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Does Political Competition Matter for Economic Performance? Evidence from Sub-national Data

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1. Introduction

In recent years, a significant body of literature has emerged which suggest that societies with well-functioning democratic regimes exhibit healthy democracies. The extent to which sound political systems precede or follow the existence of vibrant economies however, still remains a matter of unsettled debate. Research on this aspect has attempted to uncover the underlying relationship between economic and political variables. Some commentators argue that basic economic endowments determine the long-run economic performance of countries (Acemoglu *et al.*, 2001). Others contend that economic and social factors shape a country's growth prospects (King and Levine, 1993; Barro, 1996; Levine *et al.*, 2000). Yet, the way in which political factors fashion economic development has not been adequately addressed in the literature (Keefer, 2004).

While competition among government service providers has received most of the attention in the empirical literature, a modest parallel literature explores the effects of competition for the political control of governments. In the political competition literature, citizens are usually treated as immobile, making the market for political control quite different from the market for government services. Recent attempts (Persson and Tabellini, 2000; Besley and Preston, 2007) mark a significant advance in the sense that they identify a mechanism operating through the political-economic channel. This is based on the premise that more vigorous political competition would lead to selection of politicians who are better at resisting interest group pressures to obtain transfers financed by taxes.

In large federal structures, an additional dimension is introduced by the existence of component federal states with their democratically elected governments¹. The latter, in effect, provides a convenient anchor for exploring the sub-national dimensions of policy actions. Towards this end, the paper chooses India as a case study and investigates the role of political factors on economic performance at the sub-national level. Borrowing from recent literature (Besley and Preston, 2007; Ferris *et al.*, 2008), it develops a consistent set of variables relating to political competition and explores their empirical association with sub-national economic performance, after taking on board several controls.

The paper makes several contributions. First, the paper augments the literature on the association between political competition and economic performance for an emerging economy. Most studies of this genre, either at the sub-national level (Besley and Peston, 2007), or at an even more disaggregated level (Ashworth *et al.*, 2006; Olle, 2005) pertain to developed economies. None of the studies explore such interactions for emerging

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economies. Given the differences in the historical evolution, institutional set up and legal structures, studies of emerging economies on this aspect can provide useful insights which can be representative of the findings for other emerging markets as well.

Second, analyses of this genre for India typically focuses on the impact of general elections on macroeconomic outcomes (Karnik, 1990, Sen and Vaidya, 1994). Even fewer examine the impact of state elections on economic performance (Khemani, 2004). The impact of political competition on economic performance at the state level is an under-researched area of study. The divergence in the growth pattern coupled with the rich diversity in the political sphere across Indian states provides an interesting case study since the capacities of states to respond to political competition is likely to be significantly different.

There is by now a substantial literature on the political determinants of economic policy (Alesina and Perotti, 1995). Some of this analysis extends to the case of sub-national governments, with a political game being played within sub-national governments. This strand of literature focuses primarily on the impact of economic policies on budget deficits but does not take into account the broader constitutional mechanisms like government regimes and political competition.

The paper also augments the theory of political survival by introducing economic elements into the argument (Bueno de Mesquita *et al.*, 2003). By weaving the political literature of selectorate theory with the economic theory of competition, it provides a better understanding of the factors that influence the political competition-economic performance nexus.

The rest of the paper continues as follows. In Section 2, we provide an overview of the relevant literature, as appropriate. Section 3 provides a brief description of the Indian electoral system with emphasis on state-level elections. Section 4 describes the data and the empirical strategy. The results of the analysis are discussed in the penultimate section. The final section concludes.

2. Literature review

The political competition literature comprises of two main strands – voter monitoring and political survival. Researchers have posited that governments that are difficult for voters to monitor or are controlled by powerful political parties tend to behave in a fashion that is different as compared to governments facing more political competition.

Although voter monitoring is not directly observable, rough proxies for increased monitoring are associated with smaller and more efficient governments. By way of example, Oates (1985) argues that centralized governments are more difficult for citizens to monitor and consistent with this perspective, researchers typically find that the public sector is bigger where the federal government is a larger share of total government (Marlow, 1988; Grossman and West, 1994).

A related strand of the literature, emerging from the political side, relates to the selectorate theory of political survival (Bueno de Mesquita *et al.*, 2003). According to the basic tenets of this theory, there are two groups of individuals that are important for political survival: the first group is the selectorate, which defines the subset of the population that in principle has control over leadership choice. The second group is the winning coalition,

which is some subset of the electorate upon which the incumbent depends for survival. Regimes vary according to the absolute and relative sizes of these two groups. Illustratively, democracies tend to have large selectorates, whereas in contrast, in authoritarian regimes, the electorate could be confined to a narrow group of individuals, among which either a small or large proportion may constitute a winning coalition. A key point of this theory is that leaders hold the loyalty of their winning coalition by producing *public goods* (which benefit the society, in general) and *private benefits* (which confer “rents” for the leader’s supporters). Given possible threats to incumbency, the more the public goods the leader can “produce”, the higher is the chance of political survival. The political competition in turn, drives the economic performance.

Concentrated political power is usually associated with monopolistic behavior. Anderson and Tollison (1988) and Rogers and Rogers (2000) find evidence that governments are smaller in states where power is concentrated in one political party. Lipford and Yandle (1990) find that state governments make up a larger share of public sector if a single party controls a larger share of the state government, a pattern which they attribute to cartelizing by the state legislatures.

Of late, a series of papers (Svensson, 1998; Persson and Tabellini, 2000; Besley *et al.*, 2006; Besley and Preston, 2007) have collated the various arguments on the link between political competition and economic efficiency. The underlying logic is that severe competition for political office constrains the ability of politicians to engage in opportunistic behavior, as manifested in the form of rent extraction or other modes of inefficient behavior. Such behavior could, in a competitive environment, prove too costly because it could adversely impact the probability of being re-elected. Conversely, a large electoral advantage or a lack of (significant) political competitors is likely to lower the electoral accountability of politicians, allowing for higher rent extraction.

Empirical evidence on the impact of political competition on government efficiency is of an indirect nature. The evidence on this count is mixed. Svensson (1998) for example, presents evidence that the efficacy of government spending in lowering infant mortality is lower in polarized (or, politically less competitive) economies. In a similar vein, Besley *et al.* (2006) find that increase in political competition in the American South is significantly positively related to personal income growth. Ashworth *et al.* (2006) find that political competition does not exert any significant effect on the efficiency of municipality performance.

Besley and Peston (2007) on the other hand investigate English local governments (‘wards’), examining in particular, the effect of electoral districting on the policies proposed by parties. Each district contains a certain amount of partisans from the two sides, and a share of ‘swing’ voters. Parties therefore, propose strategically a nation-wide policy so to gain the favors of swing voters, and the party which has the majority implements its promised policy. Their finding is that if the policy is representable by a scalar, then both parties proposed policies will be biased towards the same side the districting is biased.

As the aforesaid discussion indicates, the growing relevance of this topic has generated several empirical tests. A crucial feature of these tests is that the effect of political competition on economic performance can be verified when an exogenous shock produces a permanent change in the competitiveness of the market. In our analysis, we exploit such an exogenous event: the change in Indian election laws enacted in 1996 in response to the ever-growing length of ballots in state and national parliamentary elections. These changes made it difficult for a

candidate to contest an election by increasing the requirements for being nominated and by doubling the size of the deposit that the candidate must risk when running for office. This provides an ideal variation for a ‘before-after’ analysis of an exogenous shock. Internationally, studies have exploited such exogenous changes in electoral rules on policy choices and policy competitiveness, as in case of Israel (Bueno de Mesquita, 2000) and other developed democracies, such as US (Besley *et al.*, 2006). No study of this genre is, as yet, available in case of emerging markets.

3. Database and empirics

For the analysis, we use state-level data for the 25-year period beginning 1980 through 2004. We selected this time period for several reasons. First, since we are examining long-run structural event, and not short-term electoral outcome, the time period seems extensive enough for long-run influences to play out. Second, the period coincides with the availability of consistent data on the concerned variables at the state level to clearly discern the impact of political competition on state level policy variables.

The analysis covers 14 major states in India. Therefore, we exclude the ‘special category’ states that receive exceptionally generous grants from the Federal Government on account of their specific institutional characteristics and certain newly constituted states carved out of existing ones. Indeed, among the states that have been left out, there are many that have moved from being centrally administered to ones where they elect their own state-level governments only very recently and hence, the methodology for collation of data is at variance from the sample states being examined in our analysis. In financial year 2003-04, the ultimate year of the sample, these 14 states accounted for roughly 80% of India’s land area, over 70% of her population and nearly 75% of the domestic product.

We explore the predictions summed up earlier by considering the relation between political competition on the one hand, and income levels, output expansion and public spending, on the other. Towards this end, we utilize two measures of political competition. We resort to fixed effects and year dummies, to overcome the conditioning phenomenon that are not directly related to the political competition-economic performance relationship, and employ control variables. Table 1 provides the definitions of the relevant variables.

Three sets of models are employed, beginning with the one focusing on income levels, and thereafter on output growth and fiscal variables.

Income levels

To model the relationship between income and political competition, we adopt the specification similar to Besley *et al.* (2006) for state s at time t as given by (1):

$$y_{s,t} = \alpha_1 p_{s,t} + \alpha_2 Z + v_s + \lambda_t + \varepsilon_{s,t} \quad (1)$$

where y is natural log of real per capita income, v are state fixed effects, λ_t is the time dummy for period t and ε is the error term. The variable of interest is p , the indicator of political competition. To ascertain whether pre- and post-electoral competition affects per capita income, we estimate (1) in terms of both number of seats (H-seat) as also the percentage of votes (H-vote) obtained in the assembly elections. This measure generates values between

zero (one party rule) and one (every seat in the legislative assembly is held by a different party or independent candidates).

The Z vector includes several state level controls, including (the natural logs of) agriculture in net state domestic product (NSDP) which is a proxy for state economic structure, bank credit to NSDP ratio, which captures the extent of financial deepening, transmission and distribution losses of State Electricity Boards, a commonly employed measure for state-level institutional quality (Kochhar *et al.*, 2006) and log population. Following from our earlier discussion, it seems likely that the impact of political competition on state output could be contaminated by imposition of President's Rule, an aspect which we control for in the analysis. Besides, we include a measure of ideological competition, akin to those utilized in previous models of political competition for India (see, for instance, Chibber and Nooruddin, 2004). All models are estimated by using robust standard errors clustered by states that allow for state-specific serial correlation.

Output growth

The second relationship is in the nature of growth regression augmented with political variables as given by (2):

$$g y_{s,t} = \gamma_1 p_{s,t} + \gamma_2 Z + \gamma_3 g y_{s,t-1} + \nu_s + \lambda_t + \xi_{s,t} \quad (2)$$

where $g(\cdot)$ denotes growth, the remaining notations are same as earlier. The dynamic specification serves two purposes. The first is to differentiate any source of unobserved heterogeneity in levels of income. The state fixed effects allow for long-term differences in average growth across states. The second is to allow for convergence in incomes per capita, to rule out the possibility that changes in political competition are not picking up the fact that /certain states grew faster simply because they were initially poor. For these reasons, the lagged income variable is included in the RHS. Estimation of dynamic panel models is fairly standard in the literature (Arellano and Bond, 1991).

Two sets of tests are reported to ensure robustness of dynamic panel model. Specifically, with respect to the validity of instruments, a Sargan test is conducted for the null hypothesis that the over-identifying restrictions are valid. The second test examines the absence of serial correlation in the error terms.

Fiscal policy

In addition to income, we also focus on fiscal variables. In particular, we examine the impact of political competition on state fiscal variables that are under the domain of state governments. Accordingly, we investigate the impact of political competition four such variables: revenue deficit, economic and social expenditure, tax revenues and fiscal deficit, all expressed as percentages to NSDP. The regression specification is given by expression (3):

$$f_{s,t} = \delta_1 p_{s,t} + \delta_2 Z + \nu_s + \lambda_t + \varphi_{s,t} \quad (3)$$

where f is the fiscal variable, the remaining notations are as earlier.

4. Results and discussion

Income levels

In table 3, column (1) displays estimates of (1) by OLS for annual data for 1980-2004. The evidence supports strongly significant positive association between political competition, measured in terms of percent of votes and per capita income. Besides the statistical significance, the coefficient suggests modest effects: the elasticity of per capita income with respect to political competition (H-vote), evaluated at the mean values of the variables, equals 0.001. That is, a proportionate increase in political competition leads to an improvement in per capita income by roughly 0.001.

The control variables exhibit expected signs. States with higher shares of agriculture have lower per capita income. It can be argued that higher shares of agriculture in total output could proxy poverty and high poverty would entail lower per capita incomes. Weak institutional quality leads to lower incomes. Higher population levels leads to higher incomes. This appears consistent with previous research which suggests that state population *per se* is tantamount to a measure of political influence. States having higher financial deepening, *ceteris paribus*, have higher levels of real income per capita, which is in accordance with the finance-growth literature.

Model (2) repeats the same exercise, but in addition, supplements them with measures of ideological competition. Akin to Chibber and Nooruddin (2004), we classify State governments as belonging to any of the three ideological categories: Center-Center, Center-Right and Center-Left, where the control category is single party dominance. None of the ideological variables are significant at conventional levels, indicating that ideological competition does not appear to exert any perceptible influence on per capita incomes.

It could be argued that these findings are likely to be less conclusive, since the coefficient α_1 gives the causal effect of political competition on per capita income only as long as the political variable p is uncorrelated with the error term. In the context of the present analysis, because of omitted factors impacting both economics and politics, this condition could be violated. Besides, it could also be the case that higher income stimulates greater political competition, raising concerns of reverse causation. To rectify this deficiency, we also conducted an Instrumental Variable (IV) estimate. The results indicates that the coefficient α_1 is quite large and strongly significant.

Output growth

In specification 1, the first lag of initial per capita income is 0.58. The rate of convergence is 1.5 percent per annum, which implies that it takes roughly 45 years to close half the gap (also known as ‘half life’) between a state’s initial per capita NSDP and its steady-state level of income.

The coefficient of interest, the measure of political competition, is significant when competition is measured in terms of percent of votes. Furthermore, the size on the coefficient is also important: a proportionate increase in political competition, measured in terms of votes, leads to a proportionate rise in income by roughly 0.05. Thus,

political competition measured in terms of ‘majority’ appears to exert a discernible influence on growth in per capita incomes.

Fiscal policy

The results do not shed light on which set of state-level fiscal policies is affected by political competition. In the spirit of the model, we focus our attention on two programs for which responsibility is exclusively attributed to state governments: state taxes and economic expenses. Economic and social expenses are often characterized by high levels of wasteful (“pork-barrel”) spending, this suggests that tighter political competition should be associated with lower economic expenses (and therefore, lower revenue expenses). On the other hand, incumbent governments might signal their competence by improving tax administration and compliance, improving tax revenues (and therefore, higher revenue receipts). The net effect is likely to be manifest in a lower revenue deficit and consequently, lower fiscal deficit.

The results are presented in Table 5. Tighter political competition increases economic expenditures: a rise in the explanatory variable by 0.5 (tantamount to a move from single party to two-party competition) improves economic expenses by about 5 percent.

The coefficients support these contentions. In essence, the results concur with Khemani (2004) which suggests that politicians will tend to provide better public services and increase developmental spending in order to improve their re-election prospects (*career concern*). As a result, economic expenditures would be higher. Coupled with cut on taxes which directly affect the people, the manifestation of this aspect would be lower fiscal deficit. Since all regressions control for state and year fixed effects, it seems unlikely that the estimates are driven by state-specific factors or business cycle considerations.

5. Concluding remarks

Using data on major Indian states for 1980-2004, the analysis explores the impact of political competition on state-level income and fiscal variables. The results are broadly consistent with the predictions of theory. The analysis suggests that increase in political competition exerted a positive effect on state per capita income. Consistent with this finding, the evidence appears to indicate that political competition measured in terms of vote margin leads to a growth in income per capita. In terms of fiscal variables, the evidence is consistent with the fact that politicians increase developmental spending in order to improve their re-election prospects. Further research will be needed to ascertain whether the theoretical implications carry over to cross-country studies and in that context, which measures of political competition matter for income growth and fiscal policy. Addressing these issues comprises elements for future research.

Notes

1. The words “state” and “sub-national” are employed interchangeably.
2. According to the Indian constitution, the following items belong to the “State list”: public order and police, state taxes, agriculture, sanitation, forest, fisheries and public health. Education is on the “Concurrent list” indicating joint responsibility of Union and State governments.

3. These states, in order are regional location are, Andhra Pradesh (AP), Karnataka (KARN), Kerala (KER) and Tamil Nadu (TN) in Southern region, Haryana (HAR), Punjab (PUNJ) and Rajasthan (RAJ) in the Northern region, Bihar (BIH), Orissa (ORIS), and West Bengal (WB) in the Eastern region, Gujarat (GUJ) Maharashtra (MAH) in the Western region and Madhya Pradesh (MP) and Uttar Pradesh (UP) in the Central region.
4. The financial year in India begins from first day of April of a given year to the last day of March of the following year. Hence 1991 refers to the period 1990 (March) - 1991 (April) and so on, for other years. Given that the electoral reforms were effected in August 1996, hence our included dummy begins from 1997.

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Table 1: Variables and summary statistics

Notation	Variable
<i>Independent variables</i>	
H-vote	Defined as $(1 - \sum_{i=1}^N Party_i^2)$ where <i>Party</i> is the percent of votes of political party <i>i</i> and <i>N</i> is the total number of parties represented
Real p c income	Natural logarithm of real per capita NSDP
Economic expense	Economic expenditure/NSDP
Tax revenue	Tax revenues/ NSDP
Revenue deficit	Revenue deficit/ NSDP
Fiscal deficit	Fiscal deficit/ NSDP
Agriculture	Natural log of (agriculture/ NSDP)
Credit/NSDP	Natural log of (bank credit/ NSDP)
T&D losses	Natural log of (transmission and distribution losses of State Electricity Boards)
Population	Natural logarithm of (state population)
dy_merger	Dummy=1 for the years 2001 onwards for states (BIH, MP and UP) from which new states were carved out

Table 2: Political competition and real per capita income

Variables	(1)	(2)	(3)
	Fixed Effects	Fixed Effects	IV
p (H-vote)	0.192 (0.089)**	0.242 (0.112)**	10.056 (2.244)***
Electoral year	0.051 (0.022)**	0.069 (0.045)	0.024 (0.016)
Ln (agriculture)	-0.014 (0.006)***	-0.011 (0.006)**	-0.034 (0.012)***
Ln (credit/NSDP)	0.146 (0.050)***	0.142 (0.052)***	0.035 (0.054)
Ln (T&D losses)	-0.095 (0.041)**	-0.099 (0.040)**	-0.384(0.256)
Ln (population)	0.603(0.302)*	0.615 (0.314)*	1.422 (0.116)***
dy_merger	-0.376 (0.111)***	-0.378 (0.116)***	-0.013 (0.097)
Constant	13.092 (2.043)***	13.169 (2.124)***	0.127 (0.793)
Center-Center		-0.034 (0.053)	-0.009 (0.056)
Center-Right		-0.016 (0.017)	-0.008 (0.027)
Center-Left		0.019 (0.028)	0.009 (0.021)
State dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	No
States, N.Obs	14, 349	14, 349	14, 349
Instrument			D1997+
Period	1980-2004	1980-2004	1980-2004
R-squared	0.9732	0.9734	0.9364

Standard errors (clustered by state) are within brackets

***, ** and * denote statistical significance at 1, 5 and 10%, respectively

Table 3: Political competition and real per capita income growth

Variable	(1)	(2)
p (H-vote)	0.021 (0.010)**	0.014 (0.007)*
Dep. Variable, 1 lag	0.577 (0.053)***	0.575 (0.054)***
Dep. Variable, 2 lags	-0.139 (0.052)***	-0.135 (0.053)***
Electoral year	0.004 (0.012)	-0.003 (0.012)
Ln (agriculture)	-0.005 (0.009)	-0.003 (0.010)
Ln (credit/NSDP)	-0.199 (0.027)***	-0.201 (0.027)***
Ln (T&D losses)	-0.005 (0.021)	-0.005 (0.022)
Ln (population)	0.311 (0.126)***	0.306 (0.128)***
dy_merger	0.006 (0.009)	0.005 (0.010)
Constant	0.048 (0.019)***	0.042 (0.019)**
Center-Center		0.003 (0.017)
Center-Right		0.002 (0.015)
Center-Left		0.036 (0.028)
State dummies	Yes	Yes
Year dummies	Yes	Yes
States, N.Obs	14, 306	14, 306
Period	1980-2004	1980-2004
Sargan test (p-Value)	0.758	0.770
AR 1 (p-Value)	0.000	0.000
AR 2 (p-Value)	0.907	0.928

Standard errors are within brackets

***, ** and * denote statistical significance at 1, 5 and 10%, respectively

Table 4: Political competition and fiscal policy

Variable	(1)	(2)	(3)	(4)
	Econ. expenditure	Tax revenues	Revenue deficit	Fiscal deficit
p (H-vote)	0.095 (0.043)**	-0.008 (0.041)	0.027 (0.013)**	0.008 (0.003)***
Electoral year	0.035(0.043)	-0.006 (0.011)	0.008 (0.004)**	-0.002 (0.004)
Ln (agriculture)	0.013 (0.008)*	-0.017 (0.013)	-0.004 (0.002)*	-0.005 (0.003)
Ln (credit/NSDP)	0.032 (0.031)	0.039 (0.014)***	-0.015 (0.009)	-0.035 (0.024)
Ln (T&D losses)	0.045 (0.071)	-0.097 (0.122)	-0.039 (0.035)	-0.049 (0.026)*
Ln (population)	0.049 (0.063)	-0.189 (0.153)	0.107 (0.064)*	0.006 (0.043)
dy_merger	-0.013 (0.021)	-0.046 (0.044)	-0.004 (0.014)	0.007 (0.013)
Constant	-0.215 (0.422)	1.389 (1.041)	-0.775 (0.402)*	-0.138 (0.301)
State dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
States, N.Obs	14, 349	14, 349	14, 349	14, 349
Period	1980-2004	1980-2004	1980-2004	1980-2004
R-squared	0.3366	0.2748	0.6903	0.6618

Standard errors (clustered by state) are within brackets

***, ** and * denote statistical significance at 1, 5 and 10%, respectively