregressive (VAR) model. The finding shows that interest rate is sensitive and private capital formation in turn; the increase in the real rate interest is induced by the budget deficit. Hence, it is concluded that crowd-in caused through budget deficit.

Javid and Arif (2009) studied the dynamic impacts of changes in government spending for the period 1971 to 2008 in Pakistan by using the VAR model. Their findings show that the shocks of expansionary fiscal policy improve the trade balance and downgrade the exchange rate. It shows that there is both crowd-in and crowd-out impact between PI (private investment) and governments' expenditure.

Khan and Gill (2009) explored the crowding 0ut effect of govt. borrowing for the period of 1971 to 2006 in Pakistan by using the ADF (Augmented Dickey-Fuller) model. The findings of the study indicate that to hide unnecessary inflation and external debt related to fiscal financing the government needs to focus on internal sources which will lead to crowding in effect.

Basar, et al., (2011) explored the crowd-out effect of FD (Fiscal deficit) on PI (private investment) in Turkey by using time series date during 1976 to 2006 by using the Co-integration model. The results show that transfer payments and government expenditure having positive effect on PI (Private investment) in another view crowd-in hypothesis while fiscal spending has a crowd-out impact on PI (Private investment). The current results show that there is a crowding-in effect on PI (Private investment).

Fatima (2011) explored the connection between private investment and fiscal deficit for the period 1980-2009 by using the Two-stage least squares (2-SLS) model. The finding shows that effective macro-economic tools are directly seen to set the way for growth led employment and poverty elevation. It shows that there is a crowding-out impact on the economic growth of a country.

Oyieke (2011) explored the impact of fiscal deficit on private investment during1964-2006 in Kenya by using VAR (Vector Autoregressive) model. He concluded that internal debts crowd out the PI (Private investment). Therefore, the researcher suggested that government could decrease the dependency on internal debt to finance the fiscal deficit. Moreover, the result also appeared to the crowding out effect on PI (Private investment).

Thus, the government should decrease its dependence on internal borrowing to finance the fiscal deficit. Moreover, the results appear to have a crowd-out effect on private investment.

P, Kweka and Morrissey (2000) evaluated a research study to explore the economic growth and fiscal deficit and took time-series data from 1965 to 1996 by applying the Co-integration model. They found that total expenditure productivity appears to have the worst impact on economic growth. While on the other hand, consumption expenditure has effects on growth is positive. So, the findings have both crowd-in as well as a crowd-out effect between fiscal deficit and economic growth.

Asghar, et al., (2011) explained the impact of fiscal deficit on economic growth for the period of 1974 to 2008 in Pakistan by using Co-integration techniques. They found that government expenses on subsidies should be slowly decreased and law and order expenditures must be re-allocated for maintaining the law-and-order situation inside the country. So we concluded that there is a crowding-in impact between fiscal spending and economic growth.

Paiko (2012) explored deficit financing and its effect on private investment for the period 1972 to 2009 by using the ordinary least square (OLS) model. He found that government needs to redirect its expenditure that would favor the private investors by demotivating over government expenditure and maintaining a lower fiscal deficit. The current study shows that there are crowd-out impacts on private investment.

Bello et al., (2012) examined the crowding-in or –out, budget deficit and private investment for the period of 1997 to 2009 in Nigeria by using a multiple regression model. The results suggest that the influence of macroeconomic management be ensured to pillow the adverse effect of increasing inflation on private investment. So finally, we concluded from the above paper that there is a crowding-out impact of rising inflation in private investment.

Fatima et al., (2012) asserted the effect of fiscal deficit on growth for the period of 1978 to 2009 in Pakistan by using a regression model. They found that the significance of variables has been checked which shows that inflation rate; foreign direct investment and government expenditure have a positive impact on GDP. It shows that there is the crowd-out effect of budget deficit on economic growth.

Ezeabasili and Nwakoby (2013) analyzed fiscal spending and private sector investment in Nigeria for the period 1970 to 2006 by using the Co-integration model. The findings show that fiscal deficit hurts private investment. On the other hand, an increase in fiscal spending leads to a decline in private investment. So, the findings show that there is a crowding-in as well as a crowding-out impact on private investment.

Odhiambo et al., (2013) analyzed the relationship between budget deficit and private investment for the period of 1970 to 2007 in Kenya by using OLS (Ordinary least squares) method. The finding shows that there is a positive relationship between growth and fiscal deficit. While, on the other hand, revenue collection of revenue does not cause crowd out of the private sector through internal borrowing so the results show that there is a crowding-in situation with the budget deficit and private investment.

Ener et al., (2013) asserted the effect of public and private investment on sectorial output in the context of turkey for the period of 1998 to 2012 by using panel data. They found that both the effects of public and private investment have direct impact on country growth and finally there is the crowding-in effect on economic growth.

Tsegaya et al., (2013) did work in examining that budget deficit crowded out private investment for the period of 1994 to 2009 for the case study of South Africa by using the Vector autoregressive (VAR) model. They found that budget deficit caused by public consumption crowds-out private investment.

O-apere., (2014) Analyzed the impact of Govt. debt on private sector investment for the period of 1981 to 2012, in Nigeria by using OLS regressions. He explored the effect of internal loans on private investment has a positive impact while foreign debts have also a positive impact. So therefore, there is crowd-in effect over private investment.

Shetta and Kamaly., (2014) Explored that fiscal deficit crowds out private sector investment in the banking (commercial) sector for the period of 1970 to 2009, in Egypt by using Vector Autoregressive (VAR) model. The results show that output positively affects the willingness of the commercial banking sectors to expand credit to both private and public sectors and finally, fiscal deficit has a crowding-in effect over the banking sector.

Eminer., (2015) analyzed the effect of deficit budget on economic growth during the period of 1983 to 2010, in North Cyprus by using the ARDL model. He argued that the size of government spendings make both productive and nonproductive expenditures. The budget deficit is a key instrument of growth and hence it is concluded that there is a crowding-out effect over economic growth by budget deficits.

Tugcu and Coban., (2015) analyzed that whether budget deficit crowd out or crowd-in private sector investment for the period of 2000 to 2012, in turkey by using ARDL technique. The study find out that fiscal deficit directly affects private sector investment in the sample panel and, implies that expansionary fiscal policy promotes private investment by expanding economic activities. The study concluded that there is crowd in effect between deficit budget and private investment.

Rehman *et al.*, (2015) analyzed the effect of fiscal deficit over private investment for the period of 1974 to 2010 in Pakistan by using Co-integration analysis. They found that law and order, subsidies and government spending are adversely related to growth. Moreover, the public expenditures on subsidies must be decreased slowly and provide education and training facilities to employees concerned with the maintenance of law and order. The finding shows that there is both a crowding-in and crowding-out effect on private sector investment.

Bahal et al., (2015) asserted that crowd -in and crowd-out public and private investment in India for the period of 1996 to 2015 by using the Structural Vector Error Correction (SVECMs) Model. They concluded that public capital accumulation crowds out private investment and hence, the results show that fiscal deficit crowd-out private as well as public investment in India.

Samwel, (2016) explored that fiscal deficit crowd out the private investment (PI) for the period of 1970 to 2012 in the context of Tanzania by using the Co-integration model. The study concluded that fiscal deficit considerably crowds out private investment. Government should reduce the budget deficit that would support private investors and hence, it is concluded that crowding out effect exist between fiscal deficit and PI (private investment).

Research Gap

The study analyzed the effect of deficit budget, Business freedom and Remittances on PI (private investment) in Pakistan. In this current study, many researchers worked on this topic but in the case of Pakistan, there is taken no study to sign that budget deficit, business freedom and remittances which crowd out or crowd-in PI (private investment) during the period of 1991 to 2015. So on this topic, the current period is missing and we selected this period or era. Moreover, we have added new variables which were not used earlier which are business freedom and remittances.

DATA AND METHODOLOGY

Secondary data has been used for analyzing this study which has been collected from different sources. The study focusses to design a comprehensive methodology with the purpose to get the best results. According to the research topic, the researchers focused on Pakistan, which is the selected area for this research. Therefore, data was collected in the context of Pakistan. The key sources from which the data has been taken from Pakistan Bureau of Statistics (PBS), State Bank of Pakistan (SBP) and World Bank during the period 1991-2015. Ordinary Least Square (OLS) method has been used for estimation of the data.

Model Specification

The following is the functional form of the model used in this study. The key variables used in this study are private investment, budget deficit, remittances and business freedom.

PI = f (BD, RM, BF, Error Term)

Econometric Model for Data Analysis

$$PI_t = \gamma_0 + \gamma_1 BD_t + \gamma_2 RM_t + \gamma_3 BF_t + \mu_t \dots\dots\dots\dots\dots\dots\dots\dots\dots..(i)$$

Whereas;

"t" indicates the number of years or the time.

- PI: Indicates the total Private Investment or the gross capital formation in Pakistan Economy.
- BD: The difference between government revenue and expenditure during a fiscal year is called budget deficit or fiscal deficit.
- RM: It indicates the amount of money which is received by a country in a given year sent by the migrant working abroad.
- BF: An overall indicator of the efficiency of government regulation of business derived from an array of measurements of the difficulty of starting, operating and closing a business.

Data

YEARS	PI	BD	BF	RM
1991	$2.95	-553%	55	$21.16
1992	$3.01	-583%	58	$21.18
1993	$3.04	-658%	61	$21.09
1994	$2.97	-538%	64	$21.28
1995	$2.92	-528%	55	$21.26
1996	$2.94	-660%	55	$20.97
1997	$2.89	-673%	55	$21.26
1998	$2.87	-564%	55	$20.88
1999	$2.75	-554%	55	$20.72
2000	$2.85	-409%	55	$20.80
2001	$2.83	-375%	55	$21.10
2002	$2.81	-286%	55	$21.99
2003	$2.82	-288%	70	$22.10
2004	$2.81	-195%	70	$22.10
2005	$2.95	-320%	70	$22.18
2006	$2.96	-392%	72	$22.36
2007	$2.93	-392%	72	$22.51
2008	$2.96	-716%	71	$22.67
2009	$2.87	-459%	73	$22.89

2010	$2.76	-499%	72	$22.99
2011	$2.65	-640%	71	$23.23
2012	$2.71	-801%	70	$23.36
2013	$2.71	-523%	71	$23.41
2014	$2.71	-655%	70	$23.33
2015	$2.71	-660%	70	$23.37

Source; World Development Index

DISCUSSION AND ANALYSIS

The results were obtained by using the (OLS) method for finding the effect of budget deficit on private investment.

Table-1: Regression Results

Dependent Variable: PI
Method: OLS(Ordinary Least Square) Method
Sample: 1991-2015

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.258812	2.653810	3.112058	0.0060
BD	-0.033437	0.015800	-2.116265	0.0032
BF	0.011635	0.001267	9.183109	0.0000
RM	1.725750	0.864694	1.995792	0.0613

R-squared	0.712127	Mean dependent var	2.863387
Adjusted R-squared	0.616170	S.D. dependent var	0.105754
S.E. of regression	0.065519	Akaike info criterion	2.348749
Sum squared reside	0.077270	Schwarz criterion	2.007464
Log-likelihood	36.35937	Hannan-Quinn criteria.	2.254091
F-statistic	7.421270	Durbin-Watson stat	2.050328
Prob(F-statistic)	0.000410		

Source: (Author own findings by using simple OLS techniques)

Table 1 explained the results obtained through OLS. R-square value is 0.712%, which shows how many variations occur in our dependent variable due to the independent variables which are budget deficit, business freedom and remittances, or how many variations in private investment are explained by the explanatory variables. In the current findings, around 71 units of the variations independent variable are caused jointly by the budget deficit, business freedom, and remittances. Likewise, 29 units of the variation are caused by the error term which is not taken explicitly in the model.

To check whether the currently used model through OLS is statistically significant or not. This study employed F-statistics. The value obtained depicts that the model used in this study is statistically significant. To test the model for the possible problem of auto correlation, we employed Durbin-Watson (D-W) test, the value falls in the area where no Auto-correlation exists in the model such that it is free from the auto-correlation problem. The value of DW is 2.05. Moreover, according to the findings, there is an adverse connection between deficit budget and PI (Private investment).

The difference between budget deficit and private investment is verified by the results. If there is a 1 unit rise in the budget deficit causing private investment to decrease by 3 units, it indicates that crowd-out effect exist between deficit budget and PI (Private investment).

Findings of the current study are consistent or similar to the earlier outcomes of (Fatima, 2011), (Oyieke, 2011), and (Paiko, 2012). However, the current results are opposite to the findings of (Chakraborty, 2006), (Asghar et.al, 2011), and (Ener et.al. 2013). If there is a 1 unit change in business freedom it will change private investment by 1 unit which indicates the crowd out effect between business freedom and PI (private investment). While the effect of remittances is not quite effective, therefore it is insignificant. Keeping other variables constant, the average change in private's investment is 8.25 units.

Table-2: Descriptive Statistics:

	BF	BD	RM
Mean	49.69364	-5.096772	3.361136
Median	50.00000	-5.380000	3.095383
Maximum	70.00000	-1.950000	7.108441
Minimum	30.00000	-8.010000	3.031066
Std. Dev.	13.57541	1.569746	0.991086
Skewness	0.329053	0.317191	3.290522
Kurtosis	1.859654	2.209606	11.96948
Jarque-Bera	1.950178	1.155559	1.237819
Probability	0.377159	0.561143	0.389066

Source: (Author own findings by using simple OLS techniques)

Table 2 shows the results of the descriptive statistic, the average value of business freedom is 49 followed by a budget deficit which is -5.0 and remittances are 3.3. Maximum and minimum values show the range of the data and from the above results the maximum value of business freedom is 70 and minimum value is 30 tailed by budget deficit which is -1.9 as its maximum value and minimum value -8.01 while the maximum value of remittances is 7.1 and its minimum value is 3.0. The standard deviation shows fluctuations in the data and from the obtained results we can see that there is more volatility in the business freedom tracked by the budget deficit and remittances. The value of Jarque-Bera shows the normality of the data as its values are insignificant which shows that the data is normally distributed.

CONCLUSION AND RECOMMENDATIONS

This study is based on the association between budget deficit, business freedom and remittances, which crowd out or crowd in Private investment (PI) in context of Pakistan for the period of 1991 to 2015. The main purpose of this research was to find out whether budget deficit, business freedom, and remittances having positive or negative impact on private investment. The conclusion of this study revealed that relationship exist between budget deficit, business freedom and remittances over private Investment (PI) in Pakistan. The researchers have used budget deficit, business freedom, and remittances as explanatory variable while PI (private investment) as explained variable.

The conclusion of this study suggests that budget deficit is negatively related with private investment. The results supported the findings of (Fatima, 2011), (Oyieke, 2011), (Paiko, 2012). In contrast the positive relationship exist between business freedom and private investment supported by the earlier findings (Chakraborty 2006), (Asghar et.al, 2011) and (Ener et.al, 2013) while the remittances do not significantly affect private investment, which is insignificant. Hence, from the above results, it is concluded that there is both crowd-in as well as crowd-out effect on the private investment.

As it is observed that there exists negative relation between budget deficit and private investment. Therefore, the government needs to design its policies in such a way that controls the budget deficit to avoid the negative effect on private investment. Moreover, business freedom is an important factor, and the government needs to increase business freedom, which will promote private investment as well as foreign direct investment (FDI).

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