

Pakistan, Politics and Political Business Cycles

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This paper studies whether in Pakistan the dynamic behaviour of unemployment, inflation, budget deficit and real GDP growth is systematically affected by the timing of elections. We cover the period from 1973-2009. Our results can be summarised as follows: (1) Unemployment tends to be lower in pre-election periods and tends to increase immediately after elections, perhaps as a result of politically motivated employment schemes. (2) Inflation tends to be lower in pre-election periods, perhaps as a result of pre-electoral price regulation. (3) We find increase in the governmental budget deficit, financed by heavy government borrowings from the central bank and banking sector during election year. (4) Real GDP growth and real governmental investment growth declines during pre and post election terms possibly as a result of inefficient resource allocation.

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1. INTRODUCTION

Political business cycle theory formalises the common perception that politicians use expansionary economic policies in a pre-election period to enhance their chances of re-election.¹ Opportunistic politicians are primarily interested in retaining office. When they face an electorate that prefers high growth, low unemployment and low inflation, politicians may use expansionary fiscal or monetary policies to create a short term economic boom before and during the election campaign. Naive voters are unable to understand the politician's manipulation of the economy and its adverse after effects. On the contrary, they enjoy the boom and re-elect the politician.

Rational voters, of course, anticipate manipulating behaviour and may not reward politicians. However, theoretical models [Rogoff (1990); Sieg (1997)] including rational voters and time inconsistent [Kydland and Prescott (1977)] policies find cycles that are similar to the naive cycles postulated by Nordhaus (1975). In this "rational" line of literature, politicians create booms before elections as a signal of competence. Because

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¹Following the seminal papers by Nordhaus (1975, 1989) and MacRae (1977) many authors developed a deep understanding in the political business cycle. See Drazen (2000), Gärtner (2000), Alesina, *et al.* (1992, 1993), and Paldam (1997) for surveys, and Blomberg and Hess (2004), Caleiro (2009), Saporiti and Streb (2008) and Sieg (2006) for current theoretical papers.

inexperienced voters should not be assumed to be highly rational in the game theoretical sense of rational expectations, the common view is that political business cycles in the Nordhaus (1975) style are more a phenomenon of newly developed than established democracies [Brender and Drazen (2005)].

In the literature there are numerous multi-country studies analysis on this subject [Alesina (1978); Ginsburgh and Michel (1983); Alesina, Roubini and Cohen (1992, 1993); Schuknecht (1996) and Brender and Drazen (2005, 2008)], however, the political business cycle (PBCs) is such a phenomenon that may or may not occur in a country. For example different governments have different populist reforms package near the election terms acknowledging the needs and demands of their people living in these countries. To prove the existence and the significance of a PBC for a specific country a single country analysis is much worthwhile and without an alternative. Therefore, the present study investigates the existence and significance of political business cycles in case of Pakistan during the period 1973-2009. However, following this research strategy we have to pay a price as a single-country study of the PBCs often suffer from a small number of elections. We discuss the resulting caveats when we present the econometric results.

In Pakistan, general elections are held every five years to elect members for the national and provincial assemblies. In addition to the national and the provincial assemblies, Pakistan also has more than five thousand elected local governments. In this study, we have focused only on the national assembly and provincial assembly general elections that are held in 1973, 1988, 1990, 1993, 1997, 2002 and 2008.²

We assume that voters in Pakistan have remained naive and inexperienced for the entire duration of the period being studied. Why have they not learned to expect PBCs and react accordingly? Suzuki (1992) illustrates the mechanism through which transition from naive to sophistication may occur with the passage of time. However, he looks only on democratic societies where political systems run smoothly. Suzuki (1992) found that Japanese voters learned over time and react accordingly, and he did not detect any sign of PBCs in the post-sophistication period. In view of this process, Pakistani voters remained naive because of unstable democratic and political system. They even did not yet realise the fact that price reliefs given on consumer goods in Ramzan (Holy Month) and price cuts on electricity and expenditures on various income support programmes are financed by bank borrowing. Such type of ad hoc reliefs will return to them in the forms of inflation and accumulation of long term debt along with market distortions.

Another strong assumption of PBCs theory postulates that politicians know when it is the election year, however it is not true in case of Pakistan as the elections 1988, 1990, 1993 and 1997 held unexpectedly, before the completion of the term. Furthermore, endogenous timing of election assumption is not justified here as Pakistan's Constitution describes election term is fixed i.e., 5 years by law and no government can call an early election to take advantage of their boom period. However, even though the politicians do not know the exact date of election, as they approach near to the completion of term i.e., five years, they would engage in political manipulation. And if there is a probability that

²The elections in 1988 and 2002 were held on non-party bases, however the mechanism followed and the faces shown up are the same as in case of party basis elections, therefore no distinction has been made in this regard. The referenda held during 1985 by the military leader General Zia-ul-Haq to legitimise its rule has not been included in this analysis.

elections could be due in the future, then politicians can react by inducing expansive policies.

A number of studies have analysed politically motivated business cycles for both developed and developing countries. Generally, the empirical political business cycle literature can be divided into three main categories. The first category attempts to locate political cycles in macroeconomic outcomes. These models have focused, almost exclusively, on four macroeconomic indicators: growth, inflation, unemployment and income. The observed empirical evidences in this case are not very much supportive for the PBCs as uncovered by McCallum (1978), Paldam (1979), Golden and Porterba (1980), Beck (1982), Alt (1985), and Hibbs (1977). However, Nordhaus (1989), Haynes and Stone (1989, 1990), Krause (2005) and Grier (2008) confirm the PBCs existence in macro outcomes, whereas Alesina and co-authors [Alesina (1987, 1989); Alesina and Rosenthal (1989); Alesina and Roubini (1992) and Alesina, *et al.* (1992, 1997)] associated it with the Partisan Effects. The reasoning behind this is that in the short run policy results on growth and unemployment may not be obvious enough to voters, so governments may try to stimulate those policy variables that have direct monetary benefits to voters like government transfers, tax cuts, subsidies, special employment schemes etc. [Hibbs (2000) and Batool and Sieg (2009)].

The second major category of Political Business Cycle research concentrates on the policy instruments instead of macroeconomic outcomes. The evidence for this type of a political business cycle is generally stronger than that for macroeconomic outcomes. Alesina, Roubini, and Cohen (1992), have investigated the 18 OECD countries and found a very little evidence of pre-electoral effects of economic outcomes, in particular, on GDP growth and unemployment; although they observed some evidence of “political monetary cycles” and political budget cycles prior to the election and in election years. Inflation also exhibits a post-electoral jump, which they explained by either the pre-electoral “loose” monetary and fiscal policies and/or by an opportunistic timing of increases in publicly controlled prices, or indirect taxes. Similarly, Andrikopoulos, *et al.* (2004) found an increase in the budget deficits during the election year in the European Union countries; furthermore they found a significant but small partisan effect on fiscal policy outcomes. Brender and Drazen (2005, 2008) investigated a large panel of countries and traced the fact that political budgets cycles are more likely to occur in the newly established democracies than established democracies as the voters from developed democracies may be well informed about fiscal outcomes. Gonzalez (2002) and Shi and Svernssoon (2002) has discussed these outcomes as an effect of transparency. The high would be the degree of transparency; the less likely would be the political cycles in aggregate expenditure or in deficit to appear. However absence of political cycles in budget aggregates in established democracies does not, however, mean that there are no electoral effects on fiscal policy. Established democracies appear to be characterised by cycles in the composition of spending rather than cycles in its overall level. This argument is empirically observed in United States [Peltzman (1992)], Canada [Kneebone and McKenzie (2001)], Colombia [Drazen and Eslava (2005)], Israel [Brender (2003)] and in India [Khemani (2004)].

The third major category of research focuses on a unique policy instrument i.e. monetary policy (also known as the political monetary cycle). A number of empirical studies are found on central bank monetary policy and political business cycles. Sieg (2006) found that both left wing and right wing governments with partisan preferences use opportunistic policies through an expansion in the money supply. Such an expansionary policy would help in stimulating the economy by generating employment opportunities and induce inflation. The existence of monetary political cycle has been uncovered in Abrams and Iossifov (2006) for US and in Ferris (2008) for Canada, if and only if there found to be some party affiliations between government and the central bank decision maker. However, such empirical evidence has not been found in case of European countries. In the European Union (EU), politicians are not empowered to use monetary policy instruments, because this policy is delegated to the independent European Central Bank. In line with this scenario, PBCs hypothesis has been rejected by Berger and Woitek (1997) for Germany and by Leertouwer and Maier (2001) for 14 OECD countries. In contrast, Taekoi (2009) studied the existence of opportunistic cycles in Brazilian economy subject to country's exchange rate regime and central bank independence. He found the existence of electorally induced fiscal cycles under fixed and crawling peg exchange rate regimes and electorally induced monetary cycles under floating exchange rates in Brazil only when the nation's central bank is not independent. To sum it up, political monetary cycles can be utilised by the opportunistic politicians in both cases either central bank share some party affiliations or remain less independent in terms of its monetary operations. To cover all three categories, this study focuses on growth, unemployment, inflation and some fiscal and monetary policy indicators.

Despite plenty of empirical evidence found on political business cycles for both developed and developing countries, this area of research remains untouched in case of Pakistan. The present study fills the gap. The paper is organised as follows. Section 2 discusses the model specification and the research methodology. Section 3 provides empirical evidence using annual data from 1973 to 2009 for various macroeconomic variables. Section 4 gives a summary of our findings and a conclusion.

2. MODEL AND RESEARCH METHODOLOGY

Turning to the empirical literature, politico-economic models have been tested with a time-series approach. The usual research strategy is to isolate a key macroeconomic variable and ascertain whether or not in election and pre-election years this variable behaves differently than in non-election years. The earlier procedures entailed simple comparisons of the average value of the actual unemployment and inflation rates in election and non-election years, or according to the party in power. Generalising this approach, Mc-Callum (1978) and most of those who followed estimated uni-variate time series models and tested for shifts in the intercept parameter [Pack (1987) and Keil (1988)]. According to this procedure the impact of the political sector is viewed as an exogenous intervention in the economic process, producing a cyclical (Political Business Cycle) or temporary shift in the mean value of the time series. Accordingly, the test is for the significance of an appropriately defined dummy variable, the intervention variable that is added to a uni-variate ARMA (ARIMA) representation of the series.

$$X_t = c + \sum_{p=1}^n \theta_p X_{t-p} - p + \sum_{q=1}^m \phi_q \delta_t - q + \sum D_i + \delta_t \quad \dots \quad \dots \quad \dots \quad (1)$$

To illustrate, let X_t be a variable of interest and assume that X_t can only be positive and follows a stationary first-order autoregressive moving average process. Where $\theta_1, \dots, \theta_p$ are the parameters of autoregressive terms of the model, while ϕ_1, \dots, ϕ_q are the parameters of moving average terms of the model, c is a constant, and δ_t is the error term assumed to be independent identically-distributed random variables (i.i.d.) sampled from a normal distribution with zero mean: $\delta_t \sim N(0, \sigma^2)$ where σ^2 is the variance. We begin with the construction of a benchmark Autoregressive Moving Average (ARMA) for unemployment and inflation i.e., Phillips curve hypothesis and Autoregressive Integrated Moving Average (ARIMA) models for other fiscal and monetary policy indicators, as the fiscal and monetary variables including GDP are integrated of order one. To test the impact of politics on macroeconomic variables we have defined the following three political dummy variables

$$ED_1 = \begin{cases} 1, & \text{election year} \\ 0, & \text{otherwise} \end{cases}$$

$$ED_2 = \begin{cases} 1, & \text{if it is election year or one year preceding to election} \\ 0, & \text{otherwise} \end{cases}$$

$$ED_3 = \begin{cases} 1, & \text{if it is one year after election} \\ 0, & \text{otherwise} \end{cases}$$

ED_1 and ED_2 are the pre-election dummies, and ED_3 is the post election dummy variable. ED_2 is defined in a way that can capture the pre-election year and election year effect, because it may happen that politically motivated policies take start one year ahead, or it may happen that they take place only during the election year. Therefore, we defined two pre-election windows and tested each one by one, and reported which one is valid in that particular case. The positive and negative signs of these dummy variables will determine the positive and negative impact of elections on macroeconomic outcomes and aggregate demand driven by monetary and fiscal policy instruments. For example, if a government tries to increase growth and employment before an election and uses expansionary fiscal and monetary policies, then ED_1 or ED_2 or both should be positive in the estimated equations of growth, budget deficit, monetary aggregates and government's budgetary borrowing. If the government adopts a contractionary policy shift in the post election year, then these instruments show the downward trend that can be measured by a negative sign of ED_3 . It should however be noted that in case of inflation and unemployment, pre-electoral variables should denote decrease and should have negative signs, while the post-election variables should have a positive sign to reflect the impact of pre-election expansionary policies.

Quarterly or high frequency data is recommended to investigate the issue of political business cycle. But in the case of Pakistan the national income accounts and unemployment data is available only in annual frequency.³ Therefore, we have used the

³Although high frequency data on financial sector such as exchange rate and stock market prices are available; however in this study we have constrained the analysis to the national income accounts and unemployment data.

annual time series data from 1973-2009⁴ for the proposed variables. The underlying study period covers seven elections: 1977, 1988, 1990, 1993, 1997, 2002 and 2008. The election dates and corresponding fiscal years are shown in Table 5 in the Appendix.

3. EMPIRICAL RESULTS

First we test predictions of the classic opportunistic political cycle model by Nordhaus (1975). The model predicts political manipulation in unemployment and inflation. Analogical political behaviour implies cycles in macroeconomic variables such as growth, money supply, fiscal deficit, and budgetary borrowing etc.

3.1. Unemployment, Inflation and Opportunistic Business Cycle

Estimated ARMA model results for unemployment (see Table 1) show that ED_2 is significant and has a negative sign. During the election year and one year prior to the election year the unemployment rate was reduced by 19 percent in comparison to other years. The political dummy variable ED_3 for the post-election year is positive but not statistically significant.

This result may attribute to the switch from expansionary to contractionary policy when an incumbent party wins the election and cancellation of old employment generation schemes if the opposition is elected into office. Both results fully support the political business cycle theories.

Table 1

<i>Unemployment, Inflation and Political Business Cycles</i>			
Variables	Unemployment (U)	Inflation (ΔP)	
Constant	1.1133***	0.0864***	0.0769***
Deterministic Trend	0.0265***		
AR(1)	0.9522***	0.6029***	0.4767***
AR(2)	-0.3255*		
MA(5)		-0.8984***	-0.8885***
MA(7)	-0.9027***		
ED_1		-0.0228***	
ED_2	-0.1911***		
ED_3	0.0207	0.0033	0.0157**
n	35	35	35
R^2	0.95	0.74	0.66
D.W stat	1.97	1.88	1.97
S.EE	0.10	0.102	0.026

***, ** and * denote rejection of null hypothesis at 1 percent, 5 percent and 10 percent level of significance respectively. Unemployment rate has been taken in logarithmic form.

⁴Before 1971, the present Bangladesh was part of Pakistan called West Pakistan. Therefore, we have excluded the earlier time period from the analysis.

Inflation is another important key to understand the political business cycles. Election periods cause great sensitivity on the side of the government to keep quiet about increases of regulated prices by deferring them to the post-election period. Thus after each election it is common to hear oppositional parties accusing the returned party for exploiting the myopic expectations of voters to boost their probability of winning the election. However, if the incumbent party loses the election despite deferring price increases, then the winning party would again accuse the former incumbent party for leaving a huge economic burden by not increasing the regulated prices. This has to be fulfilled by the new government who would immediately receive a negative point in its honeymoon period.

Estimated ARIMA model for inflation (see Table 1) shows ED_1 with a negative sign that means during the pre-election year the inflation has been kept lower by 2.2 percentage points in comparison to other years. Non-realised price increases in regulated sectors are subsidised by the government through debt financing. Consequently, the budget deficit rises and creates an inflationary pressure and debt sustainability problem in the post-election period. The post-election year dummy variable found to be insignificant, however if we estimate the ARIMA model and incorporate only the post-election year dummy and ignore the pre-election effect then the post-election dummy is found to be statistically significant (see Table 1, column 4).

Both unemployment and inflation results are consistent with the pre-election political manipulation as the politicians try to maximise their chance of re-election by increasing the employment conditions and controlling the inflation artificially during the election and prior to the election period. But the post-election year dummy variables are found to be statistically insignificant but have correct signs, implying that post-election effect is less pronounced. The evidence supports the argument by Ginsburgh and Michel (1983), pointing the fact that if there is government fall and resultant early election as in case of Pakistan in 1990, 1993 and 1997 before the legal term, the political business cycles would be less pronounced.

The GDP growth estimated ARIMA model (see Table 2) does not provide any supporting evidence for the Nordhaus (1975) opportunistic business cycle theory as political variable ED_2 and ED_3 both estimated to be negative i.e., have the wrong sign. Miss-allocation of resources during and after the election period could be the reason. Although the results seem to be fine to some extent, there is concern regarding the stationarity assumption of the variable series raised by Enders (2004).

The basic underlying assumption of the ARMA model is the stationarity of the variable over time. The simple ADF/DF test shows that inflation and GDP growth are stationary at level, while the unemployment is found to be integrated of order one which makes the unemployment ARMA model results suspicious. Therefore, the discussion remains inconclusive and there is a need for further exploration of the phenomena.

Table 2

Fiscal and Monetary Variables and Opportunistic Business Cycle

Variables	ΔY	ΔI_g	<i>Fisb</i>
Constant	0.0619***	0.0919***	1.6219***
AR(1)			-0.7198**
MA(2)	0.2968***		
MA(4)	0.1919**		
MA(5)	-0.8061***	-0.9544***	
MA(6)			-0.8820***
MA(9)		-0.857***	
ED_1		-0.1434***	0.1423***
ED_2	-0.014***		
ED_3	-0.032***	-0.1351***	0.0157**
<i>n</i>	36	36	36
R^2	0.50	0.68	0.65
D.W stat	2.05	1.61	2.22
S.EE	0.015	0.07	0.17

***, ** and * denote rejection of null hypothesis at 1 percent, 5 percent and 10 percent level of significance respectively.

3.2. Fiscal and Monetary Variables and Opportunistic Business Cycle

The original opportunistic business cycle model by Nordhaus (1975) focuses on political cycles in inflation, employment and growth which are induced by monetary policy. However, Rogoff's (1990) model is grounded in the use of fiscal policy tools. More recent, Drazen (2000) has argued that PBC models based on monetary surprises are unconvincing, among other reasons, because of their implicit assumption that the incumbent party directly controls the monetary policy.⁵ Instead Drazen (2000) builds on Rogoff (1990) to derive a model in which PBC arises from active fiscal policy interventions that are later accommodated by the monetary expansions. Various empirical studies being in line with that approach have been carried out on monetary and fiscal budget political cycles [Brender and Drazen (2008)]. Following Schuknecht (1996) we concentrate on fiscal deficit, government investment, monetary aggregate ($M2$) and government budgetary borrowing. We first apply the unit root test. The ADF results show that all variables are integrated of order one that requires 1st difference for the series to be stationary (see Table 4). In a second step we have estimated the parsimonious ARIMA model for these fiscal and monetary variables. The results are shown in Tables 2 and 3.

The ARIMA model result for real government investment states that ED_1 and ED_3 are both negative which implies that government investment has declined by 14 (13) percent during the election (post-election) year.

⁵ See, however, Sieg (1997), for monetary cycles even if central banks are independent.

Table 3

Fiscal and Monetary Variables and Opportunistic Business Cycles

Variables	$\Delta Gbbn$	$\Delta Gbbs$	$\Delta M2$
Constant	0.1060***	0.1085***	0.1339***
AR(5)		-0.5937***	
AR(10)	-0.4828***	-0.8654***	
MA(1)	0.3088**		
MA(3)	0.3077**	0.8353***	
MA(4)	0.8605***		
MA(5)			-0.987***
ED_1	0.1196***	0.1381***	0.0481***
ED_3		-0.077***	-0.0233**
n	26	26	35
R^2	0.62	0.59	0.59
D.W stat	2.23	1.85	2.05
S.EE	0.08	0.08	0.03

***, ** and * denote rejection of null hypothesis at 1 percent, 5 percent and 10 percent level of significance respectively.

In contrast, the pre-electoral variable ED_1 is positive in the budget deficit as percentage of GDP equation, which can quantify a 14 percent increase in the budget deficit during the election year. This may be attributed to the fact that during the election campaign the government uses expansionary policies and spends more on current expenditures like tax cuts, subsidies, price supports and election campaigns etc. and not for investment purposes. For example despite the global oil price inflation during 2005-2008, Pakistan government heavily subsidizes the energy sector i.e., petrol prices to control the inflation artificially in the pre-election period of election 2008. Consequently the development expenditures are approximately 4.4 percent of GDP (5 percent in 2007) while current expenditures are about 18 (15.8 percent in year 2007) percent of GDP in year 2008.⁶ These current expenditures help the government to realise their short term objective i.e., collect votes, but do not have any significant impact on macroeconomic growth. Such fiscal deficits are financed by internal or external sources especially accommodated by the countries banks and create additional impact on monetary policy variables. In this regard we have expanded our analytical framework to the monetary sector by including $M2$, net government budgetary borrowing and budgetary borrowing from the banking sector.

The ARIMA model results show that ED_1 has the expected signs, in case of net government budgetary borrowing and borrowing from the banking sector, showing 11 and 13 percent increase during the election years (see Tables 2 and 3). Both effects demonstrate clear patterns of opportunistic politically motivated fiscal expansion accommodated by the monetary sector. This type of government borrowing can cause a sudden rise in money supply and induce inflationary pressures in the economy.

Post-election effect i.e., ED_3 turned out to be insignificant, implies that in the post election period there is no significant contraction in the government borrowing to offset the pre-election manipulation. Estimated ARIMA model results for $M2$ confirm this

⁶However, econometric results are unable to detect any statistical significant results regarding the composition changes in the total expenditures during the election timings.

monetary expansion as it registered a 4 percent rise during the same period, however this is less than the rise in the budgetary borrowing.⁷ During the post-election year, *M2* growth registered a contraction by approximately the same percentage (2 percent), consistent to (7 percent) decline in the budgetary borrowing from the banking sector, representing a tight monetary stance taken to curtail the inflation in the post-election year.

4. SUMMARY FINDINGS AND CONCLUSION

Inexperienced voters are a well known breeding ground for opportunistic political business cycles. In this study we prove that Pakistani society suffers from politically motivated inefficient economic policies. We have used annual data for unemployment, inflation, growth and other macroeconomic indicators for the period 1973-2009. The paper has used simple intervention analysis in time series data to examine the fluctuations during the election and non-election years. Results show that unemployment rate has been significantly reduced during the election and one year before the election year. Inflation shows similar patterns as during the election period it is kept down by 2.2 percent. The reason could be that the ruling party keeps the regulated prices artificially low before election and delays the cost push inflation by the post-election period. This is consistent with the recent surge in energy prices in Pakistan, where just after the election of 2008, the government cut all subsidies and raised energy prices which were deliberately kept low up to the end of the election. However, the post-election manipulation is absent or we can say less pronounced in both unemployment and inflation case. On the fiscal side, we see election year increases in the budget deficit accommodated by net government budgetary borrowings, and borrowing from the banking sector resulting in monetary expansion and inflationary pressure on the economy.

Overall, our results coincide with the results Alesina, Roubini, and Cohen (1992) found for 18 OECD countries. To summarise, our findings of substantial electorally motivated policy distortions without associated impacts on real GDP and investment suggest that Pakistan's society pays the cost of political business cycles in terms of inefficient allocation of resources and market distortions. However, the incumbents are unable to realise the potential benefit in terms of re-election, as every time the opposition party takes the turn.

The policy implication derived from the results is that the State Bank (central bank) of Pakistan needs to be institutionally strong enough to face the political pressures. Although, during 1990 decade, various reforms were introduced to strengthen and empower the State Bank of Pakistan in its monetary operations, however SBP is still unable to defend its policies against the political pressures. Another solution is establishment and strict compliance of fiscal rules that means to dampen the political cycles. In this regard, there is an on-going debate among the policy-makers with relevance to the amendments and implementation of Fiscal Responsibilities and Debt Law Act 2005. The central bank authorities have proposed some changes regarding the automatic monetisation of fiscal deficit. There is no prescribed limit on government borrowing from the State Bank of Pakistan defined in the SBP Act and in the Fiscal

⁷This may be due to the fact that Pakistan's current *M2* definition has two main components, Net Domestic Assets (NDA) and Net Foreign Assets (NFA). Therefore, it might be possible that the budgetary borrowing rise is offset by the contraction in the other component such as NFA, and not exactly depicted in the *M2* expansion.

Responsibility and Debt Limitation (FRDL) Act 2005,⁸ therefore this unrestricted access to central bank borrowing provides a room for the political authorities to use it for own interests. In short, the lesson drawn from this research study is that there is a need to develop and set-up a knowledge-based economy, proper accountability system, strong and independent institutions to foster the real economic and political development in Pakistan.

APPENDIX

Table 4

Data Variables and Sources

Name	Description	Unit	Sources
<i>U</i>	log(Unemployment Rate)	in percentage	Labor Force Survey
<i>P</i>	log(consumer price index)	Base at 1999-00	State Bank of Pakistan
<i>Y</i>	log(Real GDP)	Base at 1999-00 prices	State Bank of Pakistan
<i>I_g</i>	log(Real Government Investment)	Base at 1999-00	State Bank of Pakistan
<i>Gbbn</i>	log(Net Government Budgetary Borrowing)	PKR in Millions	State Bank of Pakistan
<i>Gbbs</i>	log(Government Budgetary Borrowing from the Banking Sector)	PKR in Millions	State Bank of Pakistan
<i>M2</i>	log(Broad Money Supply)	PKR in Millions	State Bank of Pakistan
<i>Fisb</i>	log(Fiscal Deficit as percentage of GDP)	PKR in Millions	State Bank of Pakistan

Table 5

Unit Root Test Results

Variable Series	DF/ADF Test Value	lag	Deterministic	Decision
<i>U</i>	-1.917812	0	c	I(1)
ΔP	-3.606487**	0	c	Stationary
ΔY	-3.942443***	0	c	Stationary
ΔI_g	-4.520618***	1	c	Stationary
$\Delta Gbbn$	-3.640938***	0	c	Stationary
$\Delta Gbbs$	-5.019487***	0	c	Stationary
$\Delta M2$	-3.456143**	5	c	Stationary
<i>Fisb</i>	-3.3672*	0	c, t	Stationary

Table 6

Election Dates

Election	Date	Corresponding Fiscal Year
General Elections 1977	January 7, March 7 and 10, 1977	1976-77
Legislative Elections 1988	November 16, 1988	1987-88
General Elections 1990	October 29, 1990	1989-90
General Elections 1993	October 6, 1993	1992-93
General Elections 1997	February 3, 1997	1996-1997
General Elections 2002	October 10, 2002	2001-2002
General Elections 2008	February 18, 2008	2007-2008

⁸Fiscal Responsibility and Debt Limitation Act 2005 states following principles: (a) reducing the revenue deficit to nil not later than the thirtieth June, 2008, and thereafter maintaining a revenue surplus; (b) ensuring that within a period of ten financial years, beginning from the first July, 2003 and ending on the thirtieth June, 2013, the total public debt at the end of the tenth financial year does not exceed sixty percent of the estimated gross domestic product for that year and thereafter maintaining the total public debt below sixty percent of gross domestic product for any given year; (c) ensuring that in every financial year, beginning from the first July, 2003, and ending on the thirtieth June, 2013 the total public debt is reduced by not less than two and a half percent of the estimated gross domestic product for any given year.

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