

Economics of Regaining Office: The Case of Pakistan (1947-2005)

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1. INTRODUCTION

Political business cycle (PBC) can be defined as fluctuations in the economy due to an attempt of a government to manipulate the economy prior to elections for favourable outcomes i.e. regaining its office. The concept of policy cycles gained a good deal of attention by the economists during mid 70s. Though most of the researchers attribute the PBC theory to Schumpeter (1939) and Kalecki (1943) but the seminal work in the theory of PBC is Nordhaus (1975).

The literature on PBC sets these foundations for the topic:

- (i) The incumbent politicians want to regain their office,
- (ii) This requires how well the economy is doing especially at the time of election,
- (iii) The incumbent politicians have, at their disposal, certain policy instruments, which at least partially determine the macroeconomic performance of the economy.

Above-mentioned points state the intuitive plausibility of the idea that the governments attempt to manipulate the economy prior to the elections to have the office again. In addition, to above-mentioned points, believe in governments stabilisation power itself is believe in government's power to destabilise.

Traditional Approach investigates the uniform and systematic engineered business cycles for its belief in "*similar incentives*" for all incumbents to manipulate the economy at the event of all elections where as Rational Expectations Thesis rejects the possibility of PBC on the assumption of *increasingly sophisticated ideas* about the behaviour of voters else then the incumbent politicians [Schultz (1995)]. Yet both the models present a limited insight into the very foundation of theory of PBC. Away from intuitive plausibility of idea empirical record of the theory is spotty at best. A good deal of this spotty record may be due to different assumptions underlying the different empirical investigation [Whynes (1989)]. To resolve the dilemma one is required to revise the existing text first.¹

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¹For comprehensive details on the exiting literature, one may consult Alesina, *et al.* (1991), Alesina (1992), and Drazen (2002).

Till its birth the literature on political business cycle has attracted a good number of researchers. The early spotty record of empirical investigation caused a many economists to ignore the topic for further inquiry despite of the intuitive plausibility of idea [Schultz (1995)]. On the other hand the interest of many economists kept on refining the intellectual fabric of the literature on political business cycle. The basic model of PBC developed by Nordhaus (1975) along with the preceding development in the theory of political business cycle.

The existing literature on PBC can be categorised under two headings: the Opportunistic PBC theory [Nordhaus (1975)] and the Partisan theory of PBC [Hibbs (1977)]. The literature on PBC can be classified further as: the monetary PBC and the Fiscal Approach to PBC. The story starts with Nordhaus (1975), who proposed a model of political intervention to create a pre-election boom for harvesting the election outcomes favourably. Later, Hibbs (1977) proposed the influence of party affiliation on policies adopted by the incumbent president towards the aim of being re-elected. The said theories tried monetary variables for empirical investigation. Both models based heavily on the notion of a retrospective or myopic voters or simply an irrational voter who can be fooled easily every time. This shortcoming led to the emergence of the concept of Rational Expectations in the PBC literature. Cukierman and Meltzer (1987) developed a model of PBC based on Rational Expectations. Alesina (1987, 1988) developed a Rational Partisan Theory. The fourth generation of PBC models is driven by Rogoff's model of Political Budget Cycles (1990). Rogoff's model evidently emphasized the power of fiscal instruments on behalf of an incumbent in engineering a business cycle. The most recent version of a Political Budget Cycle Model is Active Fiscal and Passive Monetary (AFPM) model of Drazen (2000).

Alesina (1989), Alesina and Roubini (1990), Cohen and Roubini (1991), Alesina (1992) argues for rational models to analysis politically motivated manipulation of the economic policies. Alesina and Roubini (1992) regressed OECD countries quarterly data during 1960 to 1987 on GNP growth, unemployment and inflation against election timings and of changing of governments and political affiliations of different governments for implications of both types of models: OPBC and RPT. They concluded that most recent models performed more rigorously. Beck (1988) argues that normally a clear OPBC is not observed because it is exceedingly hard to time economic manipulation. Dinkel (1981) rejects the presence of OPBC in Germany. Dinkel deems the theoretic of OPBC plausible, yet empirical investigation rejected the possibility of OPBC.

The present study, first of its breed, aims to explore any possibility of politically motivated business cycles in Pakistan. More precisely do incumbents- politicians, technocrats or military Lords- ever tried to manipulate the economy prior to elections for favourable outcome, in Pakistan through the history. The study will employ the Opportunistic Political Business Cycle (OPBC) approach for this purpose, where OPBC stands for the absence of party affiliation of the incumbent. The data on the Real Money Supply (RM) and Real Exchange Rate (ER), from 1973-Q1 to 2005-Q4 will be used for the present analysis as dependent variables and the election timings will be the cause variable.²

²A table of election timing is given in Appendix A.

2. THEORETICAL FRAMEWORK OF THE STUDY

The Nordhausian theoretic of PBC (1975) or more specifically the Opportunistic Political Business Cycle is the first seminal work in the theory of PBC and still remains one of the most frequently investigated concepts of the literature on PBC. This traditional approach to measure any politically motivated manipulation of the economy is undoubtedly not only easy to employ but also rigorous in its results especially in developing world context. Though the relatively modern approaches to PBC investigation promise some deeper analysis of the topic, but on the same time these call for relatively sophisticated data, which is normally either not collected or highly non-reliable in most of the developing nations on account for unavailability of funds, skilled working force in the field and most seriously non-respondent public.

2.1. Assumptions of Nordhaus' Political Business Cycle³

- (1) An expectations- augmented Philips Curve describes the economy
- (2) Voters are retrospective and myopic
- (3) Expectations of the voters are adaptive
- (4) Politicians are opportunistic
- (5) They control certain policy instruments
- (6) The timings of elections are exogenously fixed.

Yet the case of Pakistan differs from Nordhausian assumption of exogenously fixed election timings. In Pakistan, the case of premature democracy- if we consider a very less number of publicly elected governments and civil and military dissolution of governments- the election timings are not exogenously set. To include endogenously set election timings in the model the research will follow Lachelar (1982), Ito (1990) and Asutay (2004) who used the notion of endogenously set timings for elections under certain reasoning such as:

- (1) Early election calls to reap good economic conditions
- (2) Early election calls for increasing function of high economic growth
- (3) Non-imposition of fixed time of election by laws or constitution.

Yet there are studies, for example Nordhaus (1975), Paldam (1979 and 1983), Soh (1986) etc. investigating OPBC model in various cases without making the setting of election date as a particular issue.

3. EMPIRICAL MODELLING AND SPECIFICATIONS

To estimate OPBC of Nordhaus type in monetary instruments, the coming lines will summarize the model and specifications.

3.1. Modelling

The study will employ Box- Tiao intervention analysis [Box-Tiao (1975)] to capture any manipulation of fiscal policy prior to elections for favourable outcomes or to

³For details see Nordhaus (1975), Alesina and Roubini (1992), Alesina, *et al.* (1993, 1997), Drazen (2000) and Asutay (2004).

find if election timings bear additional explanation of fluctuations in the monetary policy instruments as suggested by Beck (1982, 1987).

3.2. Capturing the Impact of Elections

Beck (1982 and 1987) on the basis of Box-Tiao's (1975) *intervention analysis* suggests following standard dummy variables to capture the impact of election timing on the policy instruments which are also known election dummies: the standard electoral dummies and their respective definitions are as follow:

- ED1 = 1 in the election quarter
= 0 otherwise
- ED2 = 1 in one quarter prior to an election and election quarter
= 0 otherwise
- ED3 = 1 in two quarters prior to an election and election quarter
= 0 otherwise
- ED4 = 1 in three quarters prior to an election and election quarter
= 0 otherwise
- ED5 = 1 in three quarters after an election
= 0 otherwise

The dummies defined above aim for capturing any possible significance of the election timings on the economic policy. In brief ED1 stands for impact of elections on economic policy right before the elections i.e. the election-quarter itself. ED2 bears some extra explanation of effects of elections i.e. it aims on capturing the impact of elections on economic policy one quarter before an election on the assumption that the election may held in the start of the election quarter or the incumbent aims on timing the manipulation of the policy towards election eve. ED3, by including the time of two quarter prior to election shares the responsibility of ED2. ED4 shares the same responsibility, as by its predecessors, in three quarter prior to an election. Where as the dummy ED5 stands to capture the expected down fall of the economy due to engineered boom via policy manipulation for reaping the election outcome.

3.3. Expected Signs of the Dummies Introduced

The coefficients of the dummies explained above on the basis of Box-Tiao' (1975) *intervention analysis* have the following expected signs which are best possible approximation to capture the said intervention.

- Coefficient of ED1 should be a positive for a PBC to present
- Coefficient of ED2 should be a positive for a PBC to present
- Coefficient of ED3 should be a positive for a PBC to present
- Coefficient of ED4 should be a positive for a PBC to present
- Coefficient of ED5 should be a negative for a PBC to present

3.4. The Data and the Source of the Data

The series are constructed as follows. The real exchange rate is the relative inflation adjusted exchange rate, and is constructed by multiplying the nominal exchange

rate by the ratio of consumer price indexes (e.g. $RER=(PAK/USA)*(CPI\ US/CPI\ PAK)$). The real money supply series are obtained by deflating the money supply series with the consumer price indexes; CPIs are converted into common base of 1995. Prior to the estimation all variables are transformed into natural logarithms. Data span from 1973-Q1 to 2005-Q4, providing series of 132 observations. All the series are obtained from international financial statistics (IFS) up to 1998; from 1998 to 2003 the series are obtained from statistical bulletin of government of Pakistan, finance division.

3.5. Limitations on the Data

As the present study is based on secondary data, so one should keep in mind the limitations on data in developing countries like Pakistan, where meagre resources are employed to generate data. The situation presented above leads to many problems such as non-reliability, limited availability, unavailability of data for sophisticated analysis etc. The problem of limited availability of quarterly data, which is highly important to capture the impact of elections on economic variables, is one of the major hurdles for present study, which has limited the time of study from 1973 to 2005.

3.6. The Politico-economic Models

In general form the Politico-economic or even more relaxingly the economic models for both the dependent variables are:

3.7. Real Money Supply (RM) and Election Timings

$$RM_t = f(RM_{t-i}, ED1, ED2, ED3, ED4, ED5; \hat{a}_i) \quad \dots \quad \dots \quad \dots \quad (5.1)$$

Where RM is supply of real money in the economy, $ED1$ to $ED5$ are the standard electoral dummies and \hat{a}_i 's are the unknown parameters associated with independent variables in the model.

3.8. Real Exchange Rate (ER) and Election Timings

$$RE_t = f(RE_{t-i}, ED1; \hat{a}_i) \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (5.2)$$

Where ER is real exchange rate, $ED1$ is the standard electoral dummy and \hat{a}_i 's are the unknown parameters associated with independent variables in the model.

3.9. The Hypotheses

In the following line, hypothesis in both null and alternative forms is presented.

H0: The incumbents in Pakistan did not manipulate the economic policy tools for political motives i.e. for favourable outcomes in elections.

H1: The incumbents in Pakistan manipulated the economic policy tools for political motives i.e. for favourable outcomes in elections.

4. ESTIMATION AND INTERPRETATION

The first step in the estimation of a model with time series data is to ensure the stationarity of the series involved as more of the macroeconomic time series follow a

long-run trend. The implication of this long-run trend would be the invalidity of the significance test applied on OLS estimates [Price (1998)], for this purpose Unit Root test is employed to the both series. The results of Augmented Dickey-Fuller for Unit Root test of the Real Money Supply and the Real Exchange Rate series suggest that each series is stationary of the first difference. One must remember that before applying unit root test the natural logarithm for each of the series is developed. On the basis of the results of Augmented Dickey-Fuller the study is modelled into Auto Regressive Moving Average (ARMA), whereas AR(1) is utilised as more parsimonious benchmark model following Gujarati's advice (2005).

The results for all models are reported in Appendix B. The slope coefficients of variables responsible for capturing the possible political intervention in forming economic policy in all the models bear the required positive signs for the presence of a politically motivated business cycle, which according to Box-Tiao's (1975) *intervention analysis* are signs of politically motivated manipulation of economic policy in the respective quarters, as mentioned earlier. But all the results failed to qualify the significance test, which leads to the rejection of idea of presence of PBC in Pakistan. The one exception for the required signs is the result of the model 5, which contains electoral dummy ED5, the sign of the slope coefficient of ED5 must be a negative according to the Box-Tiao's (1975) *intervention analysis* for presence of a PBC. Yet the sign of this slope coefficient is positive which suggest the absence of PBC, but this result too, is not statistically significant which indicates an arise of little anomaly which is contradictory to the results of other models estimated by the study. The four estimations of the RM model, else than that of the model with electoral dummy ED5, and the estimation of the RE model have rejected the presence of PBC in Pakistan for the insignificant results. in the light of these results, though a little loosely, the study recognizes an overall rejection of the idea of presence of a politically motivated business in Pakistan, as on the basis of one spot in favour of the presence of PBC, the other five results, which are in contrast of this single result, can not be rejected.

5. CONCLUSION

Though the intuitive plausibility of the idea of politically motivated intervention in economic policies enjoys high esteem in common as well as critical intellect yet the present study could not find any traces of politically motivated manipulation of economic policy or political business cycle in Pakistan during the span of time selected for investigation. As reported earlier that some of the signs of slope coefficients suggest the symptoms of manipulation of economic policy yet the results could not qualify the regarding test for significance of the estimates. One of the strongest reasons for rejection of, intellectually strong, idea is itself the political history of Pakistan. Pakistan could never enjoy a politically stable scene in its life.⁴ Time and again it has been under non-elected rules, which has caused the political behaviour in Pakistan to be immature. Although economic policy tools seems to be attractive in regaining political power or office but the rulers in Pakistan seem to be using some other tools for being in office or to regain their office. The limited nature of the present study doesn't allow for some other

⁴For a review of Pakistan's political and economic history, the study relied heavily on Sadik (1997), Burki (1998), Khan (2005), Zaidi (2005).

dimensions of enquiry such as Rational Expectations thesis, Partisan Theory of PBC, Equilibrium Political Budget Cycle Theory, AFPM Model etc. Yet the study opens up new horizons to evaluate and investigate, critically, the interplay of economics and politics in Pakistan with its history and limitations on its past such as unavailability of data or to devise the tools for using available data set etc. This also requires some empirical techniques to be developed for investigating the data type available in Pakistan and other developing countries facing similar limitations in the field of data availability. One recommendation in light of the present investigation is that political process must be given proper time to make itself mature and interruption in political process must end now. This is not to say to give a way to politicians to make the economy unstable on their political desires that is to regain their office or to stuck with the office unlawfully but to say that a smooth political scene can help the country enjoy a calm economic and social scene.

Appendix A

Table 1

*A Table of Election Date in Pakistan**

20 December, 1971	4th quarter
February, 1977	Ist quarter
19 December, 1988	4th quarter
February, 1985	Ist quarter
November, 1988	4th quarter
October, 1990	4th quarter
October, 1993	4th quarter
February, 1997	Ist quarter
October, 2002	4th quarter

*The table is developed by the authors with the help of different sources, which are mentioned in the bibliography. *It must be remembered that all the general elections as well as referenda, over the time under investigation, are included in the study

Appendix B

Table 2

Autoregressive RM and ER, 1973Q1-2005Q3

Dependent Variable: Logged RM (NLRM)

Logged ER (NLER)*

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coeff.	<i>t</i> -statis.	Coeff.	<i>t</i> -statis.	Coeff.	<i>t</i> -statis.	Coeff.	<i>t</i> -statis.	Coeff.	<i>t</i> -statis.	Coeff.	<i>t</i> -statis.
Constant	0.338852	2.784465	0.338073	2.758874	0.327069	2.728233	0.349769	2.898397	0.338095	2.789474	0.024520	0.793988
NLRM(1)	0.955416	64.79810	0.955535	64.15002	0.957684	65.94241	0.953487	65.15040	0.955504	65016894		
NLER (1)											0.989200	108.2485
ED1	0.004003	0.113094									0.006148	0.473764
ED2			0.000796	0.029354								
ED3					0.042278	0.598632						
ED4							0.032258	1.238707				
ED5									0.004918	0.132392		
Diagnostic Tests												
R ²	0.975733		0.975730		0.976301		0.976076		0.975734		0.991107	
AIC	-1.720858		-1.720746		-1.744561		-1.735109		-1.720903		-3.72010	
SBC	-1.646784		-1.646672		-1.670487		-1.661035		-1.646829		3.646337	
F-stat	2131.020		2130.775		2183.406		2162.368		2131.118		5906.741	
DW	2.227034		2.225260		2.191022		2.156685		2.224813		1.813939	

Notes: Coeff.: Coefficient; *t*-statis.: *t*-statistics; R² : Coefficient of Determination; AIC: Akaike Information Criterion; SBC: Schwarz Bayesian Criterion; *F*-stat: *F*-Distribution Test; DW: Durbin-Watson *d* Statistics.

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Comments

This paper tests the hypothesis of political business cycles due to Nordhaus (1975). The political business cycles are described as fluctuations in the economy caused by the incumbent government's manipulations prior to elections in order to regain office. Using Box-Tiao intervention analysis to capture manipulations of fiscal and/or monetary policy prior to election, the paper does not find support for this hypothesis in the case of Pakistan for the time period 1973-2005.

My main worry is that these Western-based theories may not be applicable to the Pakistani case. The political business cycle theory implies very subtle manipulations, through various policy instruments at the disposal of the government. Pakistan has a different political history with altogether different modes of intervention and tactics by the government to regain office. Pakistan has experienced very direct modes of government intervention—the nationalisation experiment of the Bhutto regime; and also very ambitious programmes by various democratic regimes to woo the voters (the People's Programme, the Yellow Cab Scheme). There is nothing subtle about these schemes. Successive Pakistani governments have also been accused of trying many illegal ways to regain office-election engineering, results manipulations etc. Though the authors take notice of the fact that Pakistan has had a political history of being ruled by non-elected rulers, and also that the government must be using different tools to regain office, it would be interesting to see if the authors come up with an 'indigenous' method of analysis that better suits the case of Pakistan.

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