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Political Stability in Absence of Violence and Economic Growth in Pakistan

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Abstract

This snapshot of political stability in absence of violence (POLIT) and economic growth (ECG) is analyzed in this study for period 1980-2016. The Ng-Perron is used to determine to order of integration. The findings shows that both series are integrated of order one. The short run impact of political stability in absence of violence on economic growth in Pakistan is determined by using VAR test and long term relationship is determined with help of Johansen Cointegration technique. This test point out that both series are integrated of order one. The impulse response functions show that there is a positive and significant short-run association between economic growth and political stability in absence of violence. Further, analysis Granger causality test showed that there was a unidirectional causality from POLIT to ECG. Policies that will assist in the control of violence and other regulatory measures are recommended to boost up economic growth in Pakistan.

Keywords: Political stability, Absence of violence, Economic growth, Pakistan, ARDL.

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Introduction

Political stability in absence of violence and economic growth are extremely interrelated. It is clear that political stability in presence of violence creates unrest in environment and reduces economic growth and this poor efficiency may collapse the government, while political stability in absence of violence may lead to increase of economic growth and make solidarity in a nation. The high levels of economic development and educating have deep roots with democracy and political stability. The strong political stability in absence of violence provides stabilization in political atmosphere and increase economic growth and living standard of the nation. The present literature deal with this question that whether political stability in absence of violence is a luxury and ultimately it reduces living standards (Abranmovitz, 1979).

More precisely, political stability in absence of violence is being discussed by the researchers in detail. Researchers conclude that many developed and developing countries adopted political stability in absence of violence as a political system and they became strong. All citizens have equal rights to get benefit directly or indirectly from political stability system and democratic government. Politically stabilized government is based on several types; but here we discuses two main types of democracy i.e. direct political stabilized and democratic political stabilized government. In the direct political stabilized all political decisions are done by all capable citizens and in democratic political stabilized government the sovereignty power is hold by all capable citizens and political power is used indirectly through elected representatives. In contrast to political stability, if power is held by an individual or by a group of individuals, then it is called dictatorship. There are four types of dictatorship; (1) military dictatorship, (2) single party state, (3) persona list (4) hybrid. We do not go in the detail of dictatorship, because this study wants to find relationship between economic growth and political stability in absence of violence in Pakistan. This paper mainly deals with the theoretical and empirical relationship between political stability in absence of violence and economic growth in case of Pakistan.

Timothy (2001) stated that the distribution of physical capital plays vital role for welfare of society, and the economy is affected by the determinants of economic growth long-term. Thus, it is observed that democratic policies like distribution of land, existence of new markets, pro-poor taxation, and formation of new capital for people play important role towards society. Nelson and Ram (1998) investigated a positive behavior of democracy on economic growth. It is emphasized that democracy becomes more pluralistic and it leads to efficient and this efficiency increases economic performances. Olson (1982) argued that democratic system create strong and sound situation in a country. Barro (1996, 1997) finds that a political constancy system is positively correlated with economic growth.

On other hand, Alesina (1998) suggested that socio-political instability creates an uncertain politico-economic environment and reduces investment. Ahmed (2005) emphasizes that political instability leads to higher inflation and reciprocal of this leads to higher growth. Feng (2003) and Bamoul (1986) presented numerous models and all these models have in common idea that political instability lead to economic inefficiencies, while political stability bring prosperity and raise welfare of society. Timothy (2001), Barro and Sala-i-Martin (1995) have shown in their studies that convergence of growth rates among the current industrials countries. Feng (2003) suggested that political turmoil adversely affect sustain economic growth, investment and savings, in contrast political stability in absence of violence increase saving, investment and boost up economic growth. These results are consistent with those of (Ng & Perron, 2001). Tavares (1996) explored that dictatorship create inequality in distribution of income among members of society, while persistence of democracy and political stability reduces income inequality.

Data and Methodology

Annual data on political stability in absence of violence and economic growth are collected to get the maximum number of observations according to their availability and cover the period 1980-2016. The annual data set is based on political stability in absence of violence in Pakistan and GDP measured in constant factor cost. Data of political stability in absence of violence were collected from the World Bank's World Development Indicators (WDI), while data for GDP were collected from various issues of economic survey of Pakistan.

Results and Discussions

Table 1. Result of Ng-Perron test at level and with trend for ECG and POLIT

Variables	MZa	MZt	MSB	MPT	Decision
Polit	-0.0722	-0.0570	0.78945	36.554	I(1)
ECG	-5.1836	-1.5797	0.30476	4.7963	I(1)

The findings of MZa suggests that null hypothesis cannot be rejected and this shows these variables are not integrated of order 1(I). The results at first difference are presented in Table 2. The results shows that both series are integrated of order one I(1) and thus, the Johansen cointegration technique can be employed to find the long run association between ECG and POLIT.

Table 2. Result of Ng-Perron at 1st difference

Variables	MZa	MZt	MSB	MPT	Decision
Polit	-7.90866	-1.97772	0.25007	3.13579	I(1)
ECG	-7.95227	-1.98925	0.25015	3.09766	I(1)

Note: * shows significance at 1% significance level

(Przeworski, 1993) suggested that the Ng-Perron unit root test is applied to check the order of integration of economic growth and political stability in absence of violence. These findings are presented in this table.

For cointegration, it is most important to select appropriate lag length by estimating first difference of conditional error correction of variables, the results of VAR Lag order selection criteria is reported in Table 3.

Table 3. VAR lag order selection criteria

Lag	Log L		LR	FPE	AIC	SC	HQ
0	-45.821	NA	3.188		6.832	6.923	6.828
1	-27.606	28.6310*	0.4220*		4.800	5.0790*	4.775
2	-26.076	1.967	0.633		5.154	5.612	5.119
3	-22.089	3.999	0.726		5.154	5.794	5.092
4	-13.300	6.264	0.487		4.4723*	5.298	4.384*

* Lag order selected by the criterion

The findings indicate that optimum lag order is 1 for integration between these variables.

The diagnostic tests in Table.4 divulge that there is no evidence of white heteroscedisticity, autoregressive, conditional heteroscedisticity and serial correlation, thus model is fit for analysis.

Table 4. Diagnostics tests

Sr. No	Test	Results
01	Herosakedasticity	0.508
02	Pagan-Godfrey	(0.1462)
03	Hetrosakedastcity: Harvey	0.588
		(0.3044)
04	LM Test	0.971
		(0.971)
05	Hetroscedascity: ARCH	0.921
		(0.6451)

Long run Association between ECG and POLIT

The results of Trace test and Eigen value rank test are reported in Table 5 and Table 6 respectively. In the trace test, the trace statistics values are greater than the critical value, thus the null hypothesis is rejected and similarly in H0: r ≤1 Trac statistics values are less than critical values, therefore null hypothesis is accepted and this shows that there is long- run association between ECG and POLIT. This means that the

POLIT and ECG have long- run association between each other. It may be said that that variables move together over time and convergence to equilibrium. Furthermore, these variables are stationary and their linear combination is also stationary.

Table 5. Eigenvalue rank test

Hypo No. of CE(s)	Max Eigen stat	0.05 crit val	Prob
H0: r = 0*	12.52834	14.26460	0.0923
H0: r ≤1	3.618233	3.841466	0.0571

In same way, in H_0: r = 0* null hypothesis is rejected because the critical values are greater than the Eigenvalue, and in H0: r ≤1 the critical values are greater than max Eigenvalues, thus null hypothesis is rejected and it may be said that there is long-run association between ECG and POLIT.

Table 5. The findings of Johansen cointegration test

Hypo No. of CE(s)	Trac stat	0.05 cri value	Prob
H0: r = 0	16.14657	15.49471	0.0399
H0: r ≤1	3.618233	3.841466	0.0571

Short Run Association between POLIT and ECG

The Johansen cointegration test is used to detect a long run association between POLIT and, ECG, while VAR test is used to find short run association. As per report of (Alege, 2010; Robert, 2004) variance decomposition and impulse response mechanisms help to find association between variables and for policy analysis.

The VAR system is given below:

ECG = η + η1 POLIT t -i + η2 ECG t-i + λ1

POLIT = η3 + η4 ECG t -i + η5 POLIT t-i + λ2

The impulse response function is a shock to a VAR system. More precisely, when shock is put to the error terms λ1 and λ2, these impulses response identify the responsiveness dependent variables in the VAR system. Thus shock is applied to each variable and responsiveness is observed on the VAR system. The change in error term λ1 change in ECG and this will change POLIT and ECG during next period. Thus the shock is given to the innovation or residuals on λ1 or λ2 to see effects of shocks on whole VAR system. The Cholesky dof adjustment is used to determine impulse responses in VAR system. In this analysis both variables are endogenous. The impulse response function can be applied in both unrestricted VAR and restricted VAR, which is VEC. Here unrestricted VAR is choosing for analysis.

Table 7. VAR estimates of the short run relationship

Var	ECG	POLIT
POLIT(-1)	0.710	0.187
	(0.322)	(1.196)
	[2.181]	[0.156]
POLIT(-2)	0.182	-0.699
	(0.329)	(1.206)
	[0.555	[-0.571]
ECG(-1)	0.0425	0.396
	(0.088)	(0.324)
	[0.4813]	[1.220]
ECG(-2)	0.0474	-0.0913
	(0.069)	(0.251)
	[0.686]	[-0.359]
R^2	0.92	0.57
F-Stat	32.95	2.31

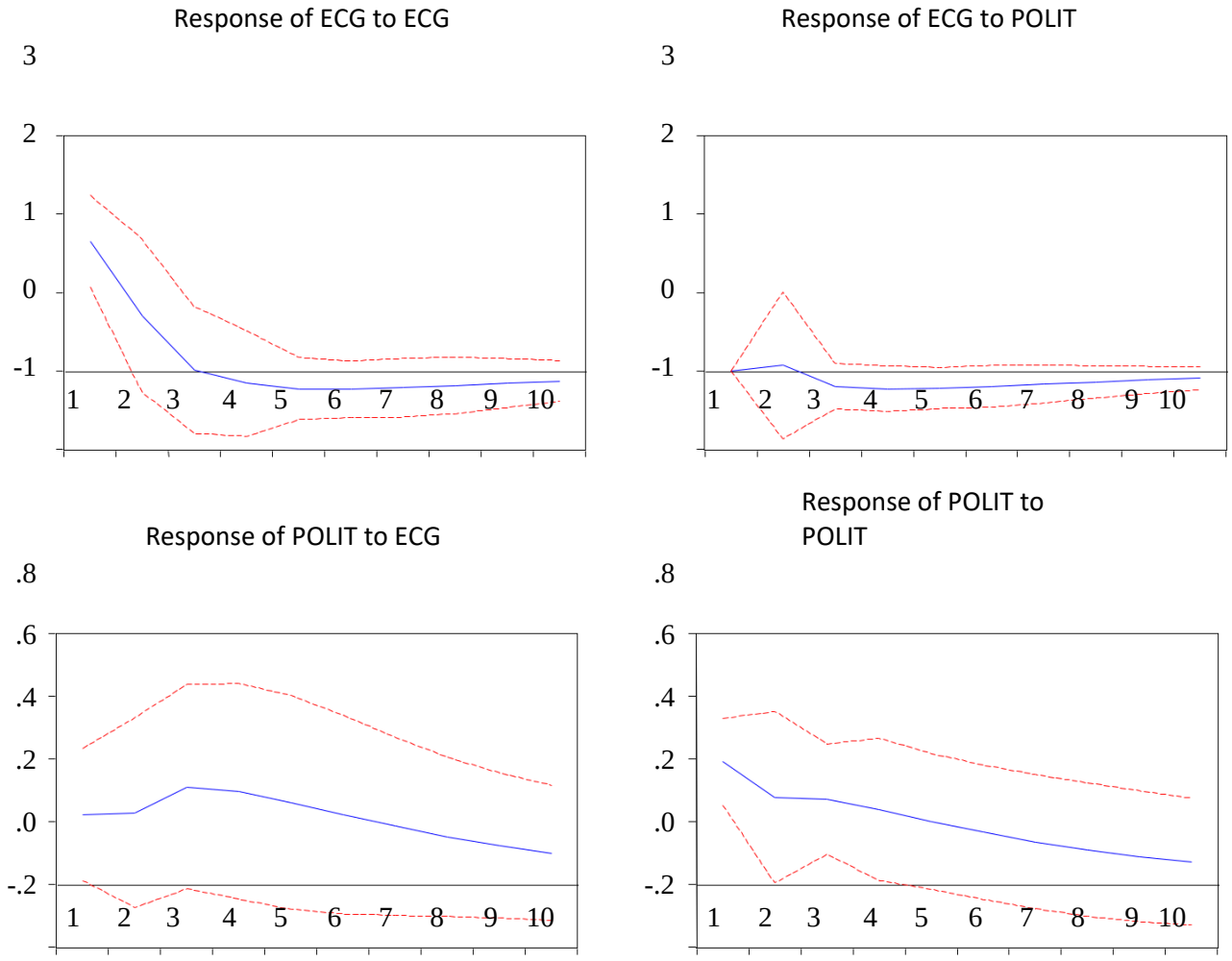
The findings of VAR estimates of the short run are presented in Table 7. It can be seen that ECG and POLIT are dependent variables and VAR is based on two appropriate lags.

How and in what manner slandered deviation shocks POLIT affect ECG with lag one and lag two and how and in what manner ECG react on slandered deviation shocks. POLIT has positive and significant effect on ECG in the first lag, while in second lag POLIT has positive but it is insignificant. This can be said that there is association between POLIT and ECG in a short run.

In impulse response function it is seen that how POLIT affect ECG in Pakistan and how the ECG in what manner, in what channel and how long affect POLIT during standard deviation shocks to the residuals that means when one standard deviation shocks to the residuals then it can be seen that how both variables react each other. Over a particular time period in the model impulse response function demonstrates the response of variables to one standard deviation shock in itself and in other variables. Jose (2010) reported that impulse response functions find out within a given period how the variation takes place in one variable which impacts the other endogenous variables of the model. In this research Cholesky one standard deviation innovation over a time period of ten years is used to see behavior of variables.

Figures Responses of ECG and POLIT Innovation

Response to Cholesky One S.D. Innovations ± 2 S.E.



The upper and lower boundary is also represented by the impulse response function, which is based on positive and negative two standard errors.

Table 8. Status of variance decomposition

Stages	POLIT	ECG
	Variance Decomposition of POLIT	
1	100.00	0.000
2	98.872	1.127
3	95.584	4.415
4	93.581	6.418

5	92.350	7.649
6	91.581	8.418
7	91.099	8.900
8	90.795	9.204
9	90.601	9.398
10	90.476	9.523

In second figure the slandered deviation shock is given in the residuals then or one slandered deviation is given to the POLIT or in other way how one slandered deviation shock change in POLIT change in ECG. Thus figure shows that when POLIT has positive shock ECG goes down after two years because line remains below the line. In the third figure one slandered deviation shock is given to POLIT, it bring positive change in ECG and it remain positive throughout the study period because a line remain above the specific line, now what about last one responses that means if positive shock is given to POLIT, reaction of this deviation is given in above figure. The reaction is gradually going down and going down and become steady in the last year of study and remains positive.

Table 9. Variance decomposition of POLIT and ECG

Variance decomposition of ECG		
Stages	POLIT	ECG
1	24.519	75.480
2	25.965	74.034
3	26.464	73.535
4	28.138	71.861
5	29.972	70.027
6	31.492	68.507
7	32.593	67.406

8	33.348	66.651
9	33.853	66.146
10	34.185	65.814

The variance decomposition develops between POLIT and ECG under VAR environment and both variables are stationary because this is basic need of VAR model to run it. The optimum lag selection criterion has advised to take two lags in the VAR model. The selection of variance decomposition is based on VAR model and takes 10 lags of time series data. The results of Cholesky variance decomposition of POLIT and ECG are reported in Table 9.

The first one is variance decomposition of POLIT and second one is ECG. Here the results of POLIT may be forecasted 10 yearly lags for short- run and long- run. Lag 3 is used for short run analysis. In short run impulse or innovation or shock to POLIT account for 95.58 percent variation of the fluctuation in POLIT (own shock) and shock to ECG can cause 4.41 percent fluctuation in POLIT, so as a results total fluctuation become one hundred percent in short run. For long run analysis lag 10 may be taken and in this lag a shock to POLIT can contribute 90.47 percent to POLIT and shock to ECG can contribute 9.52 percent fluctuation in the variance of POLIT, so it is clear that the contribution of POLIT has gone down. Similarly the same story in decomposition ECG can be described; in short run the shock to POLIT account for 26.46 percent variation of the fluctuation in POLIT and shock to ECG can cause 73.54 percent fluctuation in POLIT. Nevertheless, in the 10^{th} period a shock to POLIT in the long run can cause 34.18 fluctuations and shock to ECG can contribute 65.81 percent fluctuations in variance of POLIT in the long run. Consequently, here it can be seen in the short-run and long-run shock to POLIT can contribute in variation of ECG at large scale. These shocks bring 24.46 percent change in third lag (short run) and 34.18 percent in 10^{th} lag (long run). It is concluded that political stability in absence of violence is highly effective.

Table 10. Granger causality test between POLIT and ECG

Granger Causality Test between POLIT and ECG		
Null Hypo	F-Statistics	Prob
D(POLIT) does not Granger Cause D(ECG)	15	5.4774
D(ECG) does not Granger Cause D(POLIT)	1.34004	0.3051

The results of Granger causality test (1969) between POLIT and ECG are reported in Table 10. The findings in the first row suggests that POLIT does not Granger cause ECG. This shows that POLIT has no influence for ECG. In the same way in the second row ECG does not Granger cause POLIT and this also implies that ECG has no effect for POLIT. The neither POLIT Granger caused ECG, or ECG Granger cause POLIT. This is so

because in Pakistan, the agricultural sector is controlled by small scale farmers whose ECG is less influenced by POLIT.

Conclusion

This study observed the association between POLIT (political stability in absence of violence) and, ECG (economic growth) in Pakistan. Both variables are non-stationary in levels but stationary in their first difference in Ng-Perron Test. The empirical results of Johansen cointegration show that there is a positive long run association between POLIT and ECG. Similarly variance decomposition test tells that POLIT is highly effective for economic growth. Furthermore, Granger causality shows that the neither POLIT Granger cause ECG, nor ECG Granger causes POLI the VAR test was used to find short-run impact political stability on economic growth. The impulse response functions show that there is a positive and significant short-run association between economic growth and political stability in absence of violence. Also the variance decomposition analysis indicated that in the study period, POLIT donated about 26 percent to the variation in short run and 34 percent in the long-run in economic growth. Further, analysis Granger causality test show that POLIT does not Granger cause ECG and ECG does not Granger cause. Lastly, policy-makers should impose those policies which will boost up ECG such as launched welfare policies, industrial products are produced by use of technical gadgets, which increase ECG and promote economy. Future studies on this topic may be conducted whether the association between POLIT and ECG is nonlinear or time-varying.

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