ROLE OF KEY MACROECONOMIC VARIABLES IN FISCAL DEFICIT

The Role of Key Macroeconomic Variables in Fiscal Deficit of Pakistan: An Empirical Analysis

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Abstract

The present study aims to explore some of the important factors contributing to the fiscal deficit in Pakistan. *GDP* per capita, total debt servicing as percentage of *GDP*, volume of trade as share of *GDP*, and monetary asset *(proxy for money supply)* as share of *GDP* are considered major factors affecting fiscal deficit in Pakistan. The period taken for analysis ranges from 1976 to 2009. The study applies ADF and Phillip Perron tests to investigate stationarity; Johansen Maximum Likelihood technique to explore the existence of long run relationship among the running actors of the study, Fully Modified Ordinary Least Square Method to estimate the long run coefficients., Error Correction Mechanism to inspect the short run coefficients and finally, Granger Causality test to investigate the direction of causality among the operating variables of the present study for Pakistan. The empirical evidence shows that *GDP* per capita and money supply are significantly squeezing fiscal deficit in Pakistan in both the short run and long run span of time. The total debt servicing lagged by one year declines fiscal deficit in the long run. However, volume of trade; total debt servicing and time trend are positively and significantly contributing to the fiscal deficit in Pakistan in the both long run and short run time span. Moreover; the empirical findings report that there exists univariate Granger causality from fiscal deficit to *GDP* per capita, from fiscal deficit to money supply, from volume of trade to.*GDP* per capita, and from money supply to *GDP* per capita. Finally, the present study diagnoses the existence of bivariate Granger causality between volume of trade and fiscal deficit in Pakistan.

Keywords: Fiscal Deficit; Real GDP per capita, Total Debt Servicing, Volume of Trade, Money Supply, Augmented Dicky Fuller, Phillip Perron, Johansen Maximum Likelihood, Fully Modified Ordinary Least Square, Error Correction Mechanism, Granger Causality.

1. Introduction

Fiscal Imbalance is among one of the prime macro economic problems for all the policy advisors of the world. The self esteemed is among the core objectives of economic development. If it is violated then a country cannot achieve economic development. If a country experiences fiscal deficit in its budget then to finance it, a country has to rely on the both domestic and foreign borrowings which ultimately declines the self respect of the country as whole and citizens of the country as well. Therefore, a country has to keep balance between its expenditures and income so that it could protect the objectives of economic development in the state. A rise in public expenditure as compared to public revenue entails many implications on the functioning of the economy. There has been persistent rise in fiscal deficits in most of the developed and developing countries. High fiscal deficit poses a major challenge to developing countries. As far as the meanings of fiscal deficit are concerned different terminologies have been used in economic literature for the budget deficit. The most commonly used terminologies are primary deficit, conventional deficit and operational deficit. Conventional deficit is primary deficit augmented by interest payments on both domestic and foreign debt while operational deficit equals conventional deficit which has been adjusted for inflation (Agenor and Montiel,1999). The present paper refers to primary deficit that means a difference between government revenue and expenditure. Fiscal deficit problem arises because of excessive public expenditure over public revenue. In developing countries a rising public expenditure is justified on the basis of the economic development targets to be achieved. For example, the famous Wagner law propagates the rising public expenditure due to the industrialization process of the country. Based on the Wagner law, Peacock and Wiseman (2011) also justified the increase in public expenditure mainly because of the economic development, and welfare of the people.

Pakistan has been experiencing fiscal deficit problem for the last many years. For example in 1992-93, budget deficit was 9.5 per cent to GDP which was more than twice in 1989-90. The fiscal imbalance widened from 5.3 percent of GDP in 2008-09 to 6.3 per cent in 2009-10(Pakistan Economic Survey, 2010-2011). Generation of additional revenue was restricted mainly because of the weaker economic activity for the last many years. Tax-to-GDP ratio has been the lowest in Pakistan as compared to other developing countries. It has remained on average 9.2 per cent since 2000's as compared to around 15 percent in Sri Lanka and 16 per cent in India. Total expenditure and total revenue composition remained nearly stagnant since 1990's and the shocks are absorbed by development expenditure that is also the lowest among developing countries at the same development level. Total development expenditure has also shown a declining trend since 2007-08. Different internal factors have been stressing the fiscal balance. For example, large additional subsidies to the electricity sector and the catastrophic floods during summer 2010 put heavy pressure on the fiscal budget. Higher fiscal deficit has made Pakistan dependent on foreign debt which has been accumulated in absolute and relative terms. Total external debt and liabilities averaged around 30 percent of GDP since 2004 (Pakistan Economic Survey 2011-12). Because of the serious debt problems, Pakistan has witnessed deterioration in investment rate, economic growth, and the rise in the incidence of poverty. Looking at the grim situation of the fiscal imbalance the question arises what are the likely factors contributing towards the fiscal deficit in Pakistan?

The primary objective of this paper is to determine the factors enhancing the fiscal deficit in Pakistan. An effort is to be made to establish the link of fiscal deficit among the key macroeconomic variables. The paper is organized into different section. Section2 is the compendium of the literature to the related subject. Section 3 explains data selection,

methodological framework . Section 4 discusses the results. Finally section 5 concludes the findings of the study and suggests some policy implication.

2. Literature Review

Economic literature is full of the discussion of the fiscal imbalances from different perspectives. Some theories talk about the fiscal consolidation while others relate fiscal deficit to the debt-gdp ratio. The impact of fiscal deficit on other macroeconomic variables has been also discussed. For example, Ahmed (2007) in her study found the strong impact of fiscal deficit on inflation in Pakistan. Her results show that in the long run a 1% increase in fiscal deficit led to a 0.447% increase in seigniorage which in turn resulted in a price hike of 0.5156%. Agnello and Ricardo (2009) empirically assessed the sources of public deficit by focusing on political, institutional and economic determinants. They used panel data for 125 countries for the period of 1980 to 2006. Their results depicts that a higher level of political instability and inflation led to an increase in public deficit volatility. Alesina and Perotti (1995) and Persson and Tabellini (1997) find the political system as determining the volume of the public deficit. According to them the countries with proportional rather than majoritarian and presidential electoral system, countries with coalition governments and frequent government turnovers, and the countries with lenient rather than stringent budget processes face larger deficits and debts. Alesina and Perotti (1995). Woo (2003) emphasized on the role of political factors, social polarization, and institutional factors in determining fiscal deficit of a country. Leachman et al (2007) show that with strong budgeting institutions fiscal performance becomes better. Chaudhary and Ahmed (1995) examined the relationship between fiscal deficit, money supply and inflation in the case of Pakistan. They found the long run relationship between budget deficit and money supply. Within the background of the literature review the present study discusses the fiscal balance issue from

another perspective. Contrary to earlier studies where the impact of fiscal deficit on different variables has been estimated, the present study identifies different variables affecting fiscal deficit and establishes the relationship among these in the case of Pakistan.

3. Data Source and Methodological Framework:

3.1. Data Source

The data[1] on Fiscal Deficit, Per capita GDP, Total Debt Servicing, Volume of Trade and M2 (taken as proxy for money supply) is obtained from the various volumes and issues of economic survey of Pakistan. The data on all variables is expressed as a percentage of GDP in real terms. The data is of 33 years and covers the period from 1976 to 2009.

3.2. Methodological Framework

Log linear modeling specification is applied in the present study. The earlier researches investigate that the results computed through linear form approach are not significant and consistent; thus, in order to control the size of the data, it is suggested to use the log linear methodologies which are considered superior to the linear form and produce significant, consistent and reliable results (Ehrlich, 1977, Layson 1983). Bowers and Pierce (1975) opine that the results are sensitive if they are calculated via functional form method. Additionally, Cameron (1994) and Ehrlich (1996) suggest that log linear form is more likely to find deterrent effect than the linear form. This leads to construct log-linear model as given below:

$$LFDt = \beta_{10} + \beta_{11}T + \beta_{12}LGDPPCt + \beta_{13}LTDSt + \beta_{14}LTRt + \beta_{15}LM\,2t + \varepsilon_1 \quad \textbf{(3.1)}$$

[1] The data on all the variables is available on the special request from the authors.

Whereas,

***FDt* = Fiscal Deficit as share of GDP**

***GDPPCt* = Real GDP Per capita**

***TDSt* = Total Debt Servicing as share of GDP**

***TRt* = Volume of Trade as Share of GDP**

***M2t* = Monetary Asset as share of GDP (Proxy for money supply)**

3.3. Variables and Hypothesis

Fiscal Deficit is obtained by taking the difference between government total expenditures and government total income as a ratio of the real GDP for the period of 1976 – 2009.

Real GDP per capita as a proxy for economic growth is obtained by dividing the Real GDP on the Population. Policy suggestion department always targets to achieve its desirable rate of economic growth in order to avoid various macro economic problems such as fiscal deficit, unemployment, poverty, inflation and capital flight etc. It is expected that the real GDP per capita plays a vital role to reduce fiscal deficit in Pakistan.

Total Debt Servicing as share of GDP is obtained by taking the ratio of the total debt servicing to the real GDP. This variable shows that if country is heavily paying its debt along with the interest then government of the state has less amount available with it in order to invest on infrastructure, social sector development, and to address real macro economic problems like inflation, unemployment, low rate of economic growth and trade imbalance etc. It is expected that if the amount of total debt servicing is increasing as a result government of the country will have less amount left for development programs.

Volume of trade as share of GDP is taken by taking the ratio of the volume of trade to the real GDP. Also the volume of trade is obtained by taking the sum of exports, re-exports, imports and

re-imports. Volume of trade as share of GDP usually has negative impact on the fiscal deficit in the countries where the volume of exports of a country is higher than the volume of imports. However, in case of Pakistan, it is anticipated that the volume of trade as percentage of GDP will have positive impact on the size of fiscal deficit. The reason is that the volume of exports is less than the volume of imports in Pakistan. Therefore, low foreign exchange earnings are contributing less to the income of the government, and payments against the imports are increasing the government expenditures. As a result fiscal deficit will increase with the increase in trade volume.

Monetary asset as share of GDP is also considered as the determinant of fiscal deficit in Pakistan. It is obtained by dividing the monetary asset on the real GDP and it is used as proxy for money supply. It is anticipated that monetary asset as share of GDP will increase fiscal deficit in Pakistan via its impact on inflation.

3.4. Estimation Technique

The stationarity of the data in the present study is checked by applying Phillips-Perron and ADF tests; once it is confirmed that the data is stable, the next step is to find out Lag Length for investigating the long run association among Fiscal Deficit and all factors taken into study. Johanson Maximum Likelihood Approach is applied to inspect the long run relationship among the variables if the order of integration becomes same. The following steps are followed for further analysis:

3.4.1. Computing Stationarity

Phillips and Perron (1988) formulated various tests to investigate the stationarity of the running actors of any study which became famous in the investigation of financial time series. The method to handle the illness of serial correlation and hetroskedasticity which exist in error term

of the model of Phillips-Perron (PP) test is superior to ADF. The PP test ignores the existence of serial correlation. In addition to PP test, the present study also applies ADF test to scrutinize the existence of unit root problem in the variables. The ADF test considers a parametric auto-regression to approximate the ARMA structure of the errors in the test regression. PP test is based on the following equation:

$$\Delta Y_t = \beta_0 D_t + \pi Y_{t-1} + u_t \qquad \textbf{(3.2)}$$

The following equation exposes ADF test:

$$\Delta Z_t = \sum_{i=1}^{p-1} \Pi_i \Delta Z_{t-k} - \partial Z_{t-k} + \alpha_1 + \alpha_2 T + \varepsilon_t \qquad \textbf{(3.3)}$$

Where u_t is I(0) and is expected to be heteroskedastic. The PP test is basically applied to eradicate the ills like serial correlation and heteroskedasticity and this treatment will ultimately improve the significance of error term u_t. This test is also superior to ADF because for applying PP it is not necessary to specify a lag length for the model. It straight away updates the test statistics tπ=0 and T ˆπ. Under the null hypothesis that π = 0. The PP statistics have the same asymptotic distributions as the ADF t-statistic and normalized bias statistics.

The present study applies both Augmented Dicky Fuller and Phillips-Perron (PP) tests in order to remove the random walk which exists in the error term. Lag length is also investigated by using Akaike information criterion (AIC) and Hannan-Quinn Information Criterion (HQ). Table 1 shows the estimated results for both PP test and ADF test and Table 2 reveals the maximum lag length for the present study.

3.4.2. Estimating Cointegration

Johansen maximum likelihood (ML) approach. The objective of this study is to explore the strength of relationship among the running actors of the present study in the long run by applying Johansen maximum likelihood (ML) test. This study contains small number of observations on the one side and on the other side, both explained and explanatory variables have become stationary at first difference. Therefore, Johansen Maximum Likelihood Approach is more suitable for the present study to investigate the existence of long run relation among the regressand and regressors. The literature investigates the existence of long run relationship of the both dependant and independent variables by applying two test statistics such as trace test and maximum eigen value test. The equations for the both tests are given below:

$$\lambda trac = LA - L0 \quad (3.4)$$

and,

The equation of maximum eigen value test is represented in its mathematical form as:

$$\lambda_{\max} = -T \log(1-\hat{\lambda}_{r+1}) \quad (3.5)$$

It is imperative to explore lag length of the model before applying co-integration test. The lag length is selected by the minimum value of Hannan-Quinn information criterion (HQ) and Schwarz Information Criterion (SBC) for the present study. The results for the short run period of time are estimated by applying error correction mechanism approach and the equation for ECM is given as below:

$$\Delta LFDt = \delta_{10} + \delta_{11}\Delta T + \delta_{12}\Delta LGDPPCt + \delta_{13}\Delta LTDSt + \delta_{14}\Delta LTRt + \delta_{15}\Delta LM2t + \lambda ecm_{t-1} + \mu_1 \quad (3.6)$$

4. Empirical Estimation and Interpretation of the Results:

Table 1 represents the descriptive statistics and pair-wise correlations. The running actors of the present study are positively linked to each other and the values of mean and median are in between the range of minimum and maximum values. Also, the probability values of Jarque Bera test are more than 0.1; therefore, the above table concludes that the error term of the model of the present study is normally distributed.

To check the existence of unit root problem, Philip and Perron (1988) and ADF tests are applied .Table 2 shows that all the variables are non stationary at zero order of integration but become stationary at first difference level or order of integration becomes I(1) for all the variables when applied both PP and ADF tests. This gives us a strong justification to apply Johansen Maximum Likelihood Approach to scrutinize the strength of long run association among the both regressand and regrossors of the present study. The maximum lag length has to be examined before to investigate the long run relationship among the variables of the current study. On the basis of the Akaike information criterion (AIC) the maximum lag length for the present study is 2 (Table 3).

Table 1: Descriptive Statistics and Correlation Matrix

	LFB	LGDPPC	LTDS	LTR	LM2	T
Mean	2.551989	8.574010	4.089591	4.117560	-2.367455	17.50000
Median	2.615126	8.314028	4.253773	4.042210	-2.437827	17.50000
Maximum	3.581301	10.41754	5.184755	5.025059	-1.496032	34.00000
Minimum	1.126162	6.346413	2.093101	3.408249	-3.150237	1.000000
Std. Dev.	0.708021	1.297101	0.827380	0.512615	0.497259	9.958246
Skewness	-0.267400	-0.037687	-0.846798	0.377079	0.289893	-2.26E-16
Kurtosis	1.853777	2.220712	2.855561	1.884534	1.902374	1.797922
Jarque-Bera	2.266439	0.868375	4.092930	2.568442	2.182992	2.047071
Probability	0.321995	0.647791	0.129191	0.276866	0.335714	0.359322
LFB	1.000000					
LGDPPC	-0.725705	1.000000				
LTDS	-0.238587	0.742141	1.000000			
LTR	0.686222	-0.185008	0.334551	1.000000		
LM2	0.733181	-0.294020	0.219074	0.958335	1.000000	
T	-0.454860	0.930211	0.830410	0.139664	0.048510	1.000000

Table .2: Unit Root Test (P-P & ADF Tests)

Variables	P-P – TEST At Level		ADF – TEST At Level	
	t – Value	Prob. Value	t – Value	Prob. Value
LFD	-2.221564	0.4627	-2.054939	0.5508
LGDPPC	-2.472715	0.3385	-2.415000	0.3656
LTDS	-2.214873	0.4662	-2.345058	0.3997
LTR	-2.572968	0.2941	-2.497856	0.3270
LM2	-2.884776	0.1800	-2.786360	0.2119
Variables	**P-P – TEST At First Difference**		**ADF – TEST At First Difference**	
DLFD	-4.863278	0.0023	-4.895144	0.0022
DLGDPPC	-5.917187	0.0002	-5.809045	0.0002
DLTDS	-7.934058	0.0000	-7.464282	0.0000
DLTR	-5.663375	0.0003	-5.642339	0.0003
DLM2	-6.350884	0.0000	-5.790437	0.0002

Table 3: VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-60.85616	NA	4.22e-05	4.116010	4.345031	4.191924
1	90.90216	246.6073	1.56e-08	-3.806385	-2.432257*	-3.350900
2	125.4449	45.33735*	9.75e-09*	-4.402806*	-1.883573	-3.567752*

*** indicates lag order selected by the criterion**

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

The existence of long run strength of association among the variables selected in the model is shown in Table 4.

Table 4 Johansen Maximum Likelihood Co – Integration Test

Hypothesized No. of CE(s)	Trace Statistic	0.05 Critical Value	Prob.**	Hypothesized No. of CE(s)	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	143.0033	88.80380	0.0000	**None ***	65.17721	38.33101	0.0000
At most 1 *	77.82611	63.87610	0.0022	**At most 1 ***	33.09356	32.11832	0.0379
At most 2 *	44.73254	42.91525	0.0325	**At most 2**	24.81839	25.82321	0.0674
At most 3	19.91415	25.87211	0.2303	**At most 3**	15.91765	19.38704	0.1488
At most 4	3.996509	12.51798	0.7426	**At most 4**	3.996509	12.51798	0.7426

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
*** denotes rejection of the hypothesis at the 0.05 level**
****MacKinnon-Haug-Michelis (1999) p-values**

Table 4 reveals that there are three co – integrating vectors in the present study according to the Trace test statistics and there are two co – integrating vectors according to the maximum Eigen value test. The numbers of co – integrating vectors are determined in a model by comparing the value of trace test statistics and maximum Eigen test statistics with the critical values. If the calculated values for the above said tests are greater than the critical values then it confirms the existence of long run relationship among the variables and vice versa.

The impact of regressors on regressand is captured by applying simple OLS technique for estimating long run results. Table 5 shows the long run dynamics of the study. The results reveal

that GDP per capita; the lag of total debt servicing and money supply are negatively related to the fiscal deficit in Pakistan in the long run. However; volume of trade, total debt servicing and time trend are positively and significantly contributing to the fiscal deficit in Pakistan. It is quite understandable that economic growth helps in reducing fiscal deficit. Increase in money supply assist the government to fiancé its deficits and hence its impact is negative on the fiscal deficit. As far as the lag of the debt servicing is concerned the negative sign is contrary to the expectations. The volume of debt servicing burden lagged by one year may be lower than the current year and helps in lowering the fiscal deficit.

Table 5: Estimated Long run Coefficients

Dependent Variable: LFD				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
LGDPPC	-2.217345	0.348969	-6.353981	0.0000
LTDS	0.404991	0.119407	3.391685	0.0022
LTDS(-1)	-0.247107	0.108625	-2.274855	0.0314
LTR	1.008458	0.258437	3.902134	0.0006
LM2	-1.990302	0.502734	-3.958961	0.0005
T	0.220715	0.040259	5.482370	0.0000
C	8.193142	1.614368	5.075139	0.0000
R-squared	0.950541	**Mean dependent variable**		2.525984
Adjusted R-squared	0.939127	**S.D. dependent variable**		0.702316
S.E. of regression	0.173278	**Akaike info criterion**		-0.482006
Sum squared residual	0.780658	**Schwarz criterion**		-0.164565
Log likelihood	14.95309	**F-statistic**		83.28116
Durbin-Watson stat	1.568822	**Prob. Value (F-statistic)**		0.000000

Table 6 shows the short run dynamics of the study. The empirical findings disclose that GDP per capita and money supply are significantly reducing fiscal deficit in Pakistan in short run.

As far as other indicators of fiscal deficit are concerned such as total debt servicing; volume of trade and time trend, all of three are significantly and positively contributing towards fiscal deficit of Pakistan in the short run span of time. The coefficient of ecm (t-1) is significantly negative. This validates that the there exists convergence to achieve long run equilibrium. Also, it takes (1/0.703055 = 1.422364) almost one and half years to achieve long run and stable equilibrium because the speed of adjustment is very strong.

Table 6: Estimated Short run Coefficients

Dependent Variable: DLFD				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
DLGDPPC	-1.647408	0.305072	-5.400065	0.0000
DLTDS	0.430039	0.109438	3.929509	0.0140
DLTR	0.477505	0.246576	1.936544	0.0001
DLM2	-0.923740	0.305568	-3.023023	0.0008
DT	0.141997	0.051196	2.773593	0.0008
ECM(t-1)	-0.703055	0.183990	-3.821166	0.0009
R-squared	0.886602	**Mean dependent variable**		-0.026827
Adjusted R-squared	0.865603	**S.D. dependent variable**		0.458802
S.E. of regression	0.168198	**Akaike info criterion**		-0.564384
Sum squared residual	0.763846	**Schwarz criterion**		-0.292292
Log likelihood	15.31233	**Durbin-Watson stat**		1.908605

Table 7 reveals the empirical results for the existence of univariate or bivariate Granger causality for the present study. The empirical findings show that there exists univariate Granger causality

from fiscal deficit to.*GDP* per capita; from fiscal deficit to money supply, from volume of trade to *GDP* per capita and from money supply to *GDP* per capita. Moreover, the present study also diagnoses the existence of bivariate Granger causality between volume of trade and fiscal deficit in Pakistan.

Table 7: Pair Wise Granger Causality Tests

No. of Pairs	Null Hypothesis:	Obs	F-Statistic	Probability	Decision about the Direction of Causality
1	GDPPC does not Granger Cause FD	32	1.35073	0.27600	Accept H0
	FD does not Granger Cause GDPPC	32	3.18710	0.05720	Reject H0
2	TDS does not Granger Cause FD	32	0.10387	0.90170	Accept H0
	FD does not Granger Cause TDS	32	0.34870	0.70873	Accept H0
3	TR does not Granger Cause FD	32	2.68199	0.08661	Reject H0
	FD does not Granger Cause TR	32	5.83577	0.00783	Reject H0
4	M2 does not Granger Cause FD	32	1.40911	0.26176	Accept H0
	FD does not Granger Cause M2	32	6.87383	0.00386	Reject H0
5	TDS does not Granger Cause GDPPC	32	0.85622	0.43598	Accept H0
	GDPPC does not Granger Cause TDS	32	0.70033	0.50521	Accept H0
	TDS does not Granger Cause GDPPC	32	2.56502	0.09552	Reject H0

6	GDPPC does not Granger Cause TR	32	0.04689	0.95427	Accept H0
7	M2 does not Granger Cause GDPPC	32	2.87487	0.07381	Reject H0
	GDPPC does not Granger Cause M2	32	0.17374	0.84145	Accept H0
8	TR does not Granger Cause TDS	32	0.82306	0.44980	Accept H0
	TDS does not Granger Cause TR	32	0.24483	0.78456	Accept H0
9	M2 does not Granger Cause TDS	32	0.65426	0.52787	Accept H0
	TDS does not Granger Cause M2	32	0.40688	0.66974	Accept H0
10	M2 does not Granger Cause TR	32	0.10019	0.90500	Accept H0
	TR does not Granger Cause M2	32	0.10110	0.90418	Accept H0

5. Conclusion and Policy Implications:

5.1. Conclusion

Fiscal deficit a permanent feature of developing countries poses serious problems to these economies. Pakistan has been suffering from a high fiscal deficit for many years. Its annual fiscal deficit hovers around 6 percent of GDP since 1990s (Pakistan Economic Survey, 2010-11). The consequence of such a high fiscal deficit results in increasing burden of internal and external borrowing to fill the resource gap. Fiscal deficit exerts strong impact on key macroeconomic variables and hampers the economic growth of the economy.

The present study concludes that *Real GDP* per capita and money supply are significantly squeezing fiscal deficit in Pakistan in the both short run and long run span of time. The lag of total debt servicing declines fiscal deficit in the long run. However, volume of trade; total debt servicing and time trend are positively and significantly contributing to the fiscal deficit in Pakistan in the both long run and short run time span. Moreover; the empirical findings report that there exists univariate Granger causality from fiscal deficit to.*GDP* per capita, from fiscal deficit to money supply, from volume of trade to G*DP* per capita, and from money supply to *GDP* per capita. Finally, the present study diagnoses the existence of bivariate Granger causality between volume of trade and fiscal deficit in Pakistan.

5.2. Policy Implications

The literature confirms that fiscal deficit or imbalance is a serious for all the under developing countries and especially in case of Pakistan. Therefore, this evil has to be addressed in serious and systematic manner by considering the following steps into account.

1. The target should be to accelerate the per capita GDP which currently is not increasing mainly because of the slow growth rate of GDP. The sluggish growth in GDP also affects the revenue generation effort by the government.
2. Another reason of fiscal deficit is the amount of debt servicing. The higher debt repayments are increasing fiscal deficit in Pakistan. Government of the state should focus on such policies that would address the issue of growing dependence on the international aid financing agencies.

3. The trade balance of Pakistan has remained negative for most of the years. Despite the increasing rate of exports for the last couple of years the volume of imports always exceeds the volume of exports. As a result, trade deficit emerges and causes fiscal deficit to increase in Pakistan. The government can revamp the trade policy by controlling imports and diversifying the exports through capturing more international markets.
4. For bridging the gap between government expenditure and revenue, the money supply plays its positive role in reducing the fiscal deficit but this does not lead us to recommend to increase the money supply to meet the budget deficit as it has other implication in terms of inflation in the economy.

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