

Political Determinants of Indian Social Development

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Abstract

The relationship between democracy and development is an ambiguous one. It would appear that in a country such as India, with a significant proportion of poor people, democracy could be used to reduce poverty and improve education and health. However, India's record on social development has been mediocre, especially relative to its authoritarian neighbor, China. India's aggregate indicators belie vast regional disparities in social development. For example, state literacy rates range from about 50% to 90%. Given India's federal structure, in which states have a major role to play in social development, I examine if state-level politics explains some of India's regional disparities and develop a model showing the relationship between the electorate and the ruling party. Using a panel data set for the sixteen major states of India spanning the last four decades, I use an econometric framework to see if state-level political variables such as voter turnout, female representation, and degree of political competition make a difference in development expenditures and social development. The results demonstrate that these political variables do matter. States with greater political competition have increased their development budgets, and states with more female representation have decreased infant mortality rates the most rapidly. Voter turnout also appears to matter in reducing urban poverty. The results suggest that democracy can be used to enhance social development and improve the quality of life, although there is no automatic link.

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TABLE OF CONTENTS

1 INTRODUCTION	3
2 BACKGROUND	5
3 CONTEXT	12
4 MODEL	22
5 EMPIRICAL ANALYSIS	29
6 CONCLUSION	43
7 APPENDIX	45

1 Introduction

The relationship between democracy and development is a major issue in political economy and development economics. In a world where nearly half the world's

population lives on less than \$2 a day (World Bank, 2000), insights into the relationship between the two are of the utmost importance. This paper is about democracy and development in the world's largest democracy, India. India's federal system and regional variation in social development makes it an ideal case study to examine this topic. I am analyzing if some of the state-level differences in social development and development budget spending in India can be explained by state-level political variables such as female representation, voter turnout, and degree of political competition. Since the disparities in social development, in most respects, have widened since Independence, particular interest lies in how some states have improved their social development indicators faster than others.

India is a country in which 44% of the people live in poverty, the literacy rate is 65%, and infant mortality is 61 per 1,000 births (World Bank, 2000). However, there are tremendous regional, or state-level, differences within India, disparities that nearly match that of the world. For example, in 2001, the literacy rate in the state of Kerala was 90%, but in Bihar, it was 48% (India Census, 2001). The range for infant mortality in 1999 was 14 per 1,000 births (Kerala) to 97 (Orissa) (UNDP, 2001). While there have been many studies on the economic causes of the socio-economic diversity within India, there have been few on the political determinants of social development.

The paper consists of several parts. The first section serves as an introduction to the paper. Next, the background provides an introduction to the political economy literature as well as India-specific studies. The third section provides the context for my empirical analysis. The fourth section consists of a model, represented in a game tree, demonstrating when and how politicians respond to the electorate. The model begins with

people's preferences. Some people, particularly the poor and women, have a preference for social development—less poverty, more education, and better health—while others have a preference for non-social development policies. Voters act on these preferences during elections, and politicians, wanting to either get elected or re-elected, respond to these preferences. The hypothesis is that political factors can make a difference in development; the electorate can pressure the government to improve social development. The hypothesis is tested empirically in the fifth section, on a panel data set. The data set consists of political and economic data at the state-level for the last four decades. I am testing to see whether political variables have an effect on either development spending by the state government or the actual social development outcome, measured by indicators on poverty and health. Since I am interested in the effects of elections, I have built into my empirical analysis a one-election period lag and measure changes in government spending and social indicators after the election, rather than absolute level effects. Instead of looking merely at correlations, it is important to see how state-level political variables have affected the changes in development spending or social indicators, rather than the level, since some of those absolute differences existed prior to Independence. The conclusion provides a summary of the results.

2 Background

There has been much work on the relationship between democracy and development, particularly economic growth. Most of the results of this work have been mixed, however. Both theory and empirical work show the relationship to be ambiguous.

The theoretical links between democracy and development demonstrate both a positive and negative correlation. Quinn and Wolley (2001) provide a review of the theoretical literature. In democracies, often special interests have more power than the masses. These special interest groups can then seek rents at the expense of the public interest (Olson, 1982). Trade is an excellent example, in which special interests tend to gain protectionism, even though free trade is usually welfare maximizing for a country. Other theoretical arguments against a positive relationship between democracy and development include pressures for short run economic manipulation due to electoral cycles (Nordhaus, 1975). On the other hand, democracies do increase accountability and in countries where the poor have numerical strength, they may be able to use the voting mechanism to enhance development. Moreover, democracies tend to have better institutions and property rights, possibly due to higher public accountability, which aid in economic performance. Sen (2001) argues philosophically that democracies serve not only an intrinsic goal of freedom but also an instrumental role in development through public pressure.

Varshney (1999) takes the theory demonstrating a positive relationship between democracy and development and examines the empirical puzzle of why poverty is still so pervasive in most developing countries with democracies. The puzzle for him is that if the poor make up a significant proportion of the population, than it seems they ought to be able to use the political process to reduce poverty significantly. However, Varshney asserts the record of most developing country democracies on poverty has not been that good, especially relative to some authoritarian regimes such as Singapore, South Korea,

and Taiwan.¹ He answers his puzzle with two solutions. He argues that there are two ways to reduce poverty, direct and indirect, and the political system favors the direct method, even though that it is not the most efficient or effective in the long run. He classifies direct poverty alleviation methods as redistribution or public employment schemes and indirect methods as macroeconomic policies, such as trade liberalization or proper exchange rate policy, which lead to sustained economic growth. Varshney argues that indirect methods are more complex than direct policies and that the time frame for indirect ways is usually longer because poverty is reduced most effectively after years of sustained growth. Since the electoral system favors simplicity and short-term projects because of short election intervals, usually direct methods are implemented, even though they are not the most efficient. On the other hand, Singapore, South Korea, and Taiwan mostly followed the indirect method to alleviate poverty, and they succeeded because it is more sustainable and efficient. His second answer is that the poor often do not vote along class lines but rather ethnic lines. In many countries, he argues that class and ethnic categories do not overlap significantly, so the poor are not a unified voting bloc.

While there is no doubt that sustained economic growth will reduce poverty effectively, it seems Varshney dismisses the direct approach immediately. He classifies the aforementioned authoritarian regimes into the indirect method while ignoring the fact they also had major direct method policies. For example, South Korea had significant redistributive land reforms, and the emphasis on access to primary education in all three countries helped contribute to their success. Moreover, in countries such as Brazil, where there is significant national wealth but high inequality, proper implementation of only

¹ While South Korea and Taiwan are now democratic, for a significant portion of the past few decades, when the greatest progress on poverty was made, they were authoritarian.

direct policy could be quite successful. His insight into lack of class based voting, however, does demonstrate one of the potential weaknesses of using the electoral system to reduce poverty.

There has been much work done on the empirical side connecting democracy and economic growth. Barro (1996), utilizing a panel data set for 100 countries over the past four decades, finds that, after controlling for variables such as human capital and real per-capita GDP, the effect of democracy on economic growth is slightly negative. His empirical results imply a nonlinear relationship between democracy and growth. At lower levels of political freedom, democracy appears to improve growth while at higher levels, there seems to be a negative relationship. Minier (1998) examines the outcome of countries that have transitioned to democracies and finds that they grow faster than countries that did not democratize or became less democratic. De Haan and Siemann (1995) conclude that there is not a clear link between growth and democracy.

The literature on democracy and economic growth shows the relationship to be inconclusive. Some of the weaknesses of the literature mentioned are that they are concerned only with economic growth and not other aspects of development, such as health and poverty. Moreover, they only ask which type of government, democracy or non-democracy, is more effective. Another important, and perhaps more interesting, question is given a democracy, are there actions that voters can take to accelerate development? How can voters affect the development process in a democracy? There have been a few studies, especially on India, which try to address these questions.

Besley and Burgess (2000b) study government responses to short-term adverse shocks, such as droughts. They find that states with more local language newspapers and

greater electoral accountability, measured through variables such as political competition and voter turnout, have greater public food distribution and calamity relief expenditures. They hypothesize that it is because politicians have greater incentives to be responsive to people's needs if they are held more accountable. With more local newspapers, information about politician's performance will be disseminated, which could then affect voting behavior in the next election. Having a competitive multi-party system has a similar effect, as the opposing party can expose poor performance and run a viable candidate in the next election. Based on their research, which finds that government responses to shocks are affected by politics, it is plausible to hypothesize that states' development expenditures and development outcomes are also influenced by state-level politics.

The link between the electorate and government responsiveness is less obvious in my line of research than in Besley and Burgess' work, however. Sen (1981) argues that one of the reasons why famines have never occurred in a fully functioning democracy is because of the dramatic nature of famines. With the visual imagery and news of hundreds or even thousands dying, the government is forced to respond. In daily life, despite persistent poverty or ill health, the striking images do not exist, as the victims are often less visible or more spread out. With less sensationalism, there is not as much pressure on the government to respond to the everyday poverty and hunger—as grinding as it maybe—than there is during a famine. However, the similarities between people's sufferings during times of famine and everyday, abject poverty lead me to hypothesize there may be mechanisms in which the public can utilize a democracy to improve social development.

Betancourt and Gleason (1999) examine the determinants of public good provision in India, at a district-level analysis. They are interested whether demographics or political variables help explain some of the variation in the provision of doctors, nurses, and teachers in the districts of India. They find that some of these variables do matter. For example, their results show that in areas with higher proportions of Muslims, there are fewer public goods provided. They hypothesize that in primarily Hindu India, there may be discrimination against Muslims or that Muslims themselves have fewer preferences for these public goods. Their political variables also help explain some of the public good variation. They find that higher voter turnout increases the allotment of nurses to rural areas of the district, and a higher female to male voting ratio increases the allocation of doctors and teachers to the rural parts of the district. My study attempts to take this line of research one step further. Instead of just being interested in the inputs of development, such as number of education or health officials, I am interested in the actual outcome of development—health and poverty indicators. While the first part of my empirical analysis is on an input, the budget allocation to development projects, the latter is on the actual outcomes, rather than an input. There may be a weaker correlation between political variables and development outcomes, but a study about outcomes is far more interesting than the connection between political variables and development inputs, since it actually measures people's welfare.

Chattopadhyay and Duflo (2001) attempt to find the impact of female representation. They use a natural experiment from a district in the state of West Bengal. India is slowly moving towards a reservation system on village councils, where one-third of the seats are reserved for women. In the district, there are both reserved and

unreserved village councils, so they examine the differences in investment allocation to determine how female representation is affecting policy. Because the villages were randomly selected, they attribute the differences primarily to the mandated female representation, or lack of. The authors find that there are differences in investments, with the reserved councils investing more in drinking water, fuel, and employment generating activities such as road construction. These projects match the issues closest to women's preferences, based on a survey conducted by the authors. While their research involves mandated representation, rather than officials elected through a democracy, it still highlights the important role of female representation.

Foster and Rosenzweig (2001) study the consequences of decentralization on the poor. While decentralization appears to benefit the poor, by allowing them greater participation at the local level, there is the possibility that local elites could retain control of local governance and actually hinder participation by the poor. The authors were concerned about the distributional consequences of decentralization, one of the new trends in Indian politics. They find that the shift towards decentralization and towards democracy benefits the poor, by reducing the power of the landowners. They measure the benefit to the poor by determining the allocation of public expenditures before and after the change. Examining two public good expenditures, irrigation and road construction, the authors assume that landowners would favor irrigation and that the landless would favor road construction since irrigation facilities favor landowners and road construction is a labor-intensive project which helps the landless. Based on this theory, they show that empirically with decentralization, the landless do gain more

participation and the budget allocation shifts towards more road construction, thus illustrating that decentralization and democratization have been beneficial to the poor.

3 Context

On the eve of India's Independence, Jawaharlal Nehru, who was to become India's first prime minister, declared that Independence "is but a step, an opening of

opportunity, to the great triumphs and achievements that await us...the ending of poverty and ignorance and disease and inequality of opportunity” (Dreze and Sen, 1995). The Indian government has, from its inception, taken responsibility for social development. The result has been mixed. While the literacy rate has increased from less than 20% in 1951 to 65% in 2001 (Dev and Mooij, 2002), in a country of over one billion people, an illiteracy rate of 35% is still quite significant. The poverty rate has also been nearly halved, although with population growth, there is still not only a relative problem of poverty but an absolute one as well.

In a sense, India’s democracy is quite remarkable, particularly on the institutions side. Beginning with the constitution, which guaranteed equal voting rights for women and minorities, in an age where discrimination at the polls across the world ran rampant—e.g. the U.S. civil rights movement was just beginning—Indian democracy has shown great foresight. India’s democratic institutions—the legislatures, the bureaucracy, and the courts—have proven to be robust, in an era where new democracies have been fragile.

Dreze and Sen (2002) though illustrate the weaknesses of Indian democracy. While the institutions have withstood many challenges, in practice, Indian democracy has failed on many accounts. While legally everyone has the right to vote, there is still some discrimination. Moreover, the criminalization of politics has resulted in many criminals being elected. For example, in the state assembly of Uttar Pradesh in 1994, nearly half of the state legislators, or Members of the Legislative Assembly (MLA), had criminal records (Dreze and Sen, 2002). The criminalization of politics affects the electorate too, as many are threatened during election time or bribed to vote a certain way. With

rampant illiteracy, many voters are not able to gain the full information necessary to make an informed choice. The judiciary too has often failed in practice. Estimates of backlogged cases range up to 30 million. Cases, even after they start, often go on for years, with estimates of up to 20 years to settle a case (Dreze and Sen, 2002).

Because of this gap between theory and practice, between institutions and daily reality, Indian democracy is fascinating to study. While the government, with its rhetoric of being accountable for social development, appears to be responsive to the needs of the electorate, the empirical reality is that even after a half-century of democracy, there is still widespread poverty and illiteracy. The questions raised in the political economy literature, to what extent can the electorate or the political process shape social development in India, are not only interesting but also quite important.

While there is central government involvement in development, much planning and policy is left to the states. The states have the primary responsibility for most social sectors such as education and health. In fact, according to the Indian Constitution, health is entirely a state issue, while education is mentioned as a responsibility of both the state and central government (Dev and Mooij, 2002). Poverty is not explicitly mentioned in the Constitution, but most rural development projects are under state responsibility. These theoretical divisions are also empirical realities, as the share of the state's expenditures, relative to the overall (state plus central) outlays, on education, health, and rural development approaches 90% (Dev and Mooij, 2002). The federal system of India's democracy gives a great deal of the responsibility of social development to the states, allowing the possibility of a state-level political explanation of the inter-state disparities.

As noted before, there is a great deal of disparity in social development expenditures and outcomes at the state level. However, there were differences in absolute levels at the time of India's independence, in 1947. For example, the infant mortality rate in the state of Kerala was 153 (per 1000 live births) during the decade of the 1940s while the all-India average was 192 during the same time period. However, by 1990, the gap had grown, from 17 in Kerala to 80 for the all-India average (Dreze and Sen, 1996). In fact, much of that gap widened during the first few decades of democracy. In the 1950's, Kerala's infant mortality rate was 120 and India's was 140. The average from the next decade shows a remarkable transformation in Kerala, which nearly halved its infant mortality rate to 66 while India's rate showed a much slower decline to 114.

I am interested in why the improvements in social development occurred more rapidly in some states than others. The answer is not merely an economic growth explanation. The states with the highest social development indicators are not necessarily the states with the highest incomes, as illustrated in Table 3.1.

As Table 3.1 demonstrates, there is not a strong correlation between a state's wealth, measured by the State Domestic Product (SDP), and its social development. For example, while Kerala is the 10th richest state (out of 17), it performs the best on the literacy and infant mortality indicators. Kerala is not just an outlier, as there are other states with average economic well being but high social indicators. Tamil Nadu, for example, is ranked 9th from an SDP perspective but is ranked 4th and 3rd for male literacy rate and infant mortality rate, respectively. Similarly, Himachal Pradesh is average economically (8th) but among the best performers on the male literacy rate (3rd). Even

high wealth does not guarantee a state high social indicators. For instance, Punjab, the richest state, has the 9th highest male literacy rate (out of 16).

Table 3.1 Selected State-Level Indicators

States	Per Capita State Domestic Product (SDP), 1991-1992 (Rs/Year)	Literacy Rate, Male, age 7+, 1991 (%)	Infant Mortality Rate, 1990-1992 (per 1,000 live births)
Andhra Pradesh	5,570 (5)	55.1 (14)	71 (9)
Assam	4,230 (12)	61.9 (11)	76 (13)
Bihar	2,904 (17)	52.5 (16)	72 (11)
Gujarat	6,425 (4)	73.1 (5)	69 (6)
Haryana	8,690 (2)	69.1 (6)	71 (9)
Himachal Pradesh	5,355 (8)	75.4 (3)	70 (8)
Jammu&Kashmir	4,051 (15)	NA	69 (6)
Karnataka	5,555 (6)	67.3 (8)	73 (12)
Kerala	4,618 (10)	93.6 (1)	17 (1)
Madhya Pradesh	4,077 (13)	58.4 (12)	111 (16)
Maharashtra	8,180 (3)	76.6 (2)	59 (4)
Orissa	4,068 (14)	63.1 (10)	120 (17)
Punjab	9,643 (1)	65.7 (9)	57 (2)
Rajasthan	4,361 (11)	55.0 (15)	84 (14)
Tamil Nadu	5,078 (9)	73.8 (4)	58 (3)
Uttar Pradesh	4,012 (16)	55.7 (13)	98 (15)
West Bengal	5,383 (7)	67.8 (7)	66 (5)

Notes: Ranking of states is in parenthesis. Rankings for SDP and Infant Mortality Rate are out of 17, while rankings for Male Literacy Rate are out of 16. Calculations from Dreze and Sen (1995).

While the data do show a correlation between a state's per capita income and its social development, the indicators demonstrate that there must be non-economic explanations for the disparities. One possible explanation is civil society. Perhaps there are more non-governmental organizations (NGOs) working on social development in the more socially developed states. However, such an explanation does not seem plausible

since development NGOs tend to operate most extensively in those areas that are the least well off. The explanation I would like to pursue in this paper is from the political angle.

It appears that the quality of state governments has played a major role in social development disparities. Some states provide easier access to health care or education, which then have ramifications for social development outcomes. The Public Affairs Centre (PAC), a research center in the southern Indian city of Bangalore, has conducted numerous surveys on the quality of governance and public services in India. One study in particular, “Millennial Survey of India’s Public Services,” demonstrates the differences in state governments’ effectiveness in social development inputs (PAC, 2002). PAC conducted surveys on public services in each state of India. On the issue of health, people were asked if they have health facility access within three kilometers. The percentage for the affirmative answer ranged from 37% to 98%. Even excluding the minor states, the range was from 61% (Andhra Pradesh) to 86% (Punjab). On the issue of educational facilities, the disparity was even greater. The availability of a school within one kilometer ranged from 37% to 84% for the major states. Such disparities in social development inputs usually translate into disparities in social development outputs.

Assuming that state governments had a role to play in improving social development indicators, I am trying to determine what role the political process played. The hypothesis is that the characteristics of the state electorate and state government can help explain some of the inter-state disparities. I believe some political variables, by increasing accountability of the state government to the public, play a role in the disparities.

Even though the poor and vulnerable may have the numerical strength in a democracy, there are many reasons why their voices may not be heard. For example, in many democracies, campaign donations and the influence of money may drown out the preferences of the poor. Secondly, the poor and vulnerable may be less informed or have less efficacy, thus resulting in reduced voter turnout.² Middle income or high-income individuals tend not to face these information or efficacy problems, resulting in a higher voter turnout, on average, than their low-income counterparts. For example, the voter turnout in the U.S. in 1996 for those with family incomes above \$75,000 was 76% but only 57% for those in the \$25,000-\$34,999 range. Only 38% of those with family incomes less than \$10,000 voted in 1996 (Sklar, 2000). If there is a high aggregate voter turnout, it is usually a result of high voter turnout among the low-income subgroup since the voter turnout for the upper-income group is already high. In summary, a high voter turnout usually means that more low-income people voted. Another characteristic of low-income people, relative to other income groups, is their stronger preference for social development. If these generalizations are true in India, it would suggest that high voter turnout would more easily put forward a social development agenda. Other empirical work suggests that is the case. For example, Betancourt and Gleason (1999) find that voter turnout does matter for the provision of some public health and education goods. With a larger role in the elections, the poor can put pressure on politicians to accelerate development.

Another demographic group that plays an important role in the political economy of social development is women. Numerous studies show that investing in the education

² Voter turnout is defined as the percentage of the actual number of voters divided by the number of eligible voters.

of women has one of the highest returns on investment of development projects. Educating women results in increased literacy, improved child nutrition and health, and higher family incomes (World Bank, 2001). Similarly, involving women in government decision-making could produce comparable effects. Chattopadhyay and Duflo (2001) find that female representation makes a difference for certain development expenditures at the village council level. I am interested in if female representation makes an impact not only on the budget at the state level but also the actual social development outcomes. With more female representation in the state legislatures, it seems that there will be more of a focus on issues closer to women, such as health and education of children, thus resulting in improved social development. Female representation is measured as a percentage, by the number of female legislators in the state assembly relative to the number of seats in the state assembly.

Betancourt and Gleason (1999) find higher female to male voting ratio increases the allocation of doctors and teachers to the rural parts of the district. Logically it would appear that the strength of women in the overall electorate should also make an impact on development spending and outcomes, so the share of female voters relative to the overall voters, is another variable examined in my analysis. The aggregate voter turnout indicator misses the role of women in the electorate. If male and female turnout were equal and the ratio of females and males in the population were one, then the share of female voters should be 50%. However, in many states, the ratio of women to men is less than one and voter turnout of females is less than the voter turnout of males.

On the governing side, politicians, wanting to either be elected or re-elected, respond to incentives. They will be more likely to respond to people's preferences if

there are strong incentives to do so. One of the incentives already discussed is voter turnout. The higher the voter turnout, the more likely it is the poor, with their strong preference for social development, are voting. A second incentive is political competition. If politicians, or a political party, face an easy election, they are less likely to implement policies desired by the voters. Just as economic theory suggests that monopolies will not lower the price of goods unless they face competition, the hypothesis here is that politicians would be more likely to implement the preferences of the voters if they face strong political competition. This is shown to be true in the literature (Keys, 1950; Besley and Burgess, 2000b). I use Besley and Burgess (2000b)'s definition of political competition. They measure it by the share of seats held by the ruling party minus the share of seats held by the second leading party. Such an index effectively captures the degree of political competition, in an inverse relationship. The stronger the political competition, the lower is the value of the variable.

Table 3.2 provides a summary of the political variables. As the table illustrates, there is significant variation among the states in their political patterns. The voter turnout ranges from an average of 49.68% in Orissa to 75.84% in Kerala. Kerala also has the highest share of female voters (50.37%) and greatest political competition (0.122) while Bihar has the lowest share of female voters (38.42%) and Jammu and Kashmir the least competitive elections.

Table 3.2 Summary of Main Independent Variables.

State	Female Voters	Voter Turnout	Female Legislators	Political Competition
Andhra Pradesh	47.84 (0.45)	67.68 (3.98)	3.96 (2.56)	0.449 (0.169)
Assam	44.64 (2.26)	65.46 (9.93)	2.80 (1.73)	0.497 (0.247)
Bihar	38.42 (2.23)	55.54 (4.21)	2.70 (1.53)	0.361 (0.143)
Gujarat	44.91 (1.13)	56.67 (6.31)	3.62 (2.99)	0.425 (0.295)
Haryana	44.53 (0.40)	67.79 (5.07)	5.92 (1.59)	0.407 (0.239)
Jammu & Kashmir	41.57 (1.89)	59.03 (14.22)	1.46 (1.91)	0.548 (0.271)
Karnataka	46.14 (0.69)	65.51 (4.21)	3.26 (2.67)	0.432 (0.203)
Kerala	50.37 (0.51)	75.84 (4.34)	3.63 (2.95)	0.122 (0.106)
Madhya Pradesh	40.86 (0.88)	52.37 (4.79)	4.27 (2.76)	0.444 (0.154)
Maharashtra	45.88 (1.12)	62.45 (5.64)	3.63 (2.08)	0.444 (0.288)
Orissa	40.93 (3.10)	49.68 (10.87)	3.58 (1.78)	0.412 (0.261)
Punjab	44.53 (1.44)	67.93 (2.83)	3.89 (2.04)	0.349 (0.180)
Rajasthan	42.79 (0.68)	56.65 (3.89)	4.83 (1.82)	0.402 (0.214)
Tamil Nadu	47.92 (0.82)	68.57 (5.06)	3.68 (4.26)	0.459 (0.138)
Uttar Pradesh	39.85 (0.95)	51.44 (4.62)	4.10 (1.62)	0.349 (0.180)
West Bengal	43.72 (2.39)	67.95 (9.58)	3.04 (2.52)	0.367 (0.196)

Notes: Data are the means for the state over the years 1960-2000, during state elections. Standard deviations in parenthesis. Calculations based on data obtained from the Election Commission of India.

Based on the theory and empirical work in the literature, I hypothesize that political variables do help explain some of the inter-state differences in development

expenditures and in social development outcomes. The sixteen major states of India have tremendous variation in their political factors and in their social development budget and indicators. This paper attempts to find if there is a link between the two. Some of the questions being asked are: do development expenditures increase more in states with higher voter turnout, more female representation, and greater political competition and does health improve faster in states with such political variables? By measuring the change in social spending or social indicators during the period after the election, I am hoping to see if the elections helped cause some of those changes. I have built a one-period election lag into my econometrics framework to capture these effects.

4 Model

The game tree charts in the appendix illustrate the relationship between the electorate and the politician. In my stylized model, there are three types of politicians: a responsive politician, an ideologue in favor of policy 1, and an ideologue in favor of policy 2. Here are some assumptions about the electoral process, which are visually represented in the game tree charts in the appendix.

- There are two types of voters. Voter 1 has a preference for policy 1, social development policies such as improved education and health, reduced poverty. Voter 2 has a preference for policy 2, non-social development policies. These may include, for example, caste or religious issues.
- The two types of voters have two choices at election time. They can either act on their preference, by voting for the politician who would enact their preferred policy, or not act on their preference, by not voting or voting for someone else. Reasons for not acting would include lack of information or being bribed to vote a certain way.

The game tree chart now changes its focus from the voter to the politician.

- The election can either be competitive or non-competitive. Competitive means the opposition party has picked up enough votes to make the political process competitive. During the tenure of governance, the opposition party is strong and can pose a strong challenge in the next election.
- Voters can affect the competitiveness of an election by providing enough votes to the opposition and by acting on their preferences, since not acting would benefit

the incumbent or the favorite. One of the reasons for not acting is because of threats or lack of information about the candidates; these are methods in which the favorite or incumbent benefit, at the expense of the underdog or challenger. This is a path dependent game tree. The actions taken by the voters affect the box where the game tree ends up. Voters can increase the probability of a competitive election by acting on their preference.

- In the period of governance, there is strong electorate opinion in favor of policy 1, strong electorate opinion in favor of policy 2, or weak electorate opinion, with no clear preference for policy 1 or policy 2. Voters, through voter turnout and survey polls, determine the electorate opinion.
- Using the mood of the electorate and his own ideology, the politician can implement either policy 1 or policy 2.
- Based on his or her policy implementation and the political competition, the politician will select a policy, based on which payoff (in parenthesis at the end of the game tree) is higher. Based on his policy implementation and the political competition, voters can decide to either re-elect him or vote him out of office.

The outcome for a voter is either implementation of policy 1 or policy 2 while the outcome for a politician is re-election or defeat. Most voters will want their preferred policy implemented and most politicians will want to be re-elected, suggesting a responsive relationship by politicians to voters, as illustrated by Chart 1.1 in the appendix. However, there are different types of politicians, which is exogenous to the model. Some ideologues may not be responsive because they will implement only a particular policy.

I have traced out a game tree path for three different politicians—a responsive politician, an ideologue in favor of policy 1, and an ideologue in favor of policy 2—in Charts 1.1, 1.2, and 1.3 respectively and will discuss them below.

Chart 1.1, Responsive Politician

A responsive politician is one whose utility is maximized by re-election, irrespective of which policy he implements. Here are some possible paths on the chart. The voter has a preference for policy 1, social development, and acts on it. Such a preference will increase the probability of the path followed is on the left side, on the competitive election side. If indeed the election is competitive, and there is a strong electorate opinion in favor of policy 1, then the politician has strong incentives to implement policy 1. His payoff in implementing policy 1 is five (as given in the game tree), and he will win the re-election. The incentives for implementing policy 2 are low, as there is a payoff of zero and a defeat at the polls. If there is strong electorate opinion in favor of policy 2, he will implement policy 2 for similar reasons. Not only does the electorate favor policy 1 strongly, it has a viable candidate in the next election because it was a competitive election; if the incumbent party does not implement policies the electorate favors, then the electorate will vote for the opposition party in the next election. The payoff configuration strongly rewards implementing policy 1 because it increases his chances of re-election. The payoff structure under a weak electorate opinion system favors neither policy 1 nor policy 2, so it is difficult to say which policy he would choose.

Under the non-competitive election branch, the incentives to implement a particularly policy are much smaller since the politician will inevitably win re-election

due to the lack of a strong opposition candidate. The lower incentives are exacerbated when there is weak electorate opinion. When there is strong electorate opinion, the incentive to implement the preferred policy is not the immediate upcoming election but rather future ones. That is why the payoff structure favors implementing the preferred policy even though victory would still occur by implementing the other policy.

Chart 1.2, Ideologue (Policy 1)

An ideologue is someone who maximizes his utility first by policy implementation. His re-election prospects are secondary. He will implement only the policy with which he agrees, even if that would reduce the probability of victory. Chart 1.2 is the game tree of an ideologue that favors policy 1. His payoffs are highest when he implements policy 1, so at every decision point, he will choose policy 1. In cases where there was a competitive election and strong electoral opinion in favor of policy 2, he will choose policy 1, even though it will cost him the next election. In the non-competitive electoral branch, his utility and re-election are aligned because of the lack of opposing candidates.

Chart 1.3, Ideologue (Policy 2)

The analysis for Chart 1.3 is quite similar to that of Chart 1.2. The only difference here is that the politician in power favors policy 2. The point for both charts is that even if the electorate cannot influence the policy selection by the politician, they can vote him out of office at the next election if there is political competition. Without political competition, the voters will have the same politician in office.

Here are some generalizations from the game tree scenarios:

- Politicians have stronger incentives to implement policy 1 if they are accountable to the public.
- Accountability includes strong electorate opinion and political competition. If there is strong public opinion in favor of policy 1, yet no viable opposition candidate, there is not much of an incentive for the incumbent to implement social development policy. Similarly, if there is weak public opinion in favor of policy 1 but strong political competition, there are still few incentives to implement policy 1.
- Voters influence the path. For example, voters not acting on their preferences increase the probability of ending up at the non-competitive branch or weak electorate opinion path. With not enough voters acting on their preference, it is likely that public opinion will show weak preferences, resulting in the weak electorate opinion box. Once at the non-competitive branch or weak electorate box, the incentives, the payoffs, to following the public's preferences are reduced.
- In the case of ideologues, the role of incentives is minimized, but the public preference can still be implemented, if not immediately, then at the next election.

I have demonstrated explicitly why one of my political variables that I test in my econometric analysis matters, political competition, should matter. The analysis also demonstrates implicitly that some of my other variables matter as well. The analysis uses voter turnout and share of female voters to proxy for electorate opinion. I assume that a higher voter turnout means that more poor people voted and a higher female voting ratio

means women had more of a voice in elections. Since it is traditionally the poor and females who are the strongest supporters of social development, I use the data on voter turnout and female voting share to proxy for strong or weak public opinion in favor of social development. Moreover, the share of female legislators proxies for the number of legislators who prefer policy 1, since I assume most female legislators would prefer social development.

The point of the game tree is that the path matters. The path one takes affects the probabilities at each node. If voters do not act on their preferences, it is more likely the path will end up at the weak electorate opinion box, where politicians have less of an incentive to implement social development policy. Conversely, if people do act on their preference, this will increase the probability at arriving at the strong electorate opinion box and eventually the policy 1 implementation because of the incentives for politicians.

The game tree demonstrates that political variables should matter, given my assumptions about payoffs. It also helps to answer the puzzle of why poverty in a democracy replete with poor people exists. It would appear that the poor, if they have numerical strength, could get together and vote in politicians who would reduce poverty. However, as this game tree demonstrates, there are plenty of reasons why policy 2, the non-social development policy, could occur. For example, the poor may not even have a preference for policy 1. In a country such as India, where there are caste and religious tensions, the social development preference does not exist for many people, even if they are poor. This is the implication of Varshney's (1999) work, discussed previously. Furthermore, even if there is a preference, it may not be acted on. India, for example, has a history of politicians bribing voters to act a certain way. Of course, the electoral

outcomes, with weak political competition or weak electorate opinion, may allow ineffective politicians to become elected and re-elected. The game tree chart shows the many reasons why the poor may not be able to reduce poverty through the vote in a democracy.

It does, however, show that there is the potential for using democracy to reduce poverty and to improve education and health. The model demonstrates that political variables such as electoral turnout, share of female voters, degree of political competition, and share of female legislators should matter. These political variables should increase the probability of politicians enacting social development policies. This hypothesis is tested empirically.

5 Empirical Analysis

5.1 Methodology

A panel data set for the sixteen major states was created for the years 1960-2000. The data set consists of state-level political and economic variables, primarily from UNDP India, World Bank, and the Election Commission of India. The basic method of estimation is the following equation:

$$\Delta Y_{(i((t+1)-t))} = \alpha_i + \beta_t + \delta Z_{it} + u_{it}$$

which is a fixed effects panel data regression for states i and years t , with a differenced dependent variable. The states are the sixteen main states of India, and the time t points are the years of elections. Y is the dependent variable at election years. The dependent variable is either the development expenditures by the state government or state level infant mortality rates or poverty rates. The fixed effects are represented by α_i (state fixed effects) and β_t (year fixed effects). Z_{it} is a vector of political and economic variables.

The dependent variables are differenced out for several reasons. First, since I am interested in the effect of elections on the dependent variables, measuring the level of development expenditures or poverty rates would not give insight into a cause effect relationship. The differenced dependent variable, rather than a level dependent variable, allows the results to reveal if the political variables influence a change in behavior by the state government (presumably the link through which the mechanism works). Since there were initial inequalities across India, examining the levels of the dependent variables side, rather than the first differenced statistics, would not reveal more than a correlation between political variables and social development.

Second, I am trying to avoid the problem of simultaneity. In the case where there is a level independent variable, such as voter turnout, affecting the level dependent variable, such as poverty rate, there would have been issues of simultaneity. Not only would the voter turnout help determine government policy which would affect the poverty rate, but there very well could be an opposite effect as well. The poverty rate would help determine the voter turnout, at least based on the aforementioned theory. With a problem of simultaneity, the results would not have been robust. By differencing the poverty rate, measuring how it changes over time, the simultaneity problem is avoided. While it is still possible that changes in the poverty rate would affect voter turnout, the problem is much less significant than the level of poverty affecting voter turnout. I first difference not only the poverty rate and infant mortality rate but also the development expenditures. When examining the data on development expenditures, the share of development expenditures was increasing over time, just as the poverty rate and infant mortality rates were declining over time. Thus, I became interested in the growth of the development expenditures, rather than the level.

A less serious econometric issue is the potential presence of autocorrelation within panels or heteroscedasticity across panels. While this is not a major problem given this particular data set, it is still something to consider. For example, homoscedasticity requires constant variance of the error term. While most of the political variables have either been fairly constant over time or only slightly increased, empirically one of the independent variables, female representation in the state assembly, has increased over time, with larger variations, thus suggesting the assumption of constant variance of the error term may be violated. To address this issue, in addition to running a

fixed effects panel data model, I also run a feasible generalized least squares (GLS) panel data regression. The GLS results are presented for each of my tests.

Another potential econometrics problem is multicollinearity. Since each of the independent variables could be highly correlated, there is the possibility of multicollinearity. One would expect states with higher voter turnout to have high political competition or a high share of female voters. When this was tested empirically, it seemed there was a correlation but not a high enough one such that the multicollinearity problem would arise.

In the vector of political and economic data, it is mostly political variables. Taking the State Domestic Product (SDP) into account controls for the state's income. While ideally I would like to have controlled for more variables, it was not possible due to data restrictions. However, the panel data structure, with a fixed effects model, should minimize the omitted variable bias.

The data points are election years. The differenced dependent variable is the difference in the social indicator or development expenditure value between election 1 and election 2 or election 2 and election 3 and so forth. The idea is that politicians, when elected, will want to accomplish their results by the time of the next election, so the electorate can decide whether to support them or not. While there will inevitably be benevolent politicians who will embark on a two decade investment, most politicians are short-sighted and want the school or road construction completed by the end of time they are in office.

With this assumption, the lag effect is one election cycle. This does not capture the Indian situation perfectly but was the best available option. Most Indian state

elections are every five years. While there can be an election before the next scheduled election if the government in power collapses, it is not an empirical regularity. One of the assumptions for the data is that once a politician is elected, he will implement policies that will end before the next election. If this is not true, the data may be attributing the results to the wrong election cycle. For example, if policies are enacted in year four which will take two years to complete, the results will be in year six, and the model will give credit to the second election cycle, rather than the first. Since such a scenario is plausible, it is necessary to highlight this weakness of my empirical testing.

However, given the limitations on my end—difficulty in predicting the lags of policies for each state in India over the last four decades—the one election cycle lag appears to be the best option available. For example, erring the other way, giving politicians a longer lag than the election cycle would have resulted in the potential problem of giving credit to politicians who are no longer in control. Even though the second set of politicians, from the second electoral cycle, may be implementing policies in their term, the results would be attributed to the first set of politicians, if I gave them a longer lag.

5.2 Results

I conduct three regression tests, on development expenditures, infant mortality rates, and the urban poverty rate.

5.2.1 Development Expenditure Results

The first test is on development spending, with World Bank data from 1960-1994. The World Bank compiled the data using the Reserve Bank of India's statistics. The development expenditure variable includes spending on agriculture and allied activities, rural development, special area programs, irrigation and flood control, energy, industry and minerals, transport and communications, science, technology and environment, education, medical and public health, family welfare, water supply and sanitation, housing, urban development, labor and labor welfare, social security and welfare, nutrition, relief on account of natural calamities. While a more disaggregated measure of spending would have been useful to give a more precise analysis, I only had access to the aggregate data.

To control for the state's wealth, the state's development spending is divided by the GDP. The number is then converted to a percentage, which gives the share of development spending by the state relative to its income. The model tested is the following:

$$\Delta DE_{(i((t+1)-t))} = \alpha_i + \beta_t + \delta Z_{it} + u_{it}$$

where $\Delta DE_{(i((t+1)-t))}$ is the change in development expenditures spending between the election at time t and the next election at time $t+1$, and Z_{it} is a vector of political variables—share of female voters, voter turnout, share of female legislators, and political competition.

The results are presented in Table 5.1 and 5.2. As the data illustrate, most of the political variables, except for political competition, are statistically insignificant in affecting development spending. The negative coefficient on political competition is as expected since the smaller the political competition variable value, the greater the

political competition. The interpretation of the negative coefficient on political competition is that greater political competition leads to greater increases in development expenditures. The results of the GLS test, presented in Table 5.2, reaffirm the fixed effects panel data results.

The mechanism through which political competition affects the development expenditures is fairly easy to grasp. With a competitive electoral system, the party in power has stronger incentives to increase development expenditures. In a non-competitive system, the party in power has no real challenger, no real threat to its power. Hence, its incentives to please the electorate are low. When there is a strong opposition party, the ruling party could easily please parts of the electorate, to help itself in the next election, by increasing development expenditures. This theory of incentives towards re-election affecting policy appears to play out empirically on the subcontinent, as the Indian states with higher political competition have experienced higher increases of development expenditures.

The near significance of the share of female voters variable disappears under the GLS results, as the t statistic drops from 1.77 to 0.15. However, the positive coefficient under the fixed effects results, 0.635, makes sense intuitively as a higher share of females in the electorate suggests faster increases in development expenditures. The negative signs on the other statistically insignificant variables, voter turnout and female representation, are surprising, but they are of low magnitude and statistically insignificant.

Table 5.1 Development Expenditure, Fixed Effects

Variable	Coefficient (t statistic in parenthesis)
Share of Female Voters	0.635 (1.77)
Voter Turnout	-0.122 (-1.39)
Share of Female Legislators	-0.211 (-1.56)
Political Competition	-4.333 (-2.72)

Statistically Significant Variables Are Bolded

Table 5.2 Development Expenditures, GLS

Variable	Coefficient (z statistic in parenthesis)
Share of Female Voters	0.016 (0.15)
Voter Turnout	-0.028 (-0.61)
Share of Female Legislators	-0.174 (-1.49)
Political Competition	-2.607 (-2.04)

Statistically Significant Variables Are Bolded

5.2.2 Infant Mortality Rate Reduction Results

The infant mortality rate is the number of infant deaths per 1,000. The data are from UNDP India for the years 1970-2000. The model estimated for the infant mortality rate is the following:

$$\% \text{ IMR}_{(i, (t+1)-t)} = \alpha_i + \beta_t + \delta Z_{it} + u_{it}$$

While there are other public health indicators, the infant mortality rate was chosen in particular because improvements in the infant mortality rate need not take a long time. For example, it may take significant time to improve a state's life expectancy because of the broad demographic groups involved. Infant mortality, however, focuses on a small sub-section of the state and with proper public investment, could be reduced quite significantly in a short period of time. Since the model has only one election period lags, it was important to choose a public health measure in which the state government's policy implementation could be captured empirically.

Unlike the development expenditures dependent variable, which was a pure first difference, a percentage change was used for the infant mortality rate. While the development expenditure shares were in similar ranges for different states, the infant mortality rate ranged from 14 to 97 in 1999. As a result of the data, I changed my first difference approach to a percentage change method. A state reducing its infant mortality rate from 40 to 30, rather than having a difference of -10 percentage points, now has an infant mortality reduction rate of -25%. Conversely, a state that reduced its infant mortality rate from 150 to 140, has an infant mortality reduction rate of -7.14%, rather than -10 percentage points. The change in methodology is to ensure my testing still picks up the improvements in health made in a relatively healthy state such as Kerala, which in 1999, had an infant mortality rate of 14.

The vector, Z_{it} , in addition to including all the political variables from the development expenditures test, now includes an economic variable, GDP growth. While a state's income was controlled for implicitly in the previous regression by dividing the state's development expenditures by the GDP, it is a direct variable in the regression. The

SDP growth variable, just like the infant mortality reduction rate variable, is the percentage change in SDP between the election periods. A negative coefficient would be predicted on SDP, as stronger economic growth would be expected to lead to larger declines in the infant mortality rate.

The results, in Table 5.3 and 5.4, show a link between the share of female legislators and a state's infant mortality reduction rate. The negative coefficient on female legislator variable suggests that states with a higher share of female legislators experience greater reductions in the infant mortality rate. The other political variables are statistically insignificant. Surprisingly, the SDP growth rate is statistically insignificant as well.

The mechanism connecting increased female legislators with larger declines in infant mortality rate is through female preference. Many females, being mothers, are especially concerned with children's health. Numerous development studies demonstrate this preference. When women are given money through a program like microcredit or are educated at a school, one of the secondary benefits is improved children's health. Thus when females get elected, they most likely act on these preferences, legislating new policy in favor of children's health.

The statistically insignificant variables reiterate the importance of the political variables in development. The negative coefficients and somewhat high zstatistics on female voter share and voter turnout for the GLS results illustrate the importance of the electorate. The unexpected negative sign on political competition from the fixed effects results disappears under the GLS model.

Table 5.3 Infant Mortality Reduction Rate, Fixed Effects

Variable	Coefficient (t statistic in parenthesis)
Share of Female Voters	0.211 (0.10)
Voter Turnout	-0.312 (-0.59)
Share of Female Legislators	-2.186 (-2.94)
Political Competition	-6.178 (-0.64)
SDP Growth	0.025 (0.22)

Statistically Significant Variables Are Bolded

Table 5.4 Infant Mortality Reduction Rate, GLS

Variable	Coefficient (z statistic in parenthesis)
Share of Female Voters	-0.668 (-1.01)
Voter Turnout	-0.250 (-0.99)
Share of Female Legislators	-2.066 (-3.17)
Political Competition	0.0330 (0.00)
SDP Growth	-0.013 (-0.13)

Statistically Significant Variables Are Bolded

5.2.3 Poverty Rate Reduction Results

The poverty rate is the percentage of people living under a certain income, the poverty level. My data on the headcount rate run from 1960 to 1994, with the immediate

source being the World Bank. The model estimated for the urban poverty rate is very similar to the infant mortality rate equation:

$$\% \Delta UPR_{(i, (t+1)-t)} = \alpha_i + \beta_t + \delta Z_{it} + u_{it}$$

I chose the urban poverty rate because of the so-called urban bias in politics. Both in theory and empirically, it appears that because of the concentration of people and political actors in urban areas, urban areas receive disproportionate attention (Lipton, 1977). On the strong possibility of urban bias in governance, I use the urban poverty rate.

Tables 5.5 and 5.6 present the results for the poverty rate tests. Not surprisingly, the GDP growth variable is statistically significant. The correlation between economic growth and poverty reduction has been well documented in the literature, and it appears that it is true at a state-level analysis in India. In the fixed effects empirical analysis, there was not a link between any political variables and poverty reduction. This is probably due to several factors. The most important is that the government has less of a role to play in affecting the poverty rate than the infant mortality rate. The state government can tackle the health problems of its state by building more hospitals and hiring more medical professionals or even through public health campaigns. The government has a significant role to play in determining the infant mortality rate. However, the determinants of the poverty rate are much more complex and varied. While the government can increase development projects and hire people as a way to increase employment and reduce the poverty rate, there are a myriad of factors determining the poverty rate. There are so many components that influence the poverty rate, which are out of the government's control, such as technological growth, employment prospects, even factors such as weather and drought.

Having said that, under the GLS analysis, I find that voter turnout is statistically significant, and as expected the sign is negative, meaning that a higher voter turnout leads to larger declines in the urban poverty rate. If the coefficient in the latter analysis is a better measure, then the result probably reflects the urban bias in governance. Politicians, seeing a concentrated number of voters and political actors, e.g. special interest groups, in the urban areas, probably implement poverty reduction policies in the urban areas of India.

The signs of the statistically insignificant variables, as in the previous regressions tests, seem to underscore the importance of the political variables. For example, the sign on female legislators is negative, suggesting that increased female representation leads to faster reductions in infant mortality rates. Similarly, the sign on political competition is positive, implying that greater political competition is connected to more rapid progress against infant mortality. The positive sign on the share of female voters is difficult to explain.

Table 5.5 Urban Poverty Rate Reduction, Fixed Effects

Variable	Coefficient (t statistic in parenthesis)
Share of Female Voters	3.302 (1.18)
Voter Turnout	-1.025 (-1.21)
Share of Female Legislators	-0.807 (-0.51)
Political Competition	2.65 (0.15)
SDP Growth	-0.408 (-1.93)

Statistically Significant Variables Are Bolded

Table 5.6 Urban Poverty Rate Reduction, GLS

Variable	Coefficient (z statistic in parenthesis)
Share of Female Voters	0.895 (1.05)
Voter Turnout	-0.686 (-1.94)
Share of Female Legislators	-1.382 (-1.42)
Political Competition	4.31 (0.48)
SDP Growth	-0.315 (-2.34)

Statistically Significant Variables Are Bolded

5.3 Comments on Results

While SDP did have a strong correlation with the poverty rate, it did not with the infant mortality rate. The non-correlation is important to highlight: many social development outcomes are not merely a function of wealth but rather of public commitment. A poor state need not wait until it is rich to improve children's health.

Another interesting result is that a majority of the time, the political variables were statistically insignificant. Given the result, it may appear that I am overestimating the role of politics in social development. This is not automatically the case. An examination of the Indian polity actually reinforces my hypothesis. Given what we know about female preferences, a higher voting ratio by them should improve social development indicators. However, in all my tests, the variable was found to be

statistically insignificant. Before discounting my hypothesis, it can be argued that there is a disconnect between the theory and reality which explains why my hypothesis was only partially realized in the results. In a male-dominated society, it is plausible that the female does not have a free vote, especially if she is illiterate; her husband may tell her for whom to vote. Similarly, perhaps an explanation for why the voter turnout variable is statistically insignificant most of the time is voter bribes, a rampant practice in India. Even if high voter turnout does mean the poor are voting more and the poor have preferences for social development, these preferences may not be getting realized if they are being bribed to vote a certain way. Another explanation, which is also illustrated in the model, is that perhaps preferences are not for better social development outcome since many people vote along caste or religious lines.

6 Conclusion

In a federal democracy in which the states have a great deal of autonomy, the state government has a large role to play in social development, both through the budget process and through other policies, such as land reforms. It is clear from examining government policy across India that a major explanation for the disparities in social development lies with the different state governments. Some state governments have just been more committed to and effective in improving the welfare of its people through social development. I ask the question ‘what is the role of the electorate in getting these outcomes?’ It appears that when voters vote more, elect more female representatives, and vote in a strong opposition party, the political environment is more conducive to social development.

Political variables do matter in development expenditures and development outcomes. The degree of political competition affects development expenditures. States with high political competition have higher development expenditure growth rates.

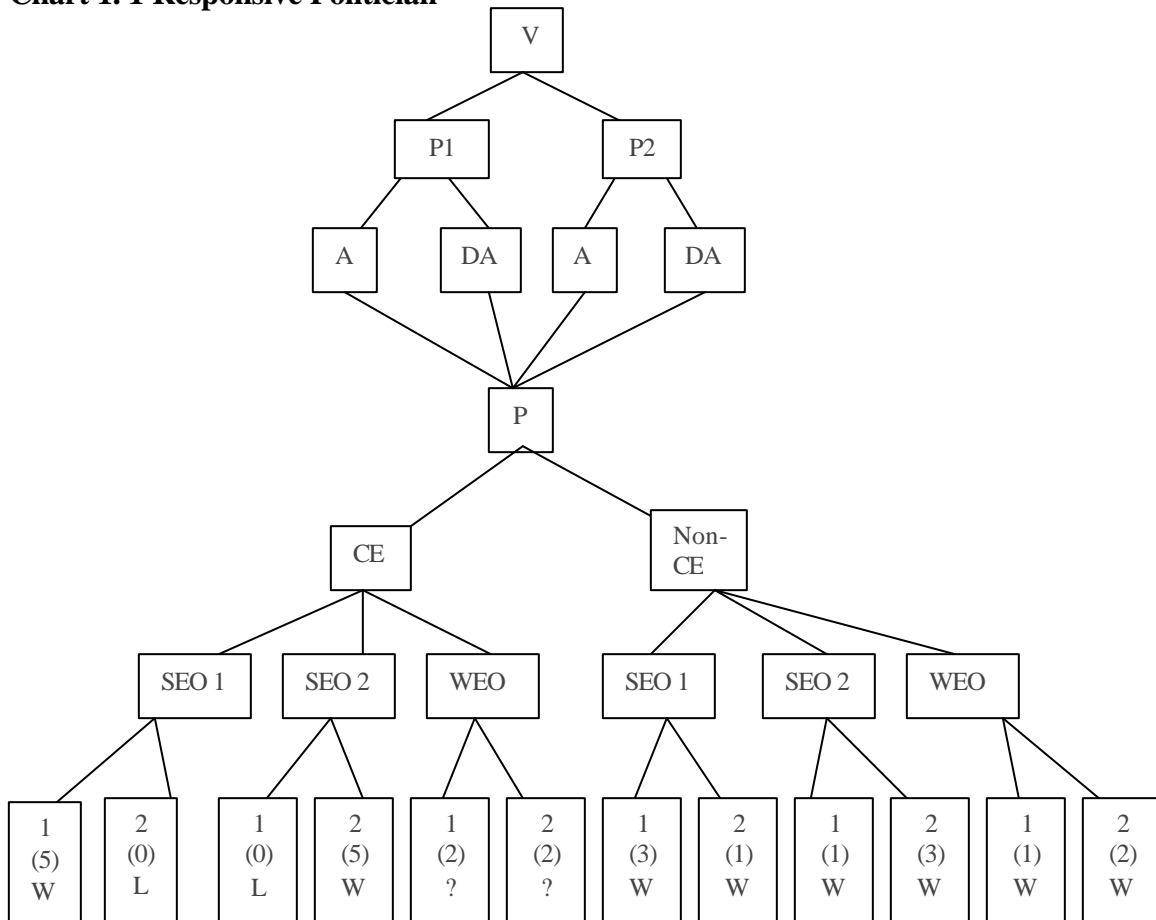
While an interesting result, I was more interested in the actual development outcomes. Since there is no automatic link between increased development expenditures and an improved quality of life for citizens, especially in a political system as corrupt as India’s,³ I wanted to see the effect of political variables on development outcomes, such as infant mortality rates and poverty rates. The results show that increased female representation in the state assembly helps reduce infant mortality rates more rapidly. Similarly, less robust results demonstrate that higher voter turnout helps to reduce urban poverty more quickly.

³ In Transparency International’s 2002 Corruption Perception Index, India was ranked 71 out of 102 countries in perception of the degree of corruption.

On the surface, it appears that these results are optimistic. Surely, empowerment and increased efficacy are promising for development. Besides a consequential benefit of improved quality of life, there is an intrinsic benefit of increased efficacy. Knowing that one's vote matters in one's democracy is inevitably a satisfying feeling. However, there are some areas of concern. One is that there may be major structural barriers to improving voter turnout or increasing female representation. In many parts of India, gender and caste discrimination are so severe that they may preclude greater electoral accountability. People of certain castes are intimidated into not voting, and gender discrimination may impede women from voting or running for office. While the results appear to provide a simple and hopeful formula—e.g. elect more women and children's health will be improved—one must be cautious in interpreting the results too optimistically. Reducing these structural barriers would allow more people to benefit from democracy, as the results show that the Indian public can indeed use democracy to enhance social development and improve the quality of life

7 Appendix

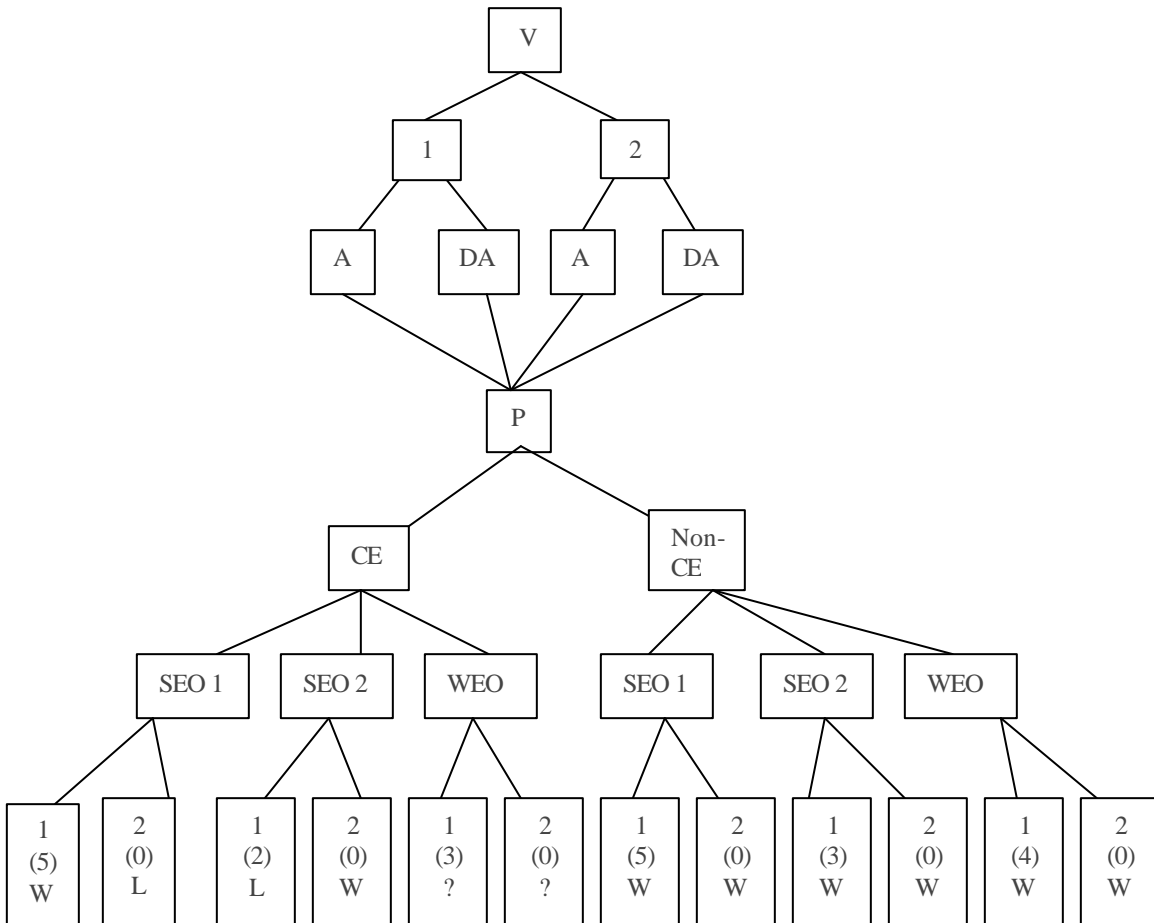
Chart 1. 1 Responsive Politician



KEY

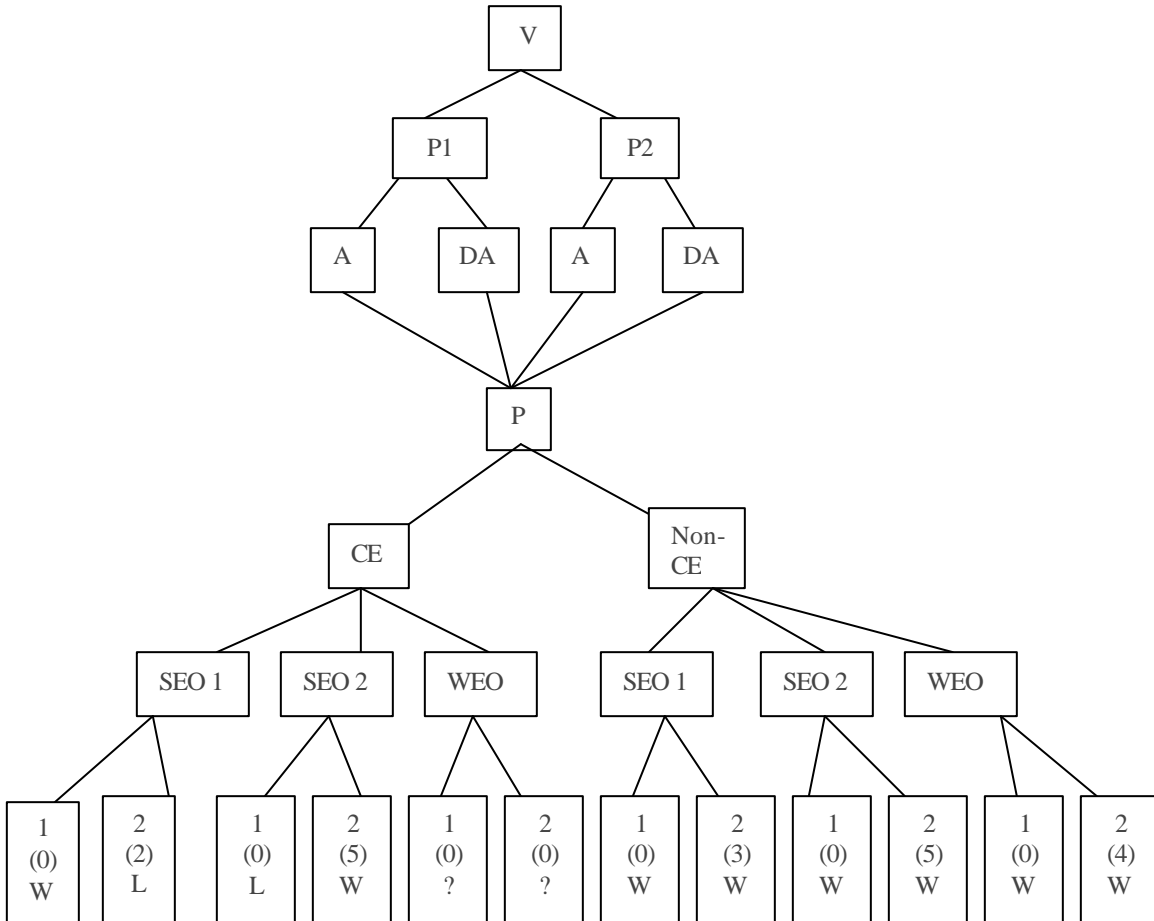
V=Voter
 P1=Preference for Policy 1 (Social Development)
 P2= Preference for Policy 2 (Non-Social Development)
 A=Act on Preference
 DA=Did Not Act On Preference
 P=Politician
 CE=Competitive Election
 Non-CE=Non-Competitive Election
 SEO 1=Strong Electoral Opinion in Favor of Policy 1
 SEO 2=Strong Electoral Opinion in Favor of Polic 2
 WEO=Weak Electorate Opinion
 1=Policy 1 Implemented
 2=Policy 2 Implemented
 (#)=Payoff for politician
 W=Win re-election
 L=Lose re-election

Chart 1. 2 Ideologue (Policy 1)



KEY
 V=Voter
 P1=Preference for Policy 1 (Social Development)
 P2= Preference for Policy 2 (Non-Social Development)
 A=Act on Preference
 DA=Did Not Act On Preference
 P=Politician
 CE=Competitive Election
 Non-CE=Non-Competitive Election
 SEO 1=Strong Electoral Opinion in Favor of Policy 1
 SEO 2=Strong Electoral Opinion in Favor of Polic 2
 WEO=Weak Electorate Opinion
 1=Policy 1 Implemented
 2=Policy 2 Implemented
 (#)=Payoff for politician
 W=Win re-election
 L=Lose re-election

Chart 1. 3 Ideologue (Policy 2)



KEY
 V=Voter
 P1=Preference for Policy 1 (Social Development)
 P2= Preference for Policy 2 (Non-Social Development)
 A=Act on Preference
 DA=Did Not Act On Preference
 P=Politician
 CE=Competitive Election
 Non-CE=Non-Competitive Election
 SEO 1=Strong Electoral Opinion in Favor of Policy 1
 SEO 2=Strong Electoral Opinion in Favor of Polic 2
 WEO=Weak Electorate Opinion
 1=Policy 1 Implemented
 2=Policy 2 Implemented
 (#)=Payoff for politician
 W=Win re-election
 L=Lose re-election

Data Sources

- Using the Election Commission of India's election reports, I created a panel data set for political variables. The reports can be accessed at the following website: http://www.eci.gov.in/infoeci/key_stat/keystat_fs.htm.
- The World Bank's India Data sets ("Database on Poverty and Growth in India") were instrumental in creating my data set. The World Bank data sets were compiled from original government statistics. The data sets are online at <http://www.worldbank.org/poverty/data/indiadata.htm>.
- The United Nations Development Programme's "DevInfo" database also provided essential data. The UNDP data come from primary government statistics. The database can be obtained through UNDP India.

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