

Fiscal, Monetary Policies and Institutions' Role (Political, Social and Economic) in Pakistan

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Abstract. *The purpose of this study is to test the fundamental relationship between fiscal, monetary policies and institutions in Pakistan from 1976 to 2008. These policies are roadmap in the progress of a country. No doubt both these policies are useful tools in the hands of the government to increase the per capita GDP of the country. Such policies depict the performance level of institutions of a country. Better institutions leads to higher level of growth. Institutions perform significant role in the progress of any country. The growth targets can be achieved through institutions. Higher the quality of institutions, higher the performance would be shown by economy. Countries can reach middle-income levels despite some corruption, but further growth requires much better institutions (Easterly, 2001, pp. 234-235, 245-248, Rodrik, 2003, pp. 16-17).*

Kwiatkowski et al (1992) test is used to test unit root and short run relationship is analyzed through ECM. Auto regressive distributed lags (ARDL) shows that there is long run relationship among growth policies and institutions' role in Pakistan.

Keywords: fiscal policy, monetary policy, institutions.

JEL Codes: E52, E62.

REL Codes: 8J, 8K.

1. Introduction

Fiscal policy has vital association and effects on economic growth of a country. Fiscal policy directs the government's exertion to manipulate the track of the economy through transforming in expenditures and taxes. There are three observations concerning the responsibilities of government in the economy: Neoclassical, Keynesian and Ricardian (Bernheim, 1989). First, neoclassical paradigm considers that government participation in economic activity may crowd out private sector (Buitter, 1977). So, government should control the interference. Secondly, Keynesian sight supports the vigorous role of government due to its multiplier effects (Fazzari, 1994). Lastly, Ricardian equivalence suggestion argues for the impartiality of government deficits (Barro, 1989).

Fiscal policy has significant role in promoting economic growth especially after the great depression. Keynesian thoughts acquired strong position to elaborate the role of government in economics. Economies, especially developing economies, frequently bear inflation, unemployment and population problems. Government policies can be helpful in reducing inflation and unemployment. Fiscal policy is a robust way to assess the role of government in the growth of a country. The scope of government excess or deficit is the most significant statistic determining the impact of fiscal policy on a country (Siegel, 1979).

There are three schools of thoughts about the government expenditures and revenue. Tax and Spend School (Friedman, 1978), Spend and Tax School sponsored by Peacock and Wiseman (1979) and the third school of thought is based on the argument that government of a country may transform expenditure and taxes at the same time, it is identified as the fiscal synchronization proposition (Meltzer, Richard, 1981). Government expenditure is an easy source to change the current situation and direct the source in a good direction. Singh and Sahni (1984) found that government expenditure is a robust source which brings stability in short run fluctuations and overall expenditures of the economy. In order to meet expenditures, the governments in developing economies heavily depend upon revenues which are generated through taxation.

Revenue rising is a main target of any government to increase money. Appropriate transmission of money by the state increases economic growth. Therefore, monetary policy is used to control and regulate the money in the economy. Friedman and Hahn (1990) elaborated that the monetary authority alters the money accumulation. It can be done through open market operations or by shifting the quantity to the financial sector. Fiscal and monetary policies are important to increase the GDP and raise the level of living standard of their

people. But the developing countries like Pakistan are lacking behind and their growth is not consistent at a certain level. In addition to these policies, the serious issue of their slow growth is stemmed somewhere else. Therefore the role of institutions has significant place in the growth process. Country's institutions are basically responsible for the progress of any country. Institutions are formal and informal rules of the game governing interactions among individuals (North, 1991). Institutions are first gateway of any country through which the policies are implemented. So, for effective role of institutions, their structure and design is robust for outcome. In developing countries like Pakistan, the institutions are not functioning efficiently. Restructuring of the institutions is important because of the legacy of colonialism. Usher (1987) elaborated about the institutions of the developing countries that it is the custom to favour predation over production. Therefore it is the need of the hour to change the set up and rules of institutions in developing countries. In the process of growth, the role of different institutions like political, social and economic is significant. Economic growth and political institutions are closely associated. The high income countries have strong democracies and poor countries have horrific democracies or dictatorship. Acemoglu et al. (2001) elaborated that countries growth increases as political institutions looks after economic authorities. So the role of political institution is not only important but significant in attaining growth targets side by side economic institutions. Political rules go ahead to economic rules; however the causality runs both ways. Property rights and individual contracts are identified and implemented by political authorities, although the formation of economic interests will also manipulate the political structure. So, a given constitution of property rights will be reliable with a specific set of political rules (North, 1990). Besides political institution, social institution is basic element in the progress of a society. Man is a social animal, so this institution is as old as human being. With the passage of time this institution evolves and life becomes worth living. Goode (1904) considered that there are two basic elements of social institutions, the land and the citizens. In the early days of society these two elements are approximately the only factor to be considered. Afterward the exhaustion of social institutions might develop into a faraway more influential aspect in social evolution than any of the basic factors.

In developing countries like Pakistan, government can perform fundamental role for enhancing economic growth. In the economic survey of Pakistan (2005-06) it is declared that the fiscal policy of the Government has equally microeconomic and macroeconomic targets. Microeconomic objectives comprises a better division of earnings and wealth, evenhanded right to use to social services, fulfilling the basic needs of the poor, encouraging investment in

public sector, and improving the efficiency of both the public and private sectors to produce goods and services. Macroeconomic objectives narrate to development of the economy as a whole, national output, jobs, inflation and the balance of payments. Fiscal policy have to make certain that the stage and composition of taxes support equity and redistribution, and do not impede in people's investment and consumption choices. In the same way monetary policy plays significant role in the economy of Pakistan. In history, Pakistan has practiced cycles in inflation and economic growth. Inflation touched its climax of 23 percent in 1974, and stroked the lowest point of 2.4 percent in 2002. Likewise, the real output breach varied among -7 percent in 2002 and 6.5 percent in 2008. Historically, there has been additional focus of State Bank of Pakistan (SBP) on growth target instead of focusing on inflation and output, which shows pro-cyclical result of SBP. In addition, there has been more deviation in setting objectives of monetary policy (Malik, Ahmed, 2007). Yet there is not any significant empirical study about the institutions of Pakistan.

The organization of the study is as follows. Section II contains literature review; methodology is elaborated in section III, section IV presents empirical results and conclusion and policy implications are given in section V.

2. Review of literature

There is extensive literature on fiscal and monetary policies. In the literature effectiveness of fiscal and monetary policy has been tested comprehensively. Friedman and Meiselman (1963), Chari et al. (1991), Reynolds (2001), Shapiro and Watson (1988), Blanchard and Perroti (1996), Christiano et al. (1996), Chari and Kehoe (1991), Kim (1997), Chowdhury (1986, 1988) and Cardia (1991) have examined the impact of fiscal and monetary policies on different economic aggregates.

Some researchers favor the monetarist vision that monetary policy usually has a superior effect on economic growth and leads fiscal policy (Friedman, Meiselman, 1963, Ajaye, 1974, Elliot, 1975), whereas other support that fiscal tools are decisive for economic growth (Chowdhury, 1986, Olaloye, Ikhide, 1995). Institutions have robust role in achieving the growth targets and institutional variables are included in empirical studies as Kormendi and Meguire (1985) and Barro (1991). Property rights has significant importance and a robust variable in institutional studies, Skaperdas (1992), Grossman and Kim (1995, 1996), Hirshleifer (2001) and Dixit (2004) have elaborated that property right has strong impact in the process of growth.

Jawaid et al. (2010) elaborated the proportional effect of fiscal and monetary policy on economic growth in Pakistan applying annual data from

1981 to 2009. Cointegration test validates affirmative long run association among monetary and fiscal policy with economic growth. Though, monetary policy is found to be more efficient than fiscal policy. It is proposed that economists should pay more attention on monetary policy than fiscal.

Bruckner and Tuladhar (2010) found that how efficient was public investment in motivating the Japanese economy during the economic stagnation of the 1990s? Using a dataset of local public investment expenditure, it is found that investment multipliers are higher than for public consumption. It is also found that the usefulness of economic infrastructure investment, implemented mainly by the central government, is lower.

Nurudeen and Usman (2010) concluded that the increasing government expenditure has not transformed to development. In order to investigate the effects of government expenditure on economic growth, a disaggregated analysis is used. The results reveal that government total capital expenditure, total regular expenditures, and government expenditure on education have negative effect on economic growth. On the contrary, rising government expenditures on transport and communication, and health result to an increase in economic growth. It is suggested that Government should increase both capital expenditure and recurrent expenditure, including expenditures on education, as well as ensuring that funds meant for the development of these sectors are properly managed.

Ali et al. (2008) found the relationship among fiscal, monetary policies on economic growth in major SAARC countries for the period of 1990 to 2007. The autoregressive distributed lag (ARDL) approach is used to test the Monetarist and Keynesian argues. Money supply appeared as a noteworthy variable in both short run as well as in long run, whereas fiscal deficit is insignificant in short run as well as in long run. The results explain that monetary policy is an influential tool than fiscal policy in order to improve economic development in case of South Asian economies.

Dollar and Kraay (2003) established the role of institutions and trade on economic growth. Better institutions leads to higher level of growth. Countries having good institutions lean to extra trade. Per capita income is used as dependent variable and institutions and trade as independent variables. It is found that both the variables have significant effects on per capita GDP. However the role of trade is robust in the long run as compared to institutions.

Mohammad et al. (2009) studied the long run association between M2, inflation, government expenditure and economic growth in Pakistan by applying annual time series data from 1977 to 2007. Cointegration results explain that expenditure and inflation has important and negative impact

whereas M2 has noteworthy and positive effect on economic growth in the long run.

Ogunmuyiwa and Ekone (2010) examined the connection among money supply and economic growth in Nigeria by using the data for the period 1980-2006. OLS and Error correction mechanism is used in this study. Granger causality test is applied for checking the causality. In this study, it is found that economic growth is influenced by the level of money supply in the economy.

Taban (2010) analyzed the relationship among government spending and economic growth for the Turkey. The ARDL technique is used and MWALD Granger causality technique is applied on the quarterly data from 1987:Q1 to 2006:Q4. It is shown that the share of total government spending and the share of government investment to GDP have robust and negative impact on growth of real per capita. While the government spending to GDP ratio has insignificant effect on per capita output. The results indicate that there is bidirectional causality among government spending and economic growth, unidirectional relationship is found from per capita output growth to government investment to GDP ratio.

Acemoglu et al. (2003) elaborated that countries become heir to more extractive institutions from colonial rule are facing high volatility and economic catastrophe throughout after World War 2. Europeans are interested to just set up extractive institutions. Two stage least square (2SLS) is used to test the volatility, macroeconomic policies and the role of institutions. It is found that this high volatility and economic crisis are due to the fundamental effect of institutions on economic output.

3. Data sources and methodology

3.1. Data sources

The data employed in this study is time series, covering the period 1976-2009. The study is aimed to investigate the causal relationship between fiscal and monetary policies and institutions. The data is collected from the Hand book of Statistics of Pakistan's Economy 2005 and 2010 published by State Bank of Pakistan. The data on political rights and civil liberty is taken from Freedom House and Polity 2 is taken from Polity iv. The values for civil liberty and political rights range from 1 to 7, 1 indicates highest political rights and civil liberty and 7 shows lowest political rights and civil liberty. The data Polity 2 is taken from Polity iv and Polity 2 is combination of democracy and autocracy in Pakistan. The data on polity is range from -10 to +10, -10 shows strongly autocratic state and +10 is used to strongly democratic country.

3.2. Methodology

The study is aimed to find the relationship among fiscal, monetary policies and institutions (Political, Social and Economic). In order to analyze, cointegration and causality is checked, but first stationarity of the variables is tested. KPSS unit root test is applied which is developed by Kwiatkowski et al. (1992) and has the null hypothesis of stationarity.

A. Unit root test

A time series is regarded as a stationary if its mean and variance are self adjustable of time. In case, if the mean and variance of a time series data are changing over time, it is said to have a unit root. So, the stationarity of a time series is evaluated by carrying out the unit root test. Different types of tests are developed to check the stationarity of a time series data as Dickey-Fuller (DF) (1979), Augmented Dickey-Fuller (ADF) (1981), Phillip-Perron (PP) NG Perron (1988) and Kwiatkowski, Phillips, Schmidt, and Shin (KPSS) (1992) to check the stationarity.

Kwiatkowski, Phillips, Schmidt and Shin (1992) test is used to check the stationarity of the time series data, in this study. The KPSS test put forward a null hypothesis which presupposes stationarity and another hypothesis that presume non-stationarity. The technique used in this analysis is to decompose a time-series data into the amount of a deterministic time trend, a stationary error term and a random walk module (Verbeek, 2004).

B. Cointegration

The insight of cointegration is narrated with the long run equilibrium association among two or more variables. The economic perceptive of cointegration is that if two or more variables are related to form an equilibrium relationship across the long run, even though the series in the short run may turn aside from the equilibrium, would go closer jointly in the long run equilibrium (Harris, Sollis, 2003). There are numerous techniques accessible to perform the cointegration test. The most extensively used techniques comprise the residual based Engle-Granger (1987), and maximum likelihood based Johansen (1991), Johansen and Johansen-Juselius (1990) test. Due to the low power and other problems associated with these tests, the OLS based ARDL approach to cointegration has become popular.

The ARDL base cointegration was suggested by Pesaran and Pesaran (1997), Pesaran and Smith (1998) and Pesaran and Shin (1999). The foremost gain of this method is that it can be applied irrespective of whether the regressors are I(0) or I(1) (Pesaran, Pesaran, 1997). An additional benefit of this

technique is that the model takes plenty of lags to capture the data generating process in a general to specific modeling framework (Laurenceson, Chai, 2003).

Moreover, a dynamic error correction model (ECM) can be derived from ARDL through a simple linear transformation (Banerjee et al. 1993). The ECM integrates the short-run dynamics with the long-run equilibrium without losing long-run information. It is also argued that using the ARDL approach avoids problems resulting from nonstationary time series data (Laurenceson, Chai, 2003). In order to examine the impact of fiscal and monetary policies and institutions on per capita income, the following models are used.

1. Fiscal policy model

$$LPGDP_t = \alpha_0 + \alpha_1 LP_t + \alpha_2 LREV_t + \alpha_3 CL_t + \alpha_4 POL_t + \alpha_5 PR_t + \varepsilon_{1t} \quad (1)$$

1. Monetary policy model

$$LPGDP_t = \beta_0 + \beta_1 LM2_t + \beta_2 RI_t + \beta_3 CL_t + \beta_4 POL_t + \beta_5 PR_t + \varepsilon_{2t} \quad (2)$$

2. Combined fiscal and monetary model

$$LPGDP_t = \gamma_0 + \gamma_1 LM2_t + \gamma_2 REV_t + \gamma_3 CL_t + \gamma_4 POL_t + \gamma_5 PR_t + \varepsilon_{3t} \quad (3)$$

Where t is the time period, L is the logarithm; $PGDP$ is per capita GDP, P is the expenditure, REV is the revenue, CL is civil liberty, POL is Polity 2, PR is the Political rights, $M2$ is the money, RI is the rate of interest, $\alpha_0, \beta_0, \gamma_0$ are the intercepts, all α, β, γ are the coefficients and ε_t is usual error term. The variable civil liberty (CL) is used for social institution and is used by a number of economists as Scully (1988), Alesina et al. (1996) and Sciah and Warner (1995), Polity (Polity2) is used for democracy for political institution, is used by Clague et al. (1996) and Political Rights (PR) is used for economic institutions, Knack and Keefer (1995) and Owen et al. (2009) used in their studies.

The ARDL specification of above mentioned equations are as under to find empirical facts of long run equilibrium:

$$\begin{aligned} (1-L)LPGDP_t = & \alpha_{10} + \sum_{i=1}^p \alpha_{1i} (1-L)LPGDP_{t-i} + \sum_{i=0}^{q1} \alpha_{2i} (1-L)LP_{t-i} \\ & + \sum_{i=0}^{q2} \alpha_{3i} (1-L)LREV_{t-i} + \sum_{i=0}^{q3} \alpha_{4i} (1-L)CL_{t-i} + \sum_{i=0}^{q4} \alpha_{5i} (1-L)POL_{t-i} + \sum_{i=0}^{q5} \alpha_{6i} (1-L)PR_{t-i} \\ & \lambda_{10} LPGDP_{t-1} + \lambda_{11} LP_{t-1} + \lambda_{12} LREV_{t-1} + \lambda_{13} CL_{t-1} + \lambda_{14} POL_{t-1} + \lambda_{15} PR_{t-1} + \varepsilon_t \end{aligned} \quad (4)$$

$$\begin{aligned}
(1-L)LPGDP_t &= \beta_{10} + \sum_{i=1}^p \beta_{1i}(1-L)LPGDP_{t-i} + \sum_{i=0}^{q1} \beta_{2i}(1-L)LM2_{t-i} \\
&+ \sum_{i=0}^{q2} \beta_{3i}(1-L)LRI_{t-i} + \sum_{i=0}^{q3} \beta_{4i}(1-L)CL_{t-i} + \sum_{i=0}^{q4} \beta_{5i}(1-L)POL_{t-i} + \sum_{i=0}^{q5} \beta_{6i}(1-L)PR_{t-i} \\
&+ \eta_{10}LPGDP_{t-1} + \eta_{11}LM2_{t-1} + \eta_{12}LRI_{t-1} + \eta_{13}CL_{t-1} + \eta_{14}POL_{t-1} + \eta_{15}PR_{t-1} + \varepsilon_t \quad (5)
\end{aligned}$$

$$\begin{aligned}
(1-L)LPGDP_t &= \gamma_{10} + \sum_{i=1}^p \gamma_{1i}(1-L)LPGDP_{t-i} + \sum_{i=0}^{q1} \gamma_{2i}(1-L)LM2_{t-i} \\
&+ \sum_{i=0}^{q2} \gamma_{3i}(1-L)REV_{t-i} + \sum_{i=0}^{q3} \gamma_{4i}(1-L)CL_{t-i} + \sum_{i=0}^{q4} \gamma_{5i}(1-L)POL_{t-i} + \sum_{i=0}^{q5} \gamma_{6i}(1-L)PR_{t-i} \\
&+ \varpi_{10}LPGDP_{t-1} + \varpi_{11}LM2_{t-1} + \varpi_{12}REV_{t-1} + \varpi_{13}CL_{t-1} + \varpi_{14}POL_{t-1} + \varpi_{15}PR_{t-1} + \varepsilon_t \quad (6)
\end{aligned}$$

Where $\alpha_{10}, \beta_{10}, \gamma_{10}$ are intercept and coefficients, λ, η, ϖ contains long-run information and ε_t are usual error terms. The first step in the ARDL based cointegration technique is to evaluate equations using OLS. The second step is to draw the existence of cointegration by restricting all estimated coefficients of lagged level variables equal to zero. The following hypothesis is tested for cointegration in above equations through F-statistic.

H_0 = There is no cointegration in the equations 4, 5 and 6

H_1 = There is cointegration in the equations 4, 5 and 6.

Two asymptotic critical value bounds provide an analysis for cointegration as the independent variables are $I(d)$ with $0 \leq d \leq 1$. The lower bound presupposes that all the regressors are $I(0)$ and the upper bound assumes that they are $I(1)$. If the calculated F-statistics lies greater than the upper level of the bound, the null hypothesis is rejected, representing cointegration. If the computed F-statistics lies below the lower level band, the null cannot be rejected, supporting the nonexistence of cointegration. If the F-statistics fall within critical bounds, the result would be indecisive.

4. Empirical results

A. Unit root test

KPSS unit root test is operated for the stationarity of fiscal, monetary and combined fiscal and monetary models. Since the variables have mixed order of integration at level, the most appropriate methodology is ARDL cointegration for long run equilibrium. The result is given the following table.

Table 1

KPSS Table for Unit Root Test

Variables	At Level		First Difference	
	Intercept	Trend and Intercept	Intercept	Trend and Intercept
REV	0.3963***	0.1566**	0.3905***	0.1753**
RI	0.1860	0.1186	0.0628*	0.0634*
PR	0.1104	0.1128	0.1002	0.098*
POL	0.1271	0.0989*	0.1533	0.1252***
LREV	0.8568*	0.1407***	0.1680	0.0974*
LPGDP	0.3930***	0.0805*	0.0609*	0.0573*
LP	0.7822*	0.1403***	0.2364	0.1263***
LM2	0.9162*	0.1782	0.0716*	0.166o
CL	0.1861	0.0887*	0.0531*	0.0436*

Note: *, **and *** the variables are significance at 1 percent level 5 percent level and 10 percent level.

B. Fiscal policy model

Fiscal policy model with institutions is evaluated through ARDL approach. The long-run equilibrium can be checked through F. Statistics. The calculated value of equation 4 is 5.6978 to check the long run equilibrium based on ARDL bounds cointegration approach. The critical lower and upper bounds at 95% and 90% are 2.4510, 3.8779 and 2.0079, 3.2696, respectively. The calculated F-statistic surpasses the upper critical bounds both at 95% and 90% level of significance that shows a significant long run relationship between per capita GDP and REV, P, POL, PR and CL. The long run cointegrating vector is given in the following table.

Table 2

Estimated long run coefficients

ARDL(1,0,0,0,1) model selected based on Schwarz Bayesian Criterion (SBC), Dependent variable LPGDP			
Regressor	Coefficient	Standard Errors	P. Values
LP	-1.6055	0.81937	0.061
LREV	2.3344	0.79571	0.007
CL	-0.23304	0.22492	0.243
POL	-0.0078	0.032661	0.813
PR	0.35289	0.18046	0.051
	χ^2 -Stat.	P-values	
Serial correlation	0.405183	0.5822	
Normality	2.440529	0.1782	
Heteroskedicity	4.57950	0.5139	

The fiscal variables are significant, however, government expenditures have negative sign on per capita GDP, PGDP is increasing as revenue is increasing and political right which is used to show the economic institution is significant while their role is very minor. The variable CL and POL is insignificant, which indicates that social and political institutions have no significant role in the enhancement of per capita GDP. The diagnostic tests are carried out on long run vector indicating that there is no serial correlation and heteroskedicity in the model and the model is fit.

The results of short run equilibrium are reported in Table 3. The coefficient of ECT_{t-1} is statistically significant at 1% level and has correct sign (negative). This significance also confirms the short run cointegration between $LPGDP_t$, LP_t , $LREV_t$, POL_t , PR_t and CL_t . The coefficient of ECM_{t-1} is -0.49755, which shows speed of adjustment to the long run equilibrium after a short run shock of about 50 percent (approximately two years).

Table 3

Estimated short run coefficients

ARDL(1,0,0,0,1) model selected based on Schwarz Bayesian Criterion (SBC), Dependent variable LPGDP			
Regressor	Coefficient	Standard errors	P-values
LP	-0.7988	0.43493	0.077
LREV	1.1595	0.46581	0.019
CL	-0.1337	0.11270	0.246
POL	-0.0039	0.01642	0.814
PR	-0.49755	0.07177	0.651
ECM(-1)	-0.49755	.11656	0.000

C. Monetary policy model

This model is evaluated with institutional variables through the technique of ARDL. The long run equilibrium is evaluated with the calculated value of F statistics. The calculated value of equation 5 is 5.2968 to find the long run equilibrium based on ARDL bounds cointegration approach. The critical lower and upper bounds at 95% and 90% are 2.4621, 3.88739 and 2.0169, 3.2796, respectively. The calculated F-statistic surpasses the upper critical bounds both at 95% and 90% level of significance that shows a significant long run relationship between per capita GDP and LM2, RI, PR, POL and CL. The long run cointegrating vector is given in the following table.

Table 4

Estimated long run coefficients			
ARDL(1,1,0,0,1,0) model selected based on Schwarz Bayesian Criterion (SBC), Dependent variable LPGDP			
Regressor	Coefficient	Standard errors	P-values
LM2	0.7757	0.0674	0.000
RI	-0.1198	0.0638	0.072
POL	0.0176	0.0304	0.569
PR	0.3080	0.1732	0.095
CL	-0.1393	0.2149	0.522
	χ^2 -Stat.	P-values	
Serial correlation	0.1833	0.2720	
Normality	0.4189	0.4861	
Heteroskedicity	0.2050	0.2193	

The monetary variables, LM2 and RI are significant while rate of interest has negative coefficient sign, PGDP increases as LM2 is increasing and political right which is used to show the economic institution is significant though their role is very minor. The variables CL and POL are insignificant which shows that social and political institutions have no significant role in the enhancement of per capita GDP. The diagnostic tests are carried out on long run vector and indicate that there is no serial correlation and heteroskedicity in the model and the model is fit. The results of short run equilibrium are reported in Table 5. The coefficient of ECT_{t-1} is statistically significant at 1% level and has correct sign (negative). This significance also confirms the short run cointegration between $LPGDP_t$, LP_t , $LREV_t$, POL_t , PR_t and CL_t . The coefficient of ECM_{t-1} is -0.5675, which shows speed of adjustment to the long run equilibrium after a short run shock of about 57 percent (approximately two years).

Table 5

Estimated short run coefficients			
ARDL(1,1,0,0,1,0) model selected based on Schwarz Bayesian Criterion (SBC), Dependent variable LPGDP			
Regressor	Coefficient	Standard errors	P-values
LM2	-2.6382	1.236	0.042
RI	-0.0680	0.0457	0.148
POL	0.0097	0.01698	0.561
PR	-0.0502	0.0730	0.498
CL	-0.0790	0.1202	0.516
ECM(-1)	-0.5675	0.1503	0.001

D. Combined fiscal and monetary model

The combined model of fiscal and monetary policies is examined with institutional variables with the help of technique ARDL. The long run equilibrium is evaluated with the calculated value of F statistics. The calculated value of equation 6 is 5.2968 to find the long run equilibrium based on ARDL bounds cointegration approach. The critical lower and upper bounds at 95% and 90% are 2.4510, 3.8779 and 2.0079, 3.2696, respectively. The calculated F-statistic surpasses the upper critical bounds both at 95% and 90% level of significance that shows a significant long run relationship between per capita GDP and LM2, RI, PR, POL and CL. The long run cointegrating vector is given in the following table.

Table 6

ARDL(1,1,0,1,0,0) model selected based on Schwarz Bayesian Criterion (SBC), Dependent variable LPGDP			
Regrbessor	Coefficient	Standard errors	P-values
LM2	0.7057	0.0947	0.000
POL	0.0107	0.0421	0.799
PR	0.4257	0.2464	0.096
CL	-0.3375	0.2627	0.211
REV	0.6591	0.4048	0.872
	χ^2 -Stat.	P-values	
Serial correlation	0.3539	0.4213	
Normality	0.8130	0.8393	
Heteroskedicity	0.4431	0.4862	

In the combined monetary and fiscal model, the variables LM2 and REV are used to represent the fiscal and monetary policies, LM2 is significant and it has positive coefficient sign. However, REV is not significant, which shows that fiscal policy has no robust role in increasing of per capita GDP. PR is significant, it depicts that economic institutions have their role in enhancing the per capita GDP. The variables CL and POL are insignificant, which shows that social and political institutions have no significant role in the enhancement of per capita GDP. The diagnostic tests are carried out on long run vector and shows that there is no serial correlation and heteroskedicity in the model and the model is fit.

The short run equilibrium, results are given in Table 7. The coefficient of ECT_{t-1} is statistically significant at 1% level and has correct sign (negative). This significance also confirms the short run cointegration between $LPGDP_t$,

LP_t , $LREV_t$, POL_t , PR_t and CL_t . The coefficient of ECM_{t-1} is -0.42382, which shows speed of adjustment to the long run equilibrium after a short run shock of about 57 percent (approximately two years and three months).

Table 7

Estimated short run coefficients			
ARDL(1,1,0,1,0,0) model selected based on Schwarz Bayesian Criterion (SBC), Dependent variable LPGDP			
Regressor	Coefficient	Standard errors	P-values
LM2	-2.3824	1.3644	0.092
POL	0.0045	0.0174	0.795
PR	-0.0329	0.0753	0.661
CL	-0.1430	0.1172	0.233
REV	0.2794	0.1739	0.874
ECM(-1)	-0.42382	0.1223	0.002

5. Conclusions

In this study, the relationship between fiscal, monetary policies, Institutions (Political, Social and Economic) and per capita GDP is evaluated. Following the modern tendency, growth policies (Fiscal and Monetary) and institutions are evaluated for the period of 1976 to 2009 and provide wide-ranging analysis with better time series technique i.e. ARDL bounds testing for cointegration. The result of bound testing shows that there is a long run cointegration among the studied variables. Three models are evaluated fiscal, monetary and combined fiscal and monetary policies. In the first model, Government expenditures and revenue are used as independent variables and both of the variables are significant. The variable POL2 is used for political institution, civil liberty is used for social institution and political right is used for economic institution. Political right is significant, which reveals that economic institution has a role in enhancing per capita GDP. For monetary policy, money and rate of interest is applied to test the relationship with institutional variables. M2 and interest are significant and has role in enhancing the per capita GDP. So far as institutional variables are concerned only political rights are significant. In the third model both combined effect of fiscal and monetary policies with institutions are evaluated. Monetary policy is effective and economic institutions have role in increasing the per capita GDP. Revenue, political and social institutions have no significant role. The coefficient of ECT_{t-1} is statistically significant at one percent level of significance. It has correct coefficient sign which depicts that that there exists short run relationship.

In the light of empirical results it is carefully suggested that the government of Pakistan should take steps to improve the efficiency among fiscal aspects and pay special attention to increase the performance and efficiency of institutions, especially political and social.

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