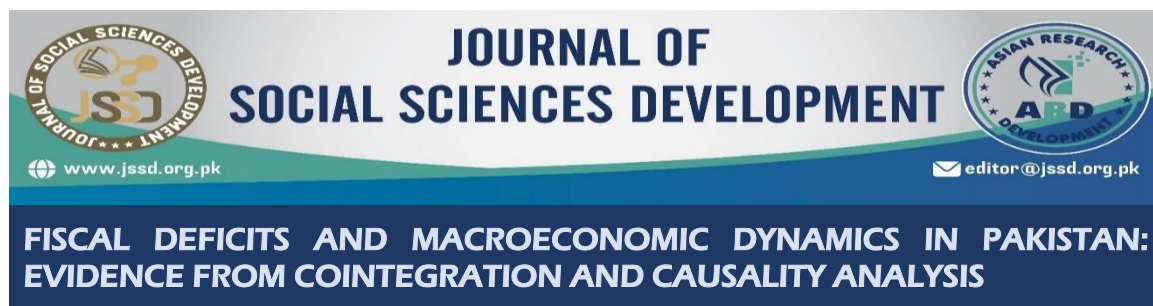




Muhammad Shahzeb Ali¹, Sofia², Dr. Asma Bano³ & Muhammad Naeem Sharif⁴

¹Department of Mathematics Ohio State University, USA

²Department of Statistics, University of Peshawar, Peshawar, Pakistan

³Assistant Professor in Economics, College Education Department Government of Sindh, Department of Economics, University of Sindh Jamshoro

⁴Deputy Director, Statistics and Data Services Department, State Bank of Pakistan

KEYWORDS	ABSTRACT
Fiscal Deficit; Economic Growth; Exports; Balance of Payments; VAR; Granger Causality	Persistent fiscal deficits remain a major macroeconomic challenge for developing economies, with potential implications for economic growth and external-sector performance. This study examines the relationship between fiscal deficits and key macroeconomic indicators in Pakistan over the period 1981–2014, focusing on economic growth, exports, and the balance of payments. Using annual time-series data, the study employs Ordinary Least Squares (OLS), a Vector Autoregression (VAR) model, impulse response analysis, and Granger causality tests to investigate both the dynamic relationships and direction of causality among the variables. The OLS estimates indicate a statistically significant negative relationship between fiscal deficits and economic output, while the relationships between fiscal deficits, exports, and the balance of payments are positive but statistically insignificant. The Granger causality results reveal no significant causal relationship between fiscal deficits and either output or the balance of payments. However, a unidirectional causal relationship is identified between fiscal deficits and exports. The impulse response analysis further illustrates the dynamic responses of macroeconomic variables to fiscal deficit shocks. The findings highlight the importance of sound fiscal management and a broader revenue base in improving macroeconomic stability. Strengthening direct tax collection, improving export performance, and addressing persistent trade imbalances may contribute to sustainable economic growth and improved external-sector stability in Pakistan.
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Introduction

In recent times many advanced and emergent nations have practiced fiscal deficits. Tremendous budgetary deficit causes a supreme threat to emerging economies. Pakistan is practicing huge fiscal deficit from day of its creation. Fiscal deficit in Pakistan is believed to be the main reason of all major problems of the country. It is the mother of all economic ills. Desirable growth with low inflation is the core objective of the policy makers (Khan and Senhadji, 2001). But due to macroeconomic inequality like high fiscal deficit, high inflation, slump of currency, less developed financial markets and immense defense outlay make this effort almost futile. Persistent fiscal deficits are definitely bad for economic growth and liable for macroeconomic disparity in Pakistan. Huge budget deficit can negatively affect growth of the country.

High budget deficit means high government borrowing and high liability servicing which compels the government to cut down expenditure on health, education and infrastructure. This shrink's human and physical capital development, which have a long-standing impact on growth. Anyanwu and Oaikhenan (1995); argued that fiscal deficit cause rise in economic growth. However, Dalyop (2010) says that the impact of fiscal deficit on GDP is negative.

Budget deficit inversely affects the balance of international payments in short run. In the history of Pakistan, fiscal balance always remained in deficit. In short run raise in expenditure develop the output and overall balance of international payments also get better but in the long run fiscal balance is found to be inverse (Azra et al; 2015). After nuclear bomb explosion in 1998, Pakistan trade and balance of international payments were in panic. Since IMF stop financial aid, the crisis in the balance of international payments extended. When saving decreases its outcome is rise in interest rate than to rising of exchange rate because of which exports become less competitive and imports more competitive, hence fiscal deficit leads to depreciation in the balance of payments and a decline in current account balance which is the major part of balance of payment. High population pressure and consumption demand all these things are responsible for increasing the imports demand. Pakistan's exports are little because of discrepancy in the rate of exchange. Pakistan depreciated its currency since 1970 but its exports are not increasing. Obviously, the country is in grip of deficit in current account of balance of international payments. Changes in the relative price of exports and imports caused changes in demand for imports and supply of exports. Level of exports and imports are certainly key elements to transform external trade account. Exports are supposed as the engine of growth, which assists the process of economic development. It is essential for progress of the country. Rise in export leads to the expansion of a country. But unfortunately Pakistan exports are less so the country is in hold of trade deficit. Trade deficit negatively affects Pakistan. Deficit financing increases money supply in the country which raises price level in the short run output cannot rise to meet rise in demand. Rise in money supply also leads to balance of payments deficits. Fiscal deficit is the major aspect causing disequilibrium in balance of payments.

Literature Review

An extensive empirical literature on the analysis of deficit spending and its influence on macroeconomic variables are available. Zafar and Mustafa (1998) examined the impacts of macroeconomic variables on economic growth in Pakistan. The empirical results showed that fiscal deficit was inversely associated to economic growth and output since it considered as a mark of macroeconomic volatility. Atif et al., (2026); Lau et al; (2006) observes the relationship between fiscal deficit and current account deficit in ASEAN-4 economies, namely Malaysia, Indonesia Thailand and the Philippines. They used quarterly data from 1976: Q₁ to 2000: Q₄. They investigated long run linkage between fiscal deficit and current account deficit. Fatima et al; (2011) investigate the direct and indirect influence of budget deficit on investment and growth for Pakistan. They use time series data from 1980–2009. The empirical findings of the study concluded that effect of budget deficit on growth is adverse. (Tawiah et al., 2023); Fatima et al; (2012) studied the impact of fiscal deficit on economic growth of Pakistan. Time series data is used from 1978–2009. The results indicate inverse effect of fiscal deficit on economic growth. Mohanty (2012) examined the short and long term relation between budget deficit and growth in India. This is based on time series data from 1970-71 to 2011-12, 1970-1991 and 1992-2011. The results show that in the long run there is significantly inverse association between budget deficit and economic growth. One-unit increase in budget deficit significantly diminishes GDP by 0.216537. Ezeabasili and Ioraver (2012); Ali, M. S. (2026) analyze the relation between budget deficit and economic growth in Nigeria. The study is based on time series data from period 1970–2006. The empirical results show that budget deficit affects growth inversely. Merza et al; (2012) examined the relationship between fiscal deficit and current account deficit for Kuwait. Quarterly data from 1993:4 – 2010:4. The results reveal that causality running from current account to budget balance there is negative long run link between current and budget balance. Qureshi et al., (2025); Kashif et al; (2014) studied the relation between fiscal deficit and trade deficit in Pakistan using time series data from 1972–2011. The results indicate that fiscal deficit positively affect trade deficit in the long run. Tang (2014); Ali, M. S. (2021) extends twin deficits hypothesis to triple deficits hypothesis which consider the third shortfall of capital and financial account of international payment. There is positive co-integration between budget balance, current account balance and capital and financial account balance in the long-run i.e. they move together. Empirical results found that current account Granger-caused budget balance, and the United States capital account position.

Objectives of the Study

To empirically estimate the impact of fiscal deficit on growth, exports, and balance of payments of the country.

Hypotheses

1. There is no relationship between budget deficit and growth.
2. There is no relationship between budget deficit and exports.
3. There is no relationship between budget deficit and balance of payments.

The empirical results will give more knowledge to the government to find possible ways to address the fiscal deficit problem. Individuals will gain a better understanding of the concept of fiscal deficit and its influence on economic growth. Policy makers will be in a favorable position to formulate effective policies for the country.

Methodology

Secondary data has been used. The data is for 34 years and covers the time period from 1981–2014. The data collected from various sources such as Economic Surveys of Pakistan, published periodically, World Development Indicators, from Federal Bureau of Statistics and State Bank of Pakistan annual reports. Additionally, the study uses log linear models. In comparison to linear form approach the log linear model results are more authentic Qureshi & Ahmad, (2022); (Bowers and Pierce 1975). The mathematical expression of price equation is

The mathematical expression of output equation is

$$\ln(Y) = c_0 + c_1 \ln(GEXP) + c_2 \ln(CR) + c_3 \ln(RPFE) + c_4 \ln(X) + c_5 \ln FD + u_i \dots (1)$$

Where GEXP=government expenditure

CR = commercial banks credit to the private sector

RPFE = real price of foreign exchange

X= export

FD = fiscal deficit

The mathematical expression of exports supply equation is

$$\ln(X) = d_0 + d_1 \ln(Y) + d_2 \ln(PXP) + d_3 \ln(REER) + d_4 \ln FD + u_i \dots (2)$$

Where PXP=price of exports

REER = real effective exchange rate

The balance of payments deficit equation is

$$B_t = X - (M_2 + I_{ct} + K_t) + \ln FD + u_i \dots (3)$$

Where X = exports

M₂= money supply

ICT= import

K_t = capital payment

C_0, d_0 are intercepts, $c's, d's$, are coefficients.

Results and Discussion

To check stationary of the data Augmented Dickey Fuller (ADF) tests are applied (Qureshi et al., 2026). Ordinary Least Square Technique (OLS) and Vector auto regression (VAR) model has been applied. Augmented Dickey Fuller (ADF) test is use to test the stationary of the variables. It is essential to ensure the stationarity of the data for suitable technique (Abbas et al., 2026). The results of Augmented Dickey Fuller test are given in table 1.

Table 1: Results of ADF Test

Variables	Levels	1 st Difference	Order of integration
Y	0.0149		I(0)
M_2	0.2937	0.0000	I(1)
X	0.8356	0.0000	I(1)
B_t	0.1537	0.0000	I(1)
FD	0.0955	0.0000	I(1)
GEXP	0.6714	0.0000	I(1)
CR	0.8415	0.0001	I(1)
RPFE	0.8690	0.0002	I(1)
PXP	0.8010	0.0000	I(1)
REER	0.0006		I(0)
K_t	0.0167		I(0)
I_{ct}	0.2217	0.0000	I(1)

(Source: E-Views results)

Since the data is stationary, so Ordinary Least Squares (OLS) technique can be used to test the association among the variables. Before OLS estimation normality of error term, serial correlation and multicollinearity must be checked.

Estimation of Model 1

Normality test

One assumption of OLS is that the Error term is normally distributed. Normality of error term is tested by Jarque-Bera test.

Table 1 Normality test Jarque-Bera test.

Statistic	Value
Mean	-2.76E-16
Median	-0.020007
Maximum	8.247332
Minimum	-4.650612
Std. Dev.	2.939982
Skewness	0.729700
Kurtosis	3.270549
Jarque-Bera	3.029189
Probability	0.219897

Since probability (0.219897) is greater than 5 % so we accept the null hypothesis. The null hypothesis is that the error term of the model is normally distributed.

Auto correlation test

$Cov(u_i, u_j) = 0$, when $Cov(u_i, u_j)$ not equal to zero then we have autocorrelation problem. Breusch-Godfrey test is used for checking autocorrelation.

Table 2 Autocorrelation test by Breusch-Godfrey test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.844707	Prob. F(2,26)	0.1782
Obs*R-squared	4.225077	Prob. Chi-Square(2)	0.1209

(Source: EViews results)

Probability is greater than 5% so we cannot reject null hypothesis. Null hypothesis is there is no Serial Correlation in the error term of this model. Probability value is 0.1209 which is more than 0.05 so it is concluded that there is no serial correlation.

Multicollinearity Test

$Cov(X_i, X_j) = 0$, when $Cov(X_i, X_j)$ not equal to zero then we have multicollinearity problem.

Table 3 Multicollinearity test

	GEXP	CR	RPEE	X	FD
^E GEXP	1.000000	0.068736	-0.297007	-0.799154	0.383616
CR	0.068736	1.000000	-0.521670	0.107040	-0.086949
RPEE	-0.297007	-0.521670	1.000000	0.001103	-0.221496
X	-0.799154	0.107040	0.001103	1.000000	-0.358510
FD	0.383616	-0.086949	-0.221496	-0.358510	1.000000

(E.Views results)

Since there is multicollinearity between export and government expenditure (GEXP), so to remove multicollinearity problem, we omit i.e. GEXP.

Multicollinearity Test with GEXP omit variable**Table 4 Multicollinearity Test with GEXP omit variable**

	CR	RPEE	X	FD
CR	1.000000	-0.521670	0.107040	-0.086949
RPEE	-0.521670	1.000000	0.001103	-0.221496
X	0.107040	0.001103	1.000000	-0.358510
FD	-0.086949	-0.221496	-0.358510	1.000000

(Source: E.Views results)

Since all the explanatory variables in the model are not correlated. There is no multicollinearity among the independent variables of the model. So, we can apply OLS technique.

OLS estimation with GEXP omit variable**Table 5 OLS estimation with GEXP omit variable**

Dependent Variable: Y				
Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.294634	4.609847	2.016257	0.0531
D(CR)	0.032830	0.109063	0.301024	0.7655

D(RPEE)	-0.031460	0.014218	-2.212629	0.0350
D(X)	0.232459	0.169380	-1.372417	0.0305
D(FD)	-0.104919	0.245170	-0.427946	0.0019
R-squared	0.654370	Mean dependent var		4.728337
Adjusted R-squared	0.551525	S.D. dependent var		2.006360
S.E. of regression	1.848113	Akaike info criterion		4.201260
Sum squared resid	99.05013	Schwarz criterion		4.425725
Log likelihood	-66.42142	Hannan-Quinn criter.		4.277809
F-statistic	2.473325	Durbin-Watson stat		1.882829
Prob(F-statistic)	0.044567			

(Source: E.Views results)

Commercial banks credit to the private sector (0.03283) has positive and insignificant relation with output. Real price of foreign exchange has negative and significant relation with output. Export (0.232459) has positive and significant relation with output. Fiscal deficit (0.0019) has negative but significant relation with output. In our findings, Durbin-Watson statistic has the value as 1.882829. Therefore, there is no auto correlation between the variables which are used in the study. The R-squared is 0.654370 that means 65% of variation in dependent variable (Y) is due to independent variables and others are due to stochastic error term. Probability F-statistic (0.044567) value is less than 5% shows the model is good fit or it shows that the variables jointly are significant (Abbasi et al., 2026).

Multicollinearity Test with X omit variable

Since there is multicollinearity between export and export (X), so to remove multicollinearity problem, we omit one variable i.e. X.

Table 6 Multicollinearity Test with X omit variable

	GEXP	CR	RPEE	FD
GEXP	1.000000	0.068736	-0.297007	0.383616
CR	0.068736	1.000000	-0.521670	-0.086949
RPEE	-0.297007	-0.521670	1.000000	-0.221496
FD	0.383616	-0.086949	-0.221496	1.000000

(Source: E.views results)

Since all the explanatory variables in the model are not correlated. There is no multicollinearity among the independent variables of the model. So, we can apply OLS technique.

OLS estimation with GEXP omit variable

Table 7 OLS estimation with GEXP omit variable

Dependent Variable: Y Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.573904	10.38188	-.0247923	0.8059
D(GEXP)	0.077596	0.094156	0.824125	0.0066
D(CR)	0.029024	0.111196	0.261016	0.7959
D(RPEE)	-.0027934	0.014818	-1.885127	0.0295
D(FD)	-.0054033	0.247930	-.0217935	0.0190
R-squared	0.624114	Mean dependent var		4.728337
Adjusted R-squared	0.577095	S.D. dependent var		2.006360
S.E. of regression	1.885237	Akaike info criterion		4.241037
Sum squared resid	103.0695	Schwarz criterion		4.465502
Log likelihood	-67.09763	Hannan-Quinn criter.		4.317586
F-statistic	2.094151	Durbin-Watson stat		1.823289
Prob(F-statistic)	0.007257			

(Source: EViews results)

Government expenditure (0.077596) has positive and significant relation with output. Commercial banks credit to the private sector (-0.029024) has positive and insignificant relation with output. Real price of foreign exchange has negative and significant relation with output. Fiscal deficit (0.0190) has negative but significant relation with output. Durbin-Watson statistic is 1.323289. Durbin-Watson stat has the value as 1.823289. Therefore, there is no auto correlation between the variables which are used in the study. The R-squared is 0.624114 that means 62% of variation in dependent variable (Y) is due to independent variables and others are due to stochastic error term. Probability F-statistic (0.007257) value is less than 5% shows the model is good fit or it shows that the variables jointly are significant.

Table 8 VAR Lag Order Selection Criteria

Endogenous variables: Y D(GEXP) D(CR) D(RPEE) D(X) D(FD)
Exogenous variables: C

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-363.7359	NA	922.2357*	23.85393	24.13147	23.94440*

1	-329.5640	52.91130	1088.032	23.97187	25.91469	24.60518
2	-294.5606	40.64910*	1540.028	24.03617*	27.64427*	25.21232

* 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

LR, AIC and SC criterion indicates that maximum number of lags 2 could take in the analysis of VAR Model.

Impulse Response Function

Impulse Response Function tests the relation between fiscal deficit and output because it mostly clarifies how a shock in one of these variables would influence the other variable. Based on that VAR result, the Impulse Response Function can be created. Figure 1 demonstrates the responses of each variable to shocks in other variables included in the model.

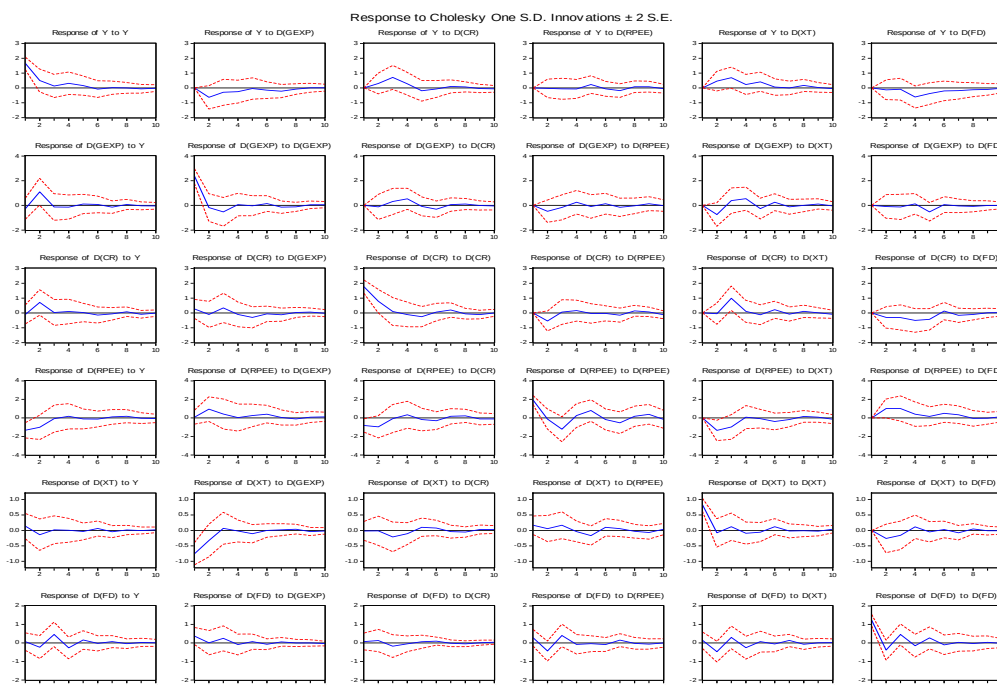


Figure 1 Impulse Response Function

The impact of one S.D positive shock of output to itself leading to a positive response, which dies out in period 6. Impact of one S.D shock to fiscal deficit lead to a negative response in output.

Granger Causality Test

Granger causality test is used to determine the direction of causality between variables.

Table 9 Granger Causality Test Table

Sample: 1981 2014			
Null Hypothesis:	Obs	F-Statistic	Prob.
FD does not Granger Cause Y	32	1.21839	0.3115
Y does not Granger Cause FD		2.00419	0.1543

(Source: EViews results)

Since probability value is more than 5 % so we cannot reject null hypothesis rather we accept null hypothesis that fiscal deficit does not cause granger cause output. Fiscal deficit and output do not granger cause each other. There exists no causality between fiscal deficit and output.

Estimation of Model 2

Normality Test

Table 10 Normality test Jarque-Bera test

Statistic	Value
Mean	2.08e-17
Median	0.128718
Maximum	1.843453
Minimum	-2.280651
Std. Dev.	1.089915
Skewness	-0.180301
Kurtosis	2.025856
Jarque-Bera	1.438653
Probability	0.487080

Since probability (0.487080) is greater than 5% so we accept the null hypothesis.

Auto Correlation Test

Autocorrelation is tested by Breusch-Godfrey test.

Table 11: Auto Correlation Test by Breusch-Godfrey test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.017936	Prob. F(2,25)	0.9822
Obs*R-squared	0.045850	Prob. Chi-Square(2)	0.9773

(Source: EViews results)

Probability value is 0.9773 which is more than 0.05 so it is concluded that there is no auto correlation.

Multicollinearity Test

There is no correlation between the two explanatory variables in the model. When this assumption is violated then we have multicollinearity problem.

Table 12 Multicollinearity Test

	Y	PXP	REER	FD
Y	1.000000	-0.404792	0.509413	0.102389
PXP	-0.404792	1.000000	-0.647059	-0.213672
REER	0.509413	-0.647059	1.000000	0.316019
FD	0.102389	-0.213672	0.316019	1.000000

(Source: EViews results)

Since all the explanatory variables in the model are not correlated. There is no multicollinearity among the independent variables of the model. So, we can apply OLS technique

OLS Results

Table 13: OLS Results

Dependent Variable: D(X) Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.448651	0.861925	0.520523	0.0069
Y	0.015626	0.120818	0.129334	0.8981
D(PXP)	-0.026495	0.016427	-1.612898	0.0184
REER	-0.002872	0.007362	-0.390189	0.0195
D(FD)	0.271349	0.171173	-0.316233	0.7543
R-squared	0.643042	Mean dependent var		0.028213
Adjusted R-squared	-0.041185	S.D. dependent var		1.144531
S.E. of regression	1.167862	Akaike info criterion		3.290827
Sum squared resid	36.82534	Schwarz criterion		3.519849
Log likelihood	-47.65324	Hannan-Quinn criter.		3.366741
F-statistic	0.693444	Durbin-Watson stat		1.855564
Prob(F-statistic)	0.002998			

(Source: EViews results)

Output (0.075072) has positive and insignificant relationship with exports (X). Price of exports (~0.026495) has negative and significant relation with exports. Real effective exchange rate (~0.002872) has negative and significant relation with export. Fiscal deficit (0.271349) has positive and insignificant relation with export. Durbin-Watson statistic has the value as 1.756678. Therefore, there is no auto correlation between the variables which are used in the study. The R-squared is 0.643042 that means 64% of variation in dependent variable (X) is due to independent variables and others are due to stochastic error term. Probability F-statistic (0.002998) value is less than 5% shows the model is good fit or it shows that the variables jointly are significant.

VAR Lag Order Selection Criteria

Table 14 VAR Lag Order Selection Criteria

Endogenous variables: D(X) Y D(PXP) D(REER)

D(FD)

Exogenous variables: C

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-375.9383	NA	73616.72	25.39589	25.62942*	25.47060
1	-347.3982	45.66420	59743.84	25.15988	26.56108	25.60814
2	-314.5500	41.60779*	41203.45*	24.63666*	27.20553	25.45846*

* 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

LR, FPE AIC and HQ criterion indicates that maximum number of lags 2 could take in the analysis of VAR Model.

Impulse Response Function (IRF)

IRF test the relation between fiscal deficit and export because it mostly clarifies how a shock in one of these variables would influence the other variable. Figure 2 demonstrates the responses of each variable to shocks in other variables included in the model.

The impact of one S.D positive innovations of export to itself is positive which dies out in period 7. The impact of one S.D shock in fiscal deficit leads to a negative response in export.

Granger Causality Test

To determine the direction of causality Granger causality test is used (Granger, 1969).

Table 15 Granger Causality Test

Sample: 1981 2014

Lags: 2

Null Hypothesis:	Obs	F-Statistic Prob.
------------------	-----	-------------------

XT does not Granger Cause FD
FD does not Granger Cause XT

32 4.11338 0.0276
1.74266 0.1942

(Source: EViews results)

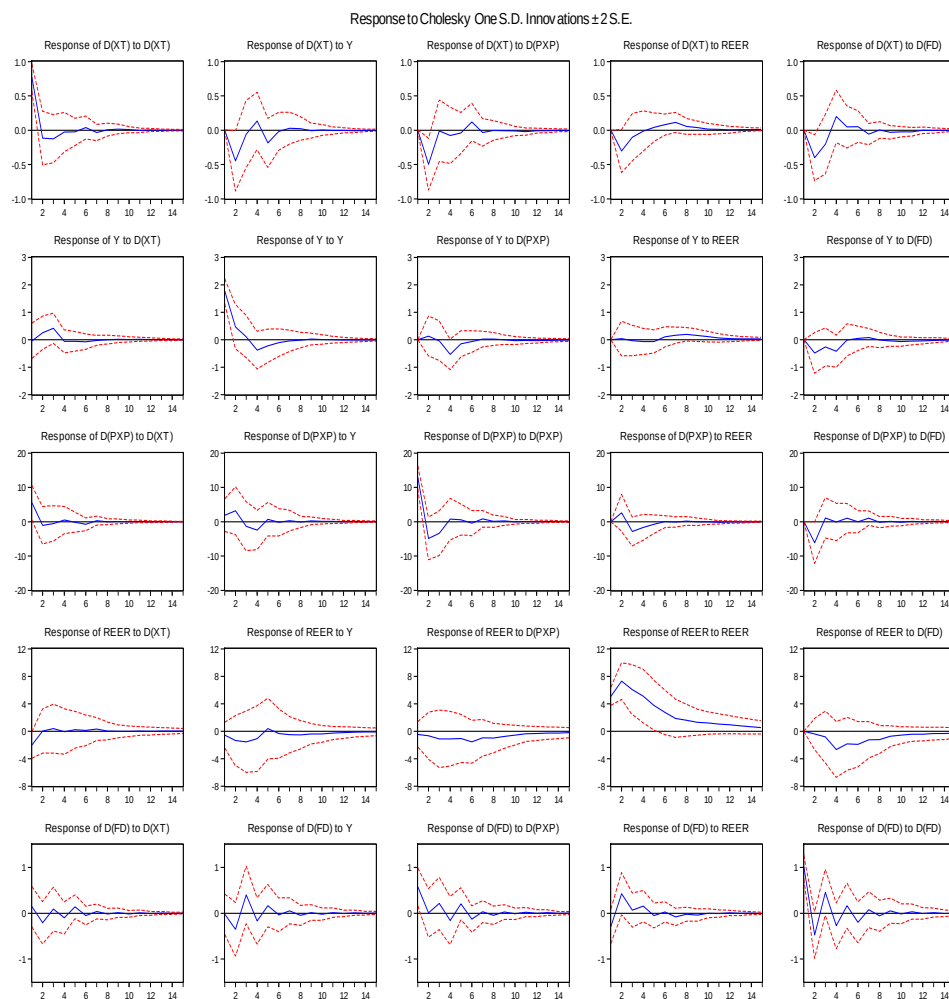


Fig 2 Impulse Response Function

Since probability value is less than 5 % so we reject null hypothesis and accept alternative hypothesis that export granger cause fiscal deficit. But fiscal deficit does not granger cause export. There is uni-directional causality between fiscal deficit and export.

Estimation of Model 3

Normality test

One of the assumption of OLS is that the error term is normally distributed. For normality Jarque-Bera test is used.

Table 16 Normality test by Jarque-Bera test

Statistic	Value
Mean	2.54e-14
Median	13.80062
Maximum	1658.222
Minimum	-1460.353
Std. Dev.	687.6477
Skewness	-0.064729
Kurtosis	3.481787
Jarque-Bera	0.342208
Probability	0.842734

Since Probability value (0.842734) is greater than 5% so we accept the null hypothesis. The null hypothesis is that the error term of the model is normally distributed.

Auto Correlation Test

Autocorrelation is checked in table 17 by using Breusch-Godfrey test.

Table 17 Auto Correlation Test by Breusch-Godfrey test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.666600	Prob. F(2,26)	0.5220
Obs*R-squared	1.658379	Prob. Chi-Square(2)	0.4364

(E.Views result)

Probability value is 0.4364 which is more than 0.05 so it is concluded that there is no auto correlation.

Multicollinearity test

There is no correlation between the two explanatory variables, when this assumption is violated then we have multicollinearity problem.

Table 18 Multicollinearity test

	XT	M2	ICT	KT	FD
XT	1.000000	0.452619	-0.413509	0.076685	-0.358510
M2	0.452619	1.000000	-0.140880	0.309118	-0.401069
ICT	-0.413509	-0.140880	1.000000	-0.188762	0.295337
KT	0.076685	0.309118	-0.188762	1.000000	-0.357176
FD	-0.358510	-0.401069	0.295337	-0.357176	1.000000

There is no multicollinearity among the independent variables of the model. So, we can apply OLS technique.

OLS Results**Table 19 OLS results**

Dependent Variable: D(BT)				
Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.699484	137.4038	0.070591	0.9442
D(X)	131.2986	128.2027	1.024149	0.0149
D(M2)	2.866617	49.65767	0.057728	0.0144
D(ICT)	85.19935	65.26021	1.305533	0.0027
KT	-0.088285	0.542640	-0.162695	0.8720
D(FD)	46.04934	94.88893	0.485297	0.6314
R-squared	0.655894	Mean dependent var	7.966927	
Adjusted R-squared	0.559532	S.D. dependent var	727.2806	
S.E. of regression	748.6159	Akaike info criterion	16.23729	
Sum squared resid	15131497	Schwarz criterion	16.50939	
Log likelihood	-261.9154	Hannan-Quinn criter.	16.32885	
F-statistic	0.640402	Durbin-Watson stat	1.787186	
Prob(F-statistic)	0.010870			

(Source: E. Views results)

Export has positive (131.2986) and significant relation with balance of payments. Money supply has positive (2.866617) and significant relationship with balance of payment (B_t). Imports (85.19935) have positive and significant relation with balance of payments. Capital payment (-0.088285) has negative and significant relation with balance of payments. Fiscal deficit (46.04934) has positive and insignificant relation with balance of payment. Durbin-Watson statistic has the value 1.787186. Therefore, there is no auto correlation between the variables which are used in the study. The R-squared 0.655894 which shows 66% of variation in dependent variable (B_t) is due to independent variables and others are due to stochastic error term. Probability F-statistic (0.010870) value is less than 5% shows the model is good fit or it shows that the variables jointly are significant.

VAR Lag Order Selection Criteria

Table 20 VAR Lag Order Selection Criteria

Endogenous variables: D(BT) D(XT) D(M2) D(ICT) KT D(FD)

Exogenous variables: C

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-690.8454	NA	1.35e+12*	44.95777	45.23532*	45.04824
1	-664.9106	40.15715	2.71e+12	45.60714	47.54996	46.24045
2	-613.9207	59.21405*	1.37e+12	44.64005*	48.24814	45.81620*

* 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

LR, AIC and HQ criterion indicates that maximum number of lags 2 could take in the analysis of VAR Model.

The Impulse Response Function

Based on VAR result, the Impulse Response Function can be created. Figure 3 demonstrates the responses of each variable to shocks in other variables included in the model.

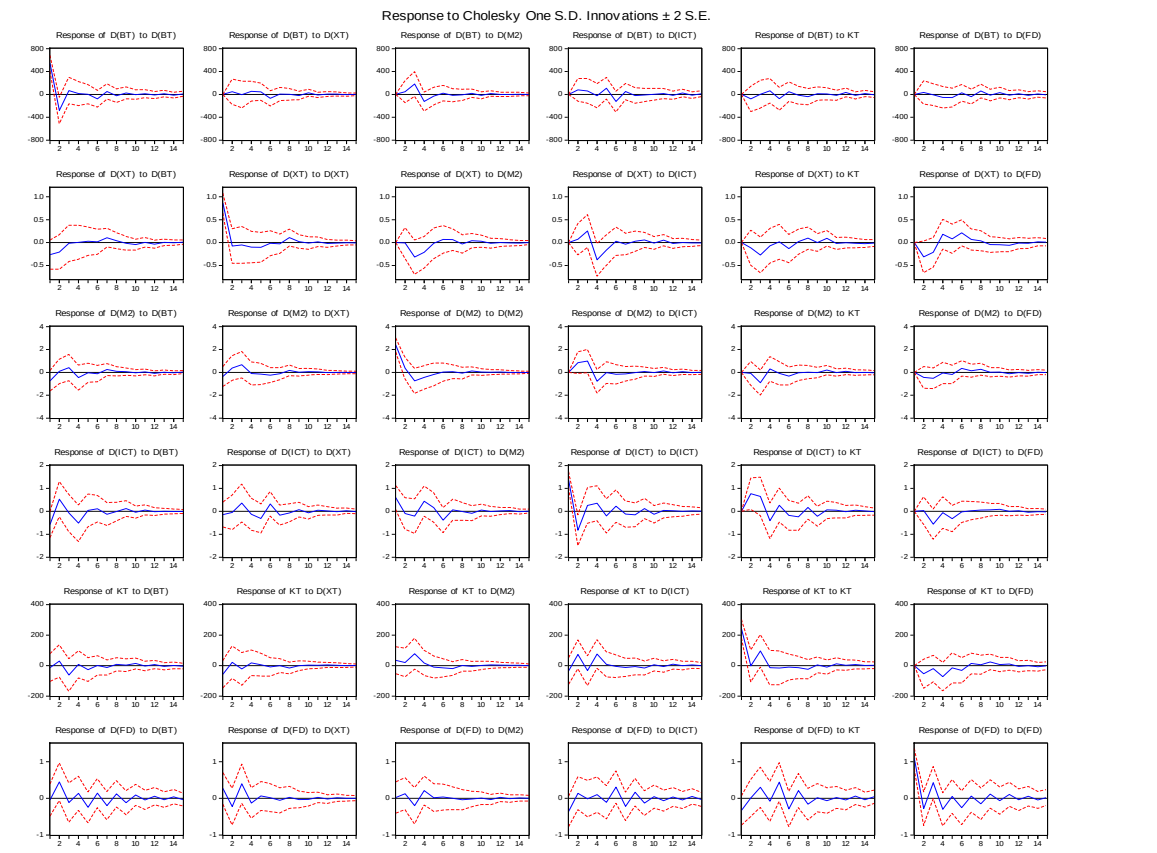


Figure 3 Impulse Response Function

The impact of one S.D positive shock of balance of payments to itself leads to a positive response to itself. Shock to fiscal deficit has a low response from balance of payments. Shocks to balance of payments lead to a positive response of fiscal deficit.

Granger Causality Tests

Granger causality test is used for the direction of causality.

Table: 20 Granger Causality Test

Sample: 1981 2014
Lags: 2

Null Hypothesis:	Obs	F-Statistic Prob.
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FD does not Granger Cause BT	32	0.48121	0.6232
BT does not Granger Cause FD		0.50919	0.6066

(Source: EViews results)

Fiscal deficit and balance of payments do not granger cause each other. There exists no causality between fiscal deficit and balance of payments.

Conclusions and Recommendations

Recently many advanced and developing nations have practiced fiscal deficit. High budgetary deficit cause a supreme threat to emerging economies. Persistent fiscal deficits adversely affect macroeconomic stability. It negatively influences growth, export, and balance of payments and generate inflationary pressure in the economy. Growing fiscal deficit is major economic problem in Pakistan. This research finds out the relation between fiscal deficit and macroeconomic variables. Ordinary Least Square Technique, VAR model and Impulse Response Function analysis are applied to the data of fiscal deficit and macroeconomic from 1981 to 2014. OLS results shows that there is significantly negative relationship with output and fiscal deficit and positively insignificant relation with export and balance of payments and fiscal deficit. Granger causality test shows that there is no causal relationship between fiscal deficit, output and balance of payments. There is uni-directional causality between fiscal deficit and exports.

The empirical findings of the study suggest that Government should increase the proportion of direct taxes and more taxes collected from rich and fewer from poor. Pakistan improved exports performance plays an important role in increasing the speed of growth. The governments must take actions to manage the deficit to attain desired level of growth. Efforts ought to be made to organize pessimistic trade balance and this is achievable by rising exports and by curtailing imports. Eventually the expansion in trade balance possibly improve budget deficit continued deficit in balance of international payments eventually generates budget deficit. Imports substitute industries should be established in the country. Exports should be increased improving the qualities of exported goods.

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