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EMPIRICAL INVESTIGATION OF FISCAL, MONETARY AND TRADE POLICIES IMPACT ON ECONOMIC GROWTH OF PAKISTAN

*Rafid Ullah**[1]

Bakhtiar Khan[2]

Abstract: *Sustainable economic growth and development is one of the most challenging issue nowadays, in the developing countries, particularly in Pakistan. Due to Ricardian Equivalence Approach, in Pakistan, research on macroeconomics policies has get little attention. Therefore, economists mainly focus on the importance of the fiscal, monetary and trade policies in escalating economic growth. This study investigates empirically the impact of fiscal, monetary and trade policies on economic growth of Pakistan, employing ARDL bounds test approach. From an evaluation of the overall analysis and results, it is concluded that, on fiscal policy variables side, development expenditure e have positive and significant effect, while, current expenditure have also significant but negative effect on economic growth. On monetary policy variable side, money supply has also positive and significant effect on economic growth. Finally, on trade policy variable side, trade openness has positive and significant effect on economic growth. The study suggests that the level of fiscal policy variables, development expenditure could be effectual while current expenditure has been detrimental to economic growth. In the same way, on monetary policy variable side the level of money supply could also be effectual in an augmenting economy. Finally, the level of trade policy variable, trade openness could be effectual in managing economic growth.*

Keywords: *Fiscal Policy, Monetary Policy, Trade Policy, Economic Growth, ARDL Bounds Test.*

[1]*Author is Ph. D. Scholar in IBA at Gomal University Dera Ismail Khan. EMAIL: rafidktk@gmail.com

[2]Author is Professor in IBA at Gomal University Dera Ismail Khan.

Introduction

Progress and expansion of an economy and the stability of long run economic growth depends on the macroeconomic policies of the country. Therefore, investment as well as long run economic growth potentiality discouraged by uncertain situation in the economy, which is due to unfavorable economic policies. The aim of this study is to investigate empirically, the impacts of fiscal, monetary and trade policies on economic growth, in context of Pakistan.

Due to Ricardian equivalence approach, in Pakistan, research on macroeconomics policies has get little attention. Economic growth is effected by both fiscal and monetary policy in both, in direct and an indirect ways. Jointly, these two policies have also effect on trade policy, which have also strong correlation with economic growth of a country via effect on business environment (Adeeb, et al., 2014). Macroeconomic instruments that play an important role to encourage technologies that can further stimulate economic growth are fiscal and trade policy, both policies equally emphasized the importance of technological progress to economic growth (Nursini, 2017).

Adefeso & Mobolaji (2010) mentioned that economic growths were significantly affected by monetary and fiscal policy which indicates their vital role in macroeconomic stabilization in all the economy. The debate on these policies relative importance is still swamp and goes on between the Monetarist and Keynesian (Ajisafe & Folorunso, 2002). This debate has caused much research in this field in developed economy, but the result of every study varies from one economy to another economy (Senbet, 2011). Therefore, the results are still contentious, and hence the generalization of the effectiveness of these two policies cannot be established. The question (which of the two policies is more effective?) remains the question and yet the entire professional in this field are not consensus on their single answer. Therefore specific country study is necessary in this field (Mutuku & Elias, 2014).

There is consensus on the role of these macroeconomic policies in determining economic growth. A number of studies have been conducted using various econometric techniques to analyze the impact of these macroeconomic policies on economic growth (Jawaid et al., 2011). Regardless the broad consensuses on the role of these policies in economic growth, several disagreements were expressed regarding

the relative effectiveness of these policies. The monetarist approach of stimulating macroeconomic activity is based on an unanticipated increase in the stock of money, while fiscal policy is considered as less effective or ineffective due to the crowding out effect. In addition, the government contribution or the public sector size in aggregate demand has also been questioned, among both academicians and policy makers. A number of studies have found that trade openness has a positive effect on economic growth (Takyi & Twum, 2015).

Fiscal, monetary and trade policy are interesting and highly relevant to the economic conditions of Pakistan for the period 1976-2016. During this period, the relationship between these policies and economic growth is quite attractive to be estimated. In previous studies, the comparative effects of fiscal and monetary policies on economic growth, in the context of Pakistan, were discussed, but there are few time series studies on this topic (Najia et al., 2017). This study examines the impact of fiscal, monetary and trade policies on economic growth empirically, using long- term annual time series data of Pakistan.

Theoretical and Empirical Review

In 1883 Adolph Wagner (1835-1917), the German economist, put forward a law called 'the law of increasing state activities' which states that 'as the economy develop over time the activities and the function of the States increases' (Bird, 1971). Another hypothesis regarding the public spending growth was put forward by Peacock and Wiseman. They argued that growth in public expenditure involved pattern of growth, followed by long static period rather than a smooth and continence growth pattern (Peacock and Wiseman, 1967). Keynes was the most noted economist among all other who discussed public expenditure and economic growth relationship. Keynes mention that government spending can be employed as a policy tool to promote economic growth. From Keynesian point of view public expenditure have positive effect on economic growth (Keynes, 1936).

The theory of the quantity of money can be considered as a key element in the analysis of the theories of monetary policy. It has undergone many adjustments and transformations over the years, from the 16thcentury to the beginning of the 20thcentury, accepted by both, classical economists: Adam Smith, David Ricardo, Jean-Baptiste Say, etc., and by neoclassical: Léon Walras, William Stanley Jevons, Alfred Marshall, Arthur Cecil Pigou, Irving Norton Fisher, and so on (Popescu Ghe, 2000). The view of classical economists'

about monetary policy is stands on Fisherian equation of exchange (Cioran, 2014). Friedman & Meiselman (1963) led Monetarist school of thought. They assert emphasis on the importance of money supply to stabilize the economy. They believed that rising of money supply with fixed rate is necessary for promoting steady growth rate of an economy. Barro (2007) believes that Friedman has made important contributions in the field of monetary policy.

In the beginning, endogenous growth theory was associated with the name of Romer (1986, 1994, 2002); Lucas (1993); Barro (1991, 1996); Barro and Sala-i-Martin (1992); Rebelo (1991) as well as Grossman and Helpman (1991a) to mention only few. Endogenous growth theory emphasis, that decisive factor of economic growth is endogenous technology. Barro (1990) first introduce the fiscal policy effect on economic growth in endogenous growth theory through AK model. Barro (1996), mention in his study that monetary policy have also significantly associated with economic growth. Trade openness accelerates economic growth through advancement in R & D as the new international trade theory (Grossman and Helpman, 1991b).

The role of government in achieving economic growth through its fiscal policy, particularly spending policy cannot be overlooked. The results of Hussain et al., (2017) indicate that public development expenditures are growth-oriented, while current expenditures reduce economic growth (Onifade et al., 2020). Government expenditure exert a positive effect on economic growth (Tariq et al., 2020). The demand for money plays an important role in the formulation of monetary policy. Mahmood et al., (2017) concluded that GDP is positively linked to M2. Trade openness plays a momentous role in increasing economic growth of a country. Ali and Panhwar (2017) mention that, over the long-term, liberalization of trade has a positive and significant effect on the human development index of all features. Trade openness have positive impact on economic growth (Raghutla, 2020).

Research Methodology Econometric Model

On the basis of theoretical and empirical background the researcher has developed a baseline econometric model for fiscal, monetary and trade policies impact on economic growth of Pakistan.

Baseline Econometric Model

$$RGDP_t = f(FP_t, MP_t, TP_t) \quad \ldots\ldots (1)$$

$$RGDP_t = f(CE_t, lkDE_t, M2_t, TO_t) \quad \ldots\ldots (2)$$

Where, t represent time period, RGDP represent output, FP represent fiscal policy proxy by current and development expenditures represented by CE and DE, MP represent monetary policy proxy by money supply represented by M2 and TP represent trade policy proxy by trade openness represented by TO. From the above equation, operational baseline econometric model in log linear form can be specified as.

Operational Baseline Econometric Model

$$lkRGDP_t = \alpha_0 + \sum_{a=0}^{Z} \beta_a lkFP_{t-a} + \sum_{b=0}^{y} \theta_b\, lkMP_{t-b} + \sum_{c=0}^{S} \pi_c\, lkTP_{t-c} + \mu_t \ldots\ldots\ldots (3)$$

$$lkRGDP_t = \alpha_0 + \sum_{a=0}^{Z} \beta_a lkCE_{t-a} + \sum_{j=0}^{s} \psi_j lkDE_{t-j} + \sum_{b=0}^{y} \theta_b\, lkM2_{t-b} + \sum_{c=0}^{S} \pi_c\, lkTO_{t-c} + \mu_t \ldots\ldots\ldots\ldots (4)$$

Where, α_0, β_a, ψ_j, θ_b *and* π_c represent the parameter, μ_t represent the error term. The pertinence of using the logarithmic form's equation is that each of the estimated parameter in the equation signify their particular variable's elasticity, an additionally, according to Gujarati and Porter (2003) the heteroscedasticity problem is also reduced due to use of logarithmic transformational function.

Data and Estimation Techniques

This study use annual time series data for the aeon of 1976-2016. Data for all the interested variables obtained from State Bank, ministry of finance, ministry of commerce and from various issues of Annual Economic Survey of Pakistan. Estimation procedure was undertaken with the help of E-VIEW (10) software packages. The researcher designed/planned to use the following data analysis techniques.

a. Stationarity of Data
   - Augmented Dickey Fuller (ADF) Test
   - Phillips-Perron (PP) Test

b. Maximum LAG Order Selection

c. Co-integration
   - ARDL General Form

ARDL Conditional Error Correction (CEC) Form

ARDL Error Correction Mechanism (ECM)

ARDL Long Run Form

Diagnostic Tests

ARDL General Form of Operational Econometric Model

$$lkRGDP_t = \beta_0 + \sum_{=1}^{q} \theta\ L\ lkRGDP_t + \sum_{i=0}^{r} \varphi_i L^i lkCE_t + \sum_{m=0}^{p} {}_m L^m lkDE_t + \sum_{j=0}^{s} \infty_j L^j lkM2_t + \sum_{k=0}^{w} \propto_k L^k lkTO_t + \mu_t \quad (5)$$

Where, β_0, θ, φ_i, x_m, ∞_j and $\propto_k$ represent parameter, L, L^i, L^m, L^j and L^k represent lags of the interested variable and μ_t represent error term of the model.

ARDL Conditional Error Correction (CEC) Version of Operational Econometric Model

$$lkRGDP_t = \alpha_0 + \partial_0 lkRGDP_{t-1} + \eth_0 lkCE_{t-1} + {}_0 lkDE_{t-1} + \gamma_0 lkM2_{t-1} + \phi_0 lkTO_{t-1} + \sum_{a=1}^{e} \omega_a\ lkRGDP_{t-a} + \sum_{b=1}^{f} \mathfrak{f}_b \Delta\, lkCE_{t-b} + \sum_{m=1}^{r} {}_m\ lkDE_{t-m} + \sum_{c=1}^{g} 3_c \Delta lkM2_{t-c} + \sum_{d=1}^{} \eth_d \Delta lkTO_{t-d} + v_t \quad (6)$$

Where ∂_0, δ_0, γ_0 and ϕ_0 are the long run parameter, is the first difference operator and v_t is the white noise error term and ω_a, ψ_b, η_m, χ_c and δ_d represent the short term dynamic co-efficient of the model.

ARDL Long Run Form of Operational Econometric Model

$$lkRGDP_t = \lambda_0 + \sum_{i=1}^{m} r_i\ lkRGDP_{t-i} + \sum_{j=0}^{n} £_j\ lkCE_{t-j} + \sum_{r=0}^{v} x_r\ lkDE_{t-r} + \sum_{k=0}^{p} w_k lkM2_{t-k} + \sum_{l=0}^{q} \rho_l\, lkTO_{t-l} + s_t \quad (7)$$

Whereas, τ_i, ξ_j, x_r, ϖ_k and ρ_l represent the long-run coefficients.

ARDL Error Correction Mechanism (ECM) Form of Operational Econometric Model

$$\Delta lkRGDP_t = h_0 + \sum_{r=1}^{w} \zeta_r \Delta lkRGDP_{t-r} + \sum_{s=1}^{S} P_s \Delta lkCE_{t-s} + \sum_{j=1}^{n} p_j \Delta lkDE_{t-j} + \sum_{u=1}^{y} \sigma_u \Delta lkM2_{t-u} + \sum_{v=1}^{Z} \pi_v \Delta lkTO_{t-v} + 5_0 ECM_{t-1} + C_t \quad (8)$$

Whereas, ζ_r, p_s, p_j, σ_u and π_v are the dynamic co-efficient of adjustment, ECM_{t-1} is the lag of the residual that represents the short- run disequilibrium adjustment of the estimate of the long-run equilibrium error term and 5_0 indicates the speed of adjustment (Pesaran et al., 2001).

Empirical Results and Discussions
Stationarity of Data–

ADF and PP test were employed to check the stationarity of the data.

Table 1: ADF Test Results with Intercept, Trends and Intercept and no Trends and Intercept

Null Hypothesis: Variable has a unit root.
Sample: 1976 2016
Included observations: 41

	ADF (Level)	ADF (1st Difference)	Conclusion (Order of Integration)
	Intercept	Intercept	
Variables	t-Statistic Prob.	t-Statistic Prob.	
lnRGDP	-4.402724 0.0011	-9.557398 0.0000	I (0)
lnCE	-0.545986 0.8712	-3.739977 0.0079	I (1)
lnDE	-1.756011 0.3963	-4.524490 0.0008	I (1)
lnM2	-1.131111 0.6938	-5.030005 0.0002	I (1)
lnTO	-1.678932 0.4340	-4.246149 0.0018	I (1)
	Trend & Intercept	Trend & Intercept	
lnRGDP	-5.013797 0.0012	-9.464364 0.0000	I (0)
lnCE	-2.635116 0.2678	-3.723249 0.0346	I (1)
lnDE	-2.024489 0.5705	-4.537736 0.0043	I (1)
lnM2	-3.126853 0.1148	-4.973548 0.0014	I (1)
lnTO	-3.153941 0.1086	-4.359210 0.0069	I (1)
	None	None	
lnRGDP	-0.730542 0.3936	-9.680527 0.0000	I (1)
lnCE	-5.429187 0.0000	-1.545552 0.1133	I (0)

lnDE	-2.117214 0.0344	-4.375632 0.0001	I (0)
lnM2	-2.439290 0.0161	-1.500095 0.1232	I (0)
lnTO	4.322658 1.0000	-3.311642 0.0015	I (1)

Table 2: PP Test Results with Intercept, Trends and Intercept and no Trends and Intercept

Null Hypothesis: Variable has a unit root.
Sample: 1976 2016
Included observations: 41

	PP (Level)		PP (1st Difference)		Conclusion
	Intercept		Intercept		(Order of
Variables	t-Statistic Prob.		t-Statistic	Prob.	Integration)
lnRGDP	-4.419194 0.0011		-12.07522	0.0000	I (0)
lnCE	-0.543613 0.8717		-6.607139	0.0000	I (1)
lnDE	-1.779812 0.3848		-4.524490	0.0008	I (1)
lnM2	-1.131111 0.6938		-4.978785	0.0002	I (1)
lnTO	-1.545919 0.5004		-4.246149	0.0018	I (1)
	Trend & Intercept			Trend & Intercept	
lnRGDP	-4.979647 0.0013		-11.51718	0.0000	I (0)
lnCE	-2.652116 0.2609		-6.590683	0.0000	I (1)
lnDE	-2.334076 0.4069		-4.541608	0.0043	I (1)
lnM2	-3.061351 0.1296		-4.918424	0.0016	I (1)
lnTO	-2.452189 0.3488		-4.385747	0.0064	I (1)
	None			None	
lnRGDP	-0.896734 0.3216		-12.35338	0.0000	I (1)
lnCE	-5.768490	0.0000	-3.756173	0.0004	I (0)
lnDE	-1.883548	0.0576	-4.361005	0.0001	I (1)
lnM2	-5.025924	0.0000	-2.083436	0.0372	I (0)
lnTO	3.576764	0.9998	-3.191531	0.0022	I (1)

Table 3: Maximum Lag Order Selection Results for the Operational Econometric Model

VAR Lag Order Selection Criteria
Endogenous variables: lnRGDP lnCE lnDE lnM2 lnTO
Exogenous variables: C
Sample: 1976 2016 Included observations: 37

Lag	LogL	LR	FPE	AIC	SC	HQ
0	117.2688	NA	1.59e-09	-6.068586	-5.850895	-5.991840
1	336.3601	367.1260*	4.49e-14*	-16.56001	-15.25386*	-16.09953*
2	359.0251	31.85345	5.50e-14	-16.43379	-14.03918	-15.58958
3	387.8844	32.75924	5.52e-14	-16.64240	-13.15934	-15.41446
4	424.7129	31.85161	4.61e-14	-17.28178*	-12.71025	-15.67010

Note: * indicates lag order selected by the criterion

Conclusively, both ADF and PP test estimated values confirm that all the variable were integrated of order zero or order one and none of them was integrated of order two.

Maximum LAG Order Selection

The next step before applying ARDL test was to determine the maximum lag length, which was selected by Akaike information criterion.

Based on the lag selection criterion values, maximum 4 lags are suggested by the Akaike information 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

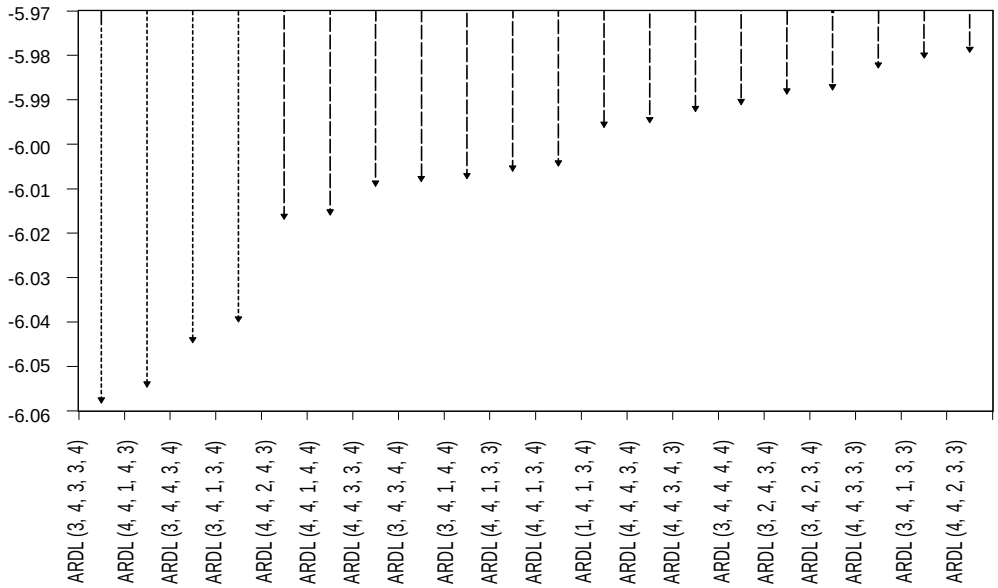
ARDL General Form of Operational Econometric Model

Table 4: ARDL General form of Operational Econometric Model Summary Results

Method: ARDL			
Dependent Variable (4 lags, automatic): lnRGDP			
Dynamic regressors (4 lags, automatic): LNCE LNDE LNM2 LNTO			
Fixed regressors: C			
Sample: 1976 2016		Included observations: 37 after adjustments	
Model selection method: Akaike info criterion (AIC)			
Number of models evaluated: 2500		Selected Model: ARDL (3, 4, 3, 3, 4)	
R-squared	0.944828	Mean dependent var	15.45033
Adjusted R-squared	0.913587	S.D. dependent var	0.499268
S.E. of regression	0.010144	Akaike info criterion	-6.057603
Sum squared resid	0.001543	Schwarz criterion	-5.099760
Log likelihood	134.0657	Hannan-Quinn criter.	-5.719919
F-statistic	4152.237	Durbin-Watson stat	2.356733
Prob (F-statistic)	0.000000		

Akaike Information Criteria (top 20 models)

Figure 1: Optimum Lag Order Selected by EVIEW (10) Software Automatically.



According to the findings presented in table 4.4, the R^2 (co-efficient of determination) value was 0.94 which indicate that, holding other factors constant, the explanatory variables would explain 0.94 % of the variability in dependent variable. Table 4.4 also show that the model's explanatory power using the adjusted-R^2 value was validated at around 0.91 % with the F-value for the joint significance of the co-efficient of the explanatory variable significant at 1%. This implies that the results were 0.91 % reliable as the adjusted R^2 illustrates. Further, the Durban Watson statistics (d) was 2.35, as R^2<d, it was concluded that model has no spurious results.

ARDL Bound Test

Table 4.5 presents the results of the calculated F-statistics, employed for investigating long run co-integration among the regressand and regressor variables.

The calculated F Statistics value is 6.7, which is respectively exceeds the upper bound critical value of 5.53 at 1 % significance level. This insinuate that null hypothesis of nonexistence of long run relationship among the regressand and regressor variables is rejected in favor of alternative hypothesis, which states that, the long run relationship exist among the regressand and regressor variables.

Long Run Analysis

Table No 4.6 shows the existence of long run co-integration relationship between the dependent and independent variables, the study estimate the long run co-efficient. The finding indicates that, the co-efficient of current and development expenditure is -0.11 and 0.26, which is significant at 1% and 5%, this implies that 1% increase in government current expenditure would induce a fall of 0.11% in RGDP. Whereas, 1% increase in development expenditure would induce a rise of 0.26% in RGDP. The co-efficient of money supply is 0.18, which is significant at 1%, this implies that 1% increase in money supply would induce a rise of 0.18% in RGDP. Similarly, the co-efficient of trade openness is 0.29, which is also significant at 1%, this implies that 1% increase in trade openness would induce a rise of 0.29% in RGDP.

Table 5: F-Bound Test Results of Operational Econometric Model

Null Hypothesis:	No levels relationship
Dependent Variable: D (lnRGDP)	Dynamic regressors: lnCE lnDE lnM2 lnTO
Selected Model: ARDL (3, 4, 3, 3, 4)	(4 lags, automatic)
Sample: 1976 2016	Included observations: 37 after adjustment

Test Statistic	Value	Signif.	I (0)	I (1)
			Asymptotic: n=1000	
F-statistic	6.700420	10%	2.2	3.09
K	4	5%	2.56	3.49
		2.5%	2.5%	2.88
		1%	1%	3.29
Actual Sample Size	37		Finite Sample: n=40	
		10%	2.427	3.395
		5%	2.893	4
		1%	3.967	5.455
			Finite Sample: n=35	
		10%	2.46	3.46
		5%	2.947	4.088
		1%	4.093	5.532

Table 6: Result of Long Run of Operational Econometric Model

ARDL Long Run Form.	
Dependent Variable: D (lnRGDP)	Dynamic regressors: lnCE lnDE lnM2 lnTO
Selected Model: ARDL (3, 4, 3, 3, 4)	(4 lags, automatic)
Sample: 1976 2016	Included observations: 37 after adjustment

Long Run Co-efficient

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNCE	-0.111073	0.021129	-5.256983	0.0001

LNDE	0.261730	0.102133 2.562654	0.0216
LNM2	0.181994	0.048744 3.733689	0.0020
LNTO	0.298248	0.055574 5.366712	0.0001
C	12.43195	1.033514 12.02881	0.0000

The results are in line with Mahmood and Sial (2012), Shaheen et al., (2013), Umer (2014), Adeeb et al., (2014), Ayub and Maqbool (2015), Ahmad et al., (2016), Hussain et al., (2017), Mahmood et al., (2017), and Himayatullah (2017).

Short Run Dynamics

The co-efficient of error correction term (ECM_{t-1}) indicate the speed of adjustment from a short run deviation back to the long run equilibrium relationship.

The findings of table no 4.7 evince that, the co-efficient of current expenditure of 1 year earlier, 2 year earlier and 3 year earlier are - 0.41, -0.24 and -0.20, which is significant at 1%, 1% and 1%, this implies that 1% increase in government current expenditure 1 year earlier, 2 year earlier and 3 year earlier would induce a fall of 0.41%, 0.24% and 0.20% in RGDP in short run, supported by Mahmood and Sial (2012) and Hussain *et al.,* (2017).

Table 7: Short Run Result of Operational Econometric Model

ARDL Error Correction Mechanism Form

Dependent Variable: D (lnRGDP) Dynamic regressors: lnCE lnDE lnM2 lnTO

Selected Model: ARDL (3, 4, 3, 3, 4) (4 lags, automatic)

Sample: 1976 2016 Included observations: 37 after adjustment

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D (lnRGDP (-1))	0.125064	0.109103	1.146292	0.2696
D (lnRGDP (-2))	0.317903	0.110526	2.876272	0.0115
D (lnCE)	-0.052966	0.060486	-0.875675	0.3950
D (lnCE (-1))	-0.415183	0.105612	-3.931208	0.0013
D (lnCE (-2))	-0.240867	0.068010	-3.541624	0.0030
D (lnCE (-3))	-0.202893	0.050664	-4.004650	0.0011
D (lnDE)	0.073763	0.017604	4.190132	0.0008
D (lnDE (-1))	0.052129	0.020959	2.487210	0.0251
D (lnDE (-2))	0.051382	0.020918	2.456381	0.0267
D (lnM2)	0.012060	0.044138	0.273238	0.7884
D (lnM2 (-1))	0.084111	0.050060	1.680202	0.1136

D (lnM2 (-2))	0.140019	0.044423	3.151928	0.0066
D (lnTO)	0.070369	0.019042	3.695462	0.0022
D (lnTO (-1))	0.112911	0.023617	4.780999	0.0002
D (lnTO (-2))	-0.102951	0.020010	-5.145096	0.0001
D (lnTO (-3))	-0.037937	0.019275	-1.968215	0.0678
CointEq (-1)*	-0.455347	0.062194	-7.321431	0.0000

R-squared	0.878640	Mean dependent var	0.047936
Adjusted R-squared	0.831552	S.D. dependent var	0.018795
S.E. of regression	0.008785	Akaike info criterion x	0.018795
Sum squared resid	0.001543	Schwarz criterion	-5.587722
Log likelihood	134.0657	Hannan-Quinn criter.	-6.066936
Durbin-Watson stat	2.356733		

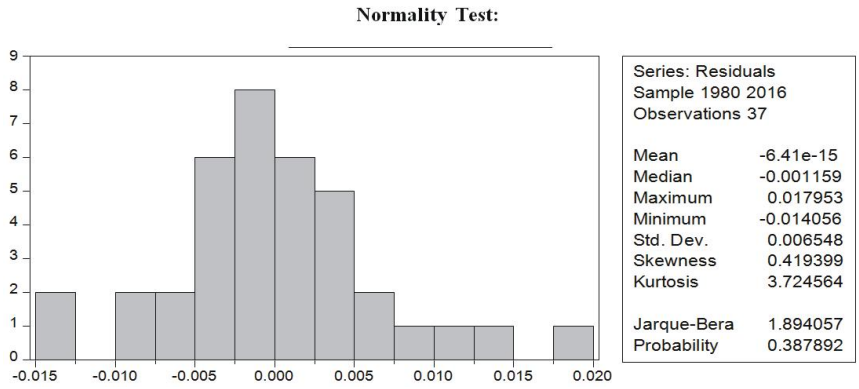
The co-efficient of development expenditure of current year, 1 year earlier, 2 year earlier are 0.07, 0.05 and 0.05, which is significant at 1%, 5% and 5%. This implies that 1% increase in government development expenditure in current year, 1 year earlier and 2 year earlier would induce a rise of 0.07%, 0.05% and 0.05% in RGDP in short run, supported by Adeeb *et al., (*2014) and Hussain *et al., (*2017). The co-efficient of money supply of 2 year earlier is 0.14 which is significant at 1%, this implies that 1% increase in money supply 2 year earlier increase RGDP by 0.14% in short run supported by Ahmad *et al., (*2016) and Hussain and Zafar (2018). The co-efficient of trade openness of current year, previous year, 2 year earlier and 3 year earlier are 0.07, 0.11, -0.10 and -0.03 which are significant at 1%, 1%, 1% and 10%, this implies that 1% increase in trade openness in current year and previous year increase RGDP by 0.07% and 0.11% and 2 year earlier and 3 year earlier decrease RGDP by 0.10% and 0.03% respectively, supported by Umer (2014) and Himayatullah (2017).The co-efficient of the lagged error correction term (ECM_{t-1}) is –0.455 and significant at 1%. This validate the presence of a long run effect of fiscal, monetary and trade policies on economic growth of Pakistan. Most importantly, this implies that any disequilibrium occur in the economy will be recover 45.5% in next year.

Diagnostic Tests

Table 8: Result of Diagnostic Tests

Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.678110	Prob. F (2,13)	0.5247
Obs*R-squared	3.495358	Prob. Chi-Square (2)	0.1742
Heteroscedasticity Test: Breusch-Pagan-Godfrey.			
F-statistic	0.947978	Prob. F (21,15)	0.5545
Obs*R-squared	21.10086	Prob. Chi-Square (21)	0.4528
Scaled explained SS	4.724395	Prob. Chi-Square (21)	0.9999
Heteroscedasticity Test: ARCH Effect.			
F-statistic	1.766334	Prob. F (1,34)	0.1927
Obs*R-squared	1.777874	Prob. Chi-Square (1)	0.1824

Figure 2: Normality Test



The probability values of the diagnostic tests, serial correlation LM test, and Heteroscedasticity test are not statistically significant. This implies that econometric model passes the diagnostic tests against these issues. The probability values of Jarque-Bera test is 0.38, which indicate that the residual from the regression are normally distributed.

Ramsey RESET Test

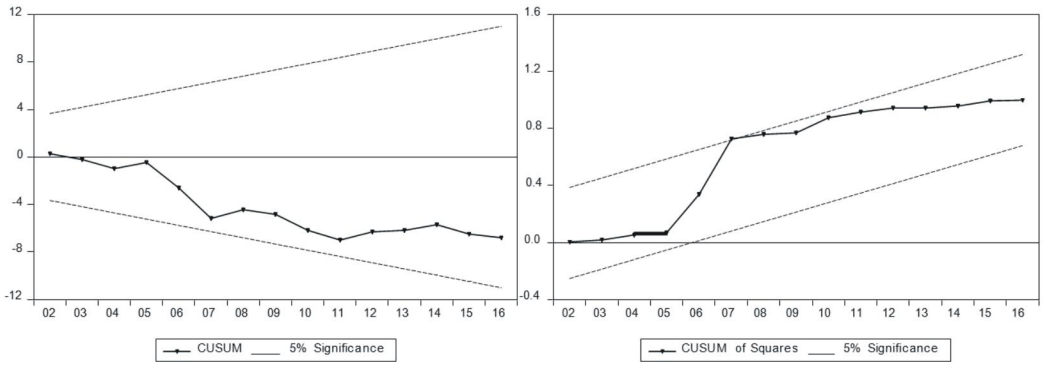
In Table no 4.9, the p-valve is 0.19 that is greater than 0.05, so the co-efficient are stable. The RESET test suggests that the linear functional form is well and correctly specified.

Table 9: Ramsey RESET Test

Omitted Variables: Squares of fitted values			
	Value	Df	Probability
t-statistic	1.936682	14	0.1932
F-statistic	3.750737	(1, 14)	0.1932
F-test summary:			
	Sum of Sq.	Df	Mean Squares
Test SSR	0.000326	1	0.000326
Restricted SSR	0.001543	15	0.000103
Unrestricted SSR	0.001217	14	8.69E-05

Recursive Estimates

Figure 3 Plot of CUSUM and CUSUMQ Test



The plotted CUSUM line can be found within the 5% critical line indicating, no systematic change in the regression co-efficient. While, the plotted CUSUMQ line has almost all its plots within the 5% critical line, implying that the parameters in the model are relatively constant.

Conclusion and Policies Implications

The results of this study confirm the finding of most previous studies, since the advent of the endogenous growth theory and new trade theory. From an evaluation of the overall analysis and results, it is concluded that, on fiscal policy variable side, development expenditure have positive and significant effect, while, current expenditure have also significant but negative effect on economic growth, in both, in the short and long term. On monetary policy variable side, money supply have also positive and significant effect on economic growth in both, in the short and long term. Finally, on trade policy variables side, trade openness have positive and significant effect on economic growth in both, in the short and long term. The dream of sustainable economic growth and development can only be materialized

by changing the composition of public expenditure in favor of development expenditure. In recent years, Pakistan's monetary policy has largely supported the dual objective of promoting economic growth and price stability. It achieves these goals targeting monetary aggregates (broad money supply growth as an intermediate target and reserve money as an operational target) in line with real GDP growth and the inflation objective set by the government. If SBP effectively implements monetary policy, the government may not only achieve its short- term goals, but also achieve long-term growth. The policy implications of sustainable and protracted openness policy are desirable for countries to gain the benefits of openness, so developing countries like Pakistan need to consider openness of trade policies as their long-term plans.

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