# Impact of Economic Conditions on Incumbent State Governments' Electoral Fortune in India: An Empirical Investigation

*Dissertation submitted to the Jawaharlal Nehru University in partial fulfilment of the requirement for the award of the Degree of*

**MASTER OF PHILOSOPHY**

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# CERTIFICATE

This is to certify that the Dissertation entitled "**IMPACT OF ECONOMIC CONDITIONS ON INCUMBENT STATE GOVERNMENTS' ELECTORAL FORTUNE IN INDIA: AN EMPIRICAL INVESTIGATION**", submitted by Miss. Reshmi Chakraborty, in partial fulfilment of the requirement for the award of the degree of **MASTER OF PHILOSOPHY** of this university, has not been submitted for any other degree of this university or any other university and is my own work.

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We recommend that this Dissertation be placed before the examiners for evaluation.

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*To*

*Ma, Baba*

*&*

*Dada*

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***(Reshmi Chakraborty)***

# 1. Introduction

In ancient Athens, the system of democracy involved *all* of its citizens directly in major political decision-making. But modern democracies are representative in nature: the vast electorate chooses a select few to act on its behalf. There is, however, no guarantee that representatives will act in the interest of citizens. They might, for instance, exploit their power for personal enrichment. As Madison observes (see Gabriel, 1957, pp. 68): "The accumulation of all powers ... in the same hands, whether of one, a few or many and whether hereditary, self appointed or elective, may justly be pronounced the very definition of tyranny."

Democratic institutions also provide ways to ensure the adequacy of government performance. Periodic elections give voters the opportunity to evaluate government performance and to "throw the rascals out" if outcomes reflect exploitation. Elected politicians are therefore disciplined by voters' ability to remove them from office and their own innate desire to remain in power.

For the electoral mechanism to discipline politicians, an additional assumption must be satisfied. The voters, in aggregate, must critically evaluate government performance. The incumbent government is rejected *only* if performance is deemed to be unsatisfactory. Does the electorate possess such critical judgement? The empirical evidence from developed countries answers the question in the affirmative: electoral support for incumbents rise with economic performance during the term in office. My paper checks for equivalent evidence from India.

More specifically, my paper studies the fifteen major states of India over the period 1962-63 to 1995-96. The question it asks is a simple one: For elections to the state legislative assembly (Vidhan Sabha) and the national legislative assembly (Lok Sabha), does the electoral fortune of the incumbent state government depend on its economic performance? More specifically, I study whether economic growth rate and inflation rate under the incumbent administration is a determinant of the votes it receives in an election.

The results of my empirical analysis are as follows: In state assembly elections, voters in India reward incumbent governments for election year growth improvements and punish them for election year growth slumps. The vote pattern therefore shows that the electorate holds local governments responsible for local growth. But, in national legislative assembly elections, there is no relationship between voters' support for the incumbent government of the state and its economic performance. An explanation for this finding is given in section 4 of the paper.

The paper also addresses an additional issue. The existing empirical political economy literature universally maintains that an incumbent government enhances its reelection prospects by maximizing the *votes* it receives. It is plausible, however, that winning a majority of the seats in a legislature – rather than obtaining a large share of the aggregate vote – is more relevant for incumbent governments. Hence, this paper evaluates how election year growth rate of per capita net state domestic product affects the *seats* won by ruling governments in state assembly elections. My study is a limited one: it considers only the 1991 and 1996 state legislative assembly elections in West

Bengal. I establish that the seat-economic performance gradient is positive; nevertheless, the magnitude of the gradient is quite small.

The roadmap for the rest of the paper is as follows. In the next section, I present an extended survey of the papers establishing a link between economic performance and incumbent government's electoral fortunes. Section 3 describes the data and the variables used in my analysis. Section 4 provides the empirical evidence for the effect of economic conditions on incumbent state government's vote share in both Vidhan Sabha and Lok Sabha elections of India. Section 5 addresses issues regarding the seat-economic performance gradient in Vidhan Sabha elections of West Bengal. The last section draws an overall conclusion of the paper.

## 2. The Relationship Between Economic Conditions and Voting Behavior: A Survey

A sizable empirical literature has forwarded the proposition that economic conditions take on political significance as they impinge on voters' private lives. Put simply, a voter conditions her vote on the economic conditions that surround her. My survey of the literatures is in three parts: Section 2.1 sketches the evidence from developed countries, section 2.2 presents the cross-national evidence, while section 2.3 addresses evidence from India.

## 2.1. Evidence from Developed Countries

I present the evidence from developed countries in two parts: Section 2.1.1 deals with the findings on the basis of aggregate-level data, while section 2.1.2 portrays the findings on the basis of individual-level surveys.

### 2.1.1. Findings on the basis of Aggregate-Level Data

The vast research on voting behavior in western democracies begins with Kramer's (1971) study of U.S congressional elections. In an aggregate analysis of 31 elections between 1896 to 1964, Kramer first introduced the voting function, wherein the vote for the government at elections depends on political factors and the state of the economy. Three national-level economic indicators were used as explanatory variables: the unemployment rate, the per capita real income, and the consumer price index. Party fortunes in congressional elections were shown to depend on real income and inflation.

In a memorable exchange, Stigler (1973) challenged Kramer's finding on both theoretical and empirical grounds. He argued that economic performance should not influence a voter's decision because prosperity is not a partisan issue; instead distributional issues should be a basis for partisan competition. Stigler also demonstrated that Kramer's empirical findings were sensitive to a change in the time period covered (1902-70 versus 1896-64), to a shift from a one-year to two-year base in calculating

economic alternations, and to decisions to include rather than drop 1912 and the war years of 1918, 1942, and 1944.[1]

A refined exposition of the significance of economic issues was subsequently provided by Lepper (1974). He considered the 1896 to 1964 period and showed that the changes in the price level (up or down) and a rise in unemployment hurt incumbent congressmen. Tufte (1975) also confirmed the relevance of economic performance. Tufte combined aggregate survey data (presidential performance) and aggregate economic data (real income) in an analysis of the presidential party's vote loss in post-New Deal midterm elections. He concluded that a change of $100 in real disposable personal income per capita is associated with a national change of 3.5 percentage points in the midterm vote for congressional candidates of the president's party.

Most quantitative studies of the impact of economic performance on American elections have so far considered economic voting as essentially a *forecasting process*. Mention, however, must be made of a small literature that measures the time horizon over which citizens evaluate past economic performances. Fair (1978) shows that the discount rate of voters is high; in other words, voting behavior primarily depends on economic outcomes in the *very near* past. A recent empirical treatment of this issue is provided by Smyth, Dua and Taylor (1994).

Does the link between economic performance and voting behavior extend to U.S. presidential elections? Fair (1978) answers in the affirmative.[2] Fair considered the

[1]Succeeding studies continued the Kramer-Stigler controversy. See, for example, Okun (1973) for a notable attempt at re-interpreting Stigler's empirical results.
[2]For further evidence, the reader may refer to Fair (1980) and Erikson (1989).

1916-76 period and collected annual data for three explanatory variables: the unemployment rate, the real per capita gross national product and the gross national product deflator. The dependent variable was the Democratic percentage of vote share for 22 presidential elections. The regression results showed that economic events in the *election year* held an important effect.

Until now, I have presented results for presidential and congressional elections in the U.S. In contrast, Sam Peltzman (1987) examines 269 gubernatorial elections in U.S. states with competitive party systems. Surprisingly, voters are shown to penalize governors *only* for growth of the state budget. Furthermore, no performance measure going back more than a year or so before the election day ever explains gubernatorial votes, thereby affirming voters' short memories. A more detailed analysis of gubernatorial elections was carried out by Wolfers (2002). He examined all fifty states of the U.S. over the period 1947-97. Consistent with the findings of Peltzman, Wolfers shows that state income growth is a poor predictor of gubernatorial votes.

### 2.1.2. Findings on the basis of Individual-Level Surveys

At the aggregate level, numerous studies have demonstrated that economic downturn have political costs. Nonetheless, these aggregate-level analyses rest on the foundation of two individual-level assumptions. First, the severity of an economic situation is determined by how many people are affected and how seriously (on average) each is hurt. Second, economic circumstances are assumed to trigger political responses; more

severe economic conditions go with higher probability of anti-incumbent voting. Are these assumptions valid?

Individual-level studies provide a unique opportunity to examine how issues that impinge immediately and tangibly upon private life influence political actions. These studies advance two conflicting hypotheses regarding the motives of individual voters. The first hypothesis (egotropic voting) is based on methodological individualism. The voter consults her pocketbook (i.e. *own* economic experiences) before casting her ballot. The second hypothesis (sociotropic voting) is based on the observation that government policies try to steer the whole economy, and not the economy of anyone. So, the rational voter holds the government responsible for the way she perceives it drives the *whole economy*; personal economy therefore becomes irrelevant.

The empirical evaluation of the two micro hypotheses in the literature was initiated by Fiorina (1978). This pioneering work analyzes U.S. cross section data sets. Fiorina verifies economic voting by studying voters' stated vote intentions and their responses to the following question: During the last few years, has your financial situation been getting better, getting worse or has it stayed the same?

Fiorina's estimated model demonstrated that past economic events were important inputs in the micro voting function. In presidential elections, the coefficients were overwhelmingly positive: In twenty-six out of thirty data sets, those who perceived their financial fortunes as constant or improved show higher probabilities of supporting the incumbent governments' presidential candidate than those who perceived their situation as worse. This indicates that citizens' presidential votes are related to the

prevailing economic conditions. However, congressional elections signified a different outcome. Exactly half the estimated coefficients in Fiorina's model had wrong signs and two of those anomalies attained statistical significance. This provided little support for economic voting in congressional elections.

After Fiorina's micro-level attempt to examine marco-level links between economic conditions and electoral returns, a controversy erupted in 1979 following the publication of Kinder and Keiwiet's analysis. The authors checked whether voters were more likely to vote against the government if they perceived that unemployment in the country was going up (sociotropic hypothesis) or if they personally experienced more unemployment (egotropic hypothesis). The result was very clear: the sociotropic hypothesis worked, and it worked very well.

Kinder and Kiewiet's findings were contrary to the beliefs of economists and political scientists. Kramer (1983) advanced a strong rebuttal, calling into question the relevance of cross-sectional survey data for any study of inter-election change. According to Kramer, cross-sectional variation in personal finance is noisy. With such noisy data, it was impossible to differentiate between sociotropic and egotropic voting. Further methodological shortcomings of Kinder and Kiewiet's study was noted by Nannestad and Paldam (1993).

Such criticism notwithstanding, the robustness of sociotropic voting was also reported by Lewis-Beck (1988). While conducting a large-scale comparative study of Britain, France, Germany and Italy, he found that personal economic considerations did

not exercise a direct effect on the vote. In fact, evaluation of the effect of government policies on the country's economic situation turned up as the significant variable.

Finally, mention must be made of an additional issue regarding individual voting behavior. Most micro-level analysts have used past economic conditions to predict congressional votes. Kuklinski and West (1981), on the other hand, suggest that economic voting has a prospective component. The 1978 National Election Study asks individual voters the following two questions: (1) Would you say that you are better off or worse off financially than you were a year ago? (2) Now looking ahead, do you think that a year from now you will be better off financially or worse off or just about the some as now? Kuklinski and West show that in U.S. congressional elections, voters' assessment of changes in their past financial well-being do not condition their choices of candidates. In contrast, a voter's expectation about her own economic *future* was identified as a prominent influence on her vote in U.S. senate elections. Further evidence of forward-looking behavior is documented in Lewis-Beck's (1988) study of West European electorates.

## 2.2. Cross-National Evidence

For the most part, early studies of economics and elections have examined within-country evidence. In recent years, cross-country data have been used to validate the voting function. Using individual level data, Lewis-Beck's (1988) comparative analysis of five nations found notable differences in the degree to which citizen's dissatisfaction with the economy affects support for the government. Specifically, economic effects

were quite strong in Britain, somewhat weaker in Germany and France, and negligible in Italy.

Powell and Whitten (1993) consider the years between 1969 and 1988 and examine 100 national elections in 19 industrialized democracies. Their initial results show a poor cross-country fit between economic performance and voting behavior. Once the data set is pruned by removing cases where it is least reasonable to hold the government responsible, economics and politics become closely linked. This implies that voters hold a politician responsible for economic performance if he has the political authority to control policy instruments that provide leverage over economic outcomes.

An important strand of cross-country work examines voting behavior in post-communist regimes. The basic idea is that since economic reform plays a vital role in determining the state of the economy, it should affect voters' decisions. Fidrmuc's (1998, 1999) analysis of four countries (Czech Republic, Hungary, Poland and Slovakia) shows that voting patterns are primarily determined by voters' views on reforms (and its speed). Furthermore, Fidrmuc finds that the "responsibility hypothesis" accounts for the dynamics of voters' support: voters who change their voting behavior apparently do so in order to reward or punish the government.

Finally, for post-communist countries, Tucker (2001) proposes two interesting hypotheses: (1) The new regime parties will do well when economic conditions are better than before. (2) The old regime parties, in contrast, benefit when economic conditions are worse than before. The regression results for fourteen national elections, spanning 1990-1996, provide support for both the hypotheses.

## 2.3. Evidence from India

India has numerous political parties scattered across the ideology spectrum. Due to the complex multiparty system, coalition governments form and break up. In this setup, one wonders whether voters hold the incumbent government responsible for the existing economic conditions. Khemani (2001) attempts to address this question. She considers the period 1960-92 and compares voter behavior in local versus national elections in the fourteen major states of India. The results show that voters hold the national government responsible for national growth and local governments for local growth.

# 3. The Data

The data set for my study spans twenty-four financial years (1962-63 to 1995-96) and covers all of the fifteen major states of India.[3] India comprises twenty-five states and seven union territories. In the financial year 1995-96, the aforementioned fifteen states accounted for approximately 85 percent of India's land area, 95 percent of her population and 92.6 percent of the net domestic product.[4]

The purpose of this paper is to identify how changes in vote share of state incumbent governments are affected by state economic conditions. This allows me to

[3]The major states included in my data set are: Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. My study includes only those states that existed since 1966.
[4]These figures are taken from *Manoroma Yearbook* (1998) and *Economic Survey* (1997-98).

partition the variables in the data sets into two categories: economic variables and political variables.

## 3.1. Economic Variables

Corresponding to each state incumbent government, I measure the growth rate of net per capita state domestic product and the inflation rate. Information regarding these variables is available in the *National Accounts Statistics*, published by the Central Statistical Organization of the Government of India.

For each state-year in my data set, I obtain the literacy rate. This variable serves as a control variable in the regression analysis. The motivation is as follows: A more literate state will have more informed voters; this, in turn, enhances the state electorate's ability to evaluate the incumbent government's vote share. The literacy data are gleaned from various volumes of the *Census of India.*

## 3.2. Political Variables

My data set consists of both Vidhan Sabha and Lok Sabha election outcomes in the fifteen major states of India over the period 1962-63 to 1995-96. Let an election take place in state $s$ during year $t$. For the incumbent state government, I measure the election-to-election change in aggregate vote shares, denoted $\Delta V_{st}$. In other words, $\Delta V_{st}$ is the difference between the vote share of the incumbent state government in the year-$t$

election and that which it obtained in the preceding election. Butler, Lahiri and Roy (1995) present the electoral data from which $\Delta V_{st}$ is derived.

To compute $\Delta V_{st}$, two assumptions are invoked. First, if the incumbent state government is a coalition, its vote share is defined to be the sum of the vote shares of the individual coalition partners. Second, if there are multiple state governments between elections, then the most recent government prior to year-$t$ election is referred to as the "incumbent."

## 4. Empirical Evidence

The empirical section is partitioned into two sub-sections. In the first part, I determine whether state economic conditions exert a significant influence on state incumbents' support in Vidhan Sabha elections. The identical question for Lok Sabha elections is examined in the second part.

### 4.1. Vidhan Sabha Elections

The basic regression equation that I estimate is:

$$\Delta V_{st} = \alpha_s + \lambda_t + \beta_1 Growth_{st} + \beta_2 Avg\ Growth_{st} + \beta_3 Inflation_{st} + \beta_4 Avg\ Inflation_{st} + \varepsilon_{st} \quad (1)$$

The variable definitions are as follows. Let a Vidhan Sabha election take place in state $s$ during year $t$. For the incumbent state government, $\Delta V_{st}$ measures the election-to-election change in aggregate vote share. In other words, $\Delta V_{st}$ is the difference between

the vote share of the incumbent state government in the year-$t$ election and that which it obtained in the preceding election. The economic performance of the incumbent government is captured through four variables: $Growth_{st}$ is the growth rate of per capita net state domestic product of state $s$ in election year $t$. $Avg\ Growth_{st}$ is the growth rate of per capita net state domestic product averaged over all the years that the incumbent government is in power, but excluding election year $t$. $Inflation_{st}$ is the inflation rate of state $s$ in election year $t$. Avg $Inflation_{st}$ is the inflation rate averaged over all the years that the incumbent government is in power, but excluding election year $t$. Finally, $\alpha_s$ is a state dummy, $\lambda_t$ is a year dummy and $\varepsilon_{st}$ is a random error, presumed to be orthogonal to all of the regressors.

The basic regression results are reported in column 1 of table 1. Two conclusions emerge: First, although both the inflation variables are correctly signed (negative), neither is statistically significant. Second, the coefficient of $Growth_{st}$ (namely, $\beta_1$) is positively signed and statistically significant at conventional levels. Thus, an election year increase in the growth rate of per capita net state domestic product improves the vote performance of the incumbent government relative to the preceding Vidhan Sabha election. The opposite happens when the election year growth rate of per capita net state domestic product decreases.

A potential problem with equation (1) is that it is devoid of control variables and therefore subject to omitted variable bias. So, I introduce the following control variables: $Avg\ Literacy_{st}$, $Avg\ Literacy_{st}$ interacted with $Growth_{st}$, and $Avg\ Literacy_{st}$ interacted

with $Avg\ Growth_{st}$. $Avg\ Literacy_{st}$ is the total literacy rate of state $s$ averaged over the years that the incumbent state government (facing the year-$t$ election) is in power.

The estimated coefficients of the augmented equation (1) are presented in columns 2 to 6 of table 1. The table shows that $Growth_{st}$ is the only significant economic variable: Once again, a positive relation exits between the incumbent state government's vote share and election year growth rate of per capita net state domestic product.

Thus far, equation (1) makes a crude distinction between the incumbent government's performance during election year $t$ and the average performance of the incumbent government during its entire term, but excluding the election year. I shall now allow a finer distinction between the different years that the incumbent government is in power. Specifically, I replace $Avg\ Growth_{st}$ with three other variables – viz., $Growth_{s,\,(t-1)}$; $Growth_{s,\,(t-2)}$, and $Growth_{s,\,(t-3)}$. Here, $Growth_{s,\,(t-j)}$ is the growth rate of per capita net state domestic product $j$ years before election year $t$.

The estimation result of the modified equation (1) is given in column 1 of table 2. My finding is unambiguous: $Growth_{st}$ is the only statistically significant explanatory variable. Moreover (see columns 2 to 4 of table 2), my finding remains stable even with the inclusion of two control variables: $Avg\ Literacy_{st}$ and $Avg\ Literacy_{st} \times Growth_{st}$.

The empirical analysis shows a strong relation between a state's economic performance and the state government's vote share in the Vidhan Sabha election. However, only *election year* growth rate of per capita net state domestic product matters. Thus, vote-maximizing incumbent governments will not worry about performance for the entire term in office; rather, they will garner votes by engineering election year booms.

## 4.2. Lok Sabha Elections

I estimated the basic equation (1) for Lok Sabha elections. The estimation result is presented in column 1 of table 3. It is clear that state incumbent governments' vote share does not depend on any measure of state economic performance. Furthermore, columns 2 to 6 of table 3 shows that the "insignificance of all economic variables" is unchanged with the addition of control variables to equation (1).

The results of Lok Sabha elections are unsurprising. Voters, while electing state governments in Vidhan Sabha elections, only have to consider the best performer. But in Lok Sabha elections, voting patterns are conditional on *other* factors as well. At a minimum, voters want to elect political parties that have a realistic chance of forming a government at the center. This is because a state's access to the central purse depends, in part, on being in power. This becomes obvious when one consider the Left Front coalition government of West Bengal. Although achieving a constant majority in Vidhan Sabha elections, the Left Front coalition frequently does poorly in Lok Sabha elections. This is because voters perceive the Left Front as having little access to the central offers; the party invariably fails to be part of any central government.

# 5. Additional Reflection: The Behavior of Seat-Economic Performance Gradient

The previous section shows that the election year growth rate of per capita net state domestic product exerts a positive influence on incumbent state government's electoral support in Vidhan Sabha elections. Specifically, column 1 of table 1 shows that a one

percentage point increase in election year growth rate of per capita net state domestic product increases the vote share of incumbent state government by 0.72 percentage points. But number of seats, rather than share of votes, might capture the incumbent's desire. Does economic performance affect the number of seats in the same way that it influences the vote share of the incumbent state government? In this section, I demonstrate that a specific vote-economic performance gradient cannot be uniquely converted into a seat-economic performance gradient. Furthermore, I show that corresponding to a positively-sloped vote-economic performance curve, the seat-economic performance curve (or the reward/punishment curve) is somewhat flat.

I consider an incumbent government $A$ in state $s$. The state legislature consists of $n$ constituencies. Let $A$ win $n_1$ constituencies and lose $n_0$ constituencies in a particular Vidhan Sabha election. Consider a one-percentage point increase in the growth rate of per capita net state domestic product. On the assumption of "uniform effect," vote share of incumbent government $A$ increases by 0.72 percentage points in all $n$ constituencies. The (positive) steepness of the reward curve depends on the number of constituencies within $n_0$ where $A$ had previously lost by small margins. The intuition is as follows: If $A$ loses a particular constituency by a small margin of votes, then an increase in vote share switches the constituency over to $A$ from the opposition's possession.

On the other hand, if there is a one-percentage point decrease in the election year growth rate of per capita net state domestic product, then vote share of the incumbent government $A$ decreases by 0.72 percentage points, uniformly over all $n$ constituencies. The (negative) steepness of the punishment curve depends on the number of

constituencies within $n_1$ where $A$ had previously won by small margins. The argument is simple: the decline in vote share causes such keenly-contested/competitive constituencies to switch over to the opposition's hand from $A$'s domination.

I establish these points by considering the 1991 and 1996 Vidhan Sabha elections of West Bengal. In both the years, the legislature of West Bengal consisted of 294 constituencies. Moreover, the number of seats occupied by the incumbent Left-Front government was 242 in 1991 and 202 in 1996. Here, I introduce the concept of *safe seats*. I define it as a constituency in which the difference between vote shares of the winning candidate and the second largest candidate is above the 75$^{th}$ percentile cutoff.[5] Going by this definition, in 1991, the number of safe seats held by Left-Front government was 100 and that by opposition was 13. The corresponding figures for 1996 are 72 and 15, respectively.

My simulation technique primarily considers a $x$ percentage point increase in the election year growth rate of per capita net state domestic product. To see the effect of this election year growth increase on vote share, I assume two-candidate electoral competition in all constituencies. Particularly, I consider the allocation of increased vote shares only between the first two candidates of each constituency.[6] On the assumption of "uniform effect," I increase the vote share of the Left Front candidate in all constituencies by $x \times 0.72$ percentage points and simultaneously decrease vote share

[5]To get the 75$^{th}$ percentile, I consider the vote difference between first and second candidates for all constituencies. The median, thus calculated, is 11.37 and the 75$^{th}$ percentile is 17.06 percentage points.
[6]In some constituency, none of the first two candidates might belong to the Left Front government. But the number of such constituencies is so small that I ignore any adjustment.

of the opposition by the same amount. My next step involves calculation of the number of seats that switched over to Left Front government. This is estimated on the assumption that any constituency is occupied by the candidate who receives the maximum number of votes, as compared to the other candidates of that constituency.

The above simulation procedure is also conducted for the negative growth case where the election year growth rate of per capita net state domestic product is decreased by $x$ percentage points. The only difference is that here I reduce the vote share of the Left Front candidate and hence increase that of the opposition by $x \times 0.72$ percentage points. Moreover, to deduce the punishment curve, I calculate the number of seats that the opposition wins over from the Left Front government.

The results are presented in table 5. The first three columns show the impact of positive growth rates (1%, 2% and 3%) on the number of seats for the Left Front government, in the 1991 and 1996 Vidhan Sabha elections. The last three columns show the figures for negative growth rates. It is evident from the table that both increase and decrease of seats with respect to upturn and downturn of election year growth rates are more in 1996 than in 1991. This is because the Left Front government had simultaneously won and lost seats by small margins in 1996. (The reduced number of safe seats in 1996 is shown in table 4.)

The numbers in table 5 present an overall flat seat-economic performance curve. Whatever be the growth rate, in both 1991 and 1996, the Left Front government wins the maximum number of seats. In other words, election year fluctuations in the growth rate

of per capita net state domestic product do not prevent the Left Front from forming a government.

## 6. Conclusions

My study covers fifteen states of India and spans the financial years 1962-63 to 1995-96. I examine the effect of economic performance on vote share of incumbent state goverments. My results are twofold: In Vidhan Sabha elections, election year growth rate of per capita net state domestic product exerts a positive influence on incumbent state governments' vote share. However, in Lok Sabha elections, the incumbent's vote share is not conditional on any economic variables.

This paper makes an additional point. It shows that the vote-economic performance gradient is not related in a simple way to the seat-economic performance gradient. Specifically, the seat-economic performance gradient also depends on the vote margins by which the incumbent state government wins or loses a particular constituency. The 1991 and 1996 Vidhan Sabha elections in West Bengal provide evidence bearing on this point.

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**Table1**

**Impact of Economic Performance on Incumbent State Governments' Change of Vote Share in Vidhan Sabha Elections**

| Independent Variables | Equations 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| $Growth_{st}$ | 0.71[a] (2.33) | 0.69[a] (2.36) | 1.36[a] (2.32) | 1.37[a] (1.90) | 0.68[a] (2.30) | 0.67[a] (2.70) |
| $Avg\ Grwoth_{st}$ | –0.14 (–0.21) | –0.17 (–0.26) | –0.13 (–0.20) | –0.18 (–0.09) | 0.93 (0.59) | 0.23 (0.17) |
| $Inflation_{st}$ | –0.02 (–0.06) | –0.06 (–0.16) | –0.15 (–0.36) | –0.15 (–0.34) | –0.16 (–0.34) | –0.04 (–0.08) |
| $Avg\ Inflation_{st}$ | –0.39 (–0.56) | –0.37 (–0.52) | –0.35 (–0.49) | –0.35 (–0.48) | –0.27 (–0.37) | –0.37 (–0.52) |
| $Avg\ Literacy_{st}$ | | 0.52 (0.58) | 0.97 (1.02) | 0.95 (0.87) | 0.98 (0.91) | |
| $Avg\ Literacy_{st} \times Growth_{st}$ | | | –0.02 (–1.31) | –0.02 (–1.05) | | |
| $Avg\ Literacy_{st} \times Avg\ Growth_{st}$ | | | | 0.01 (0.02) | –0.03 (–0.76) | –0.11 (–0.30) |
| R-Squared | 0.45 | 0.45 | 0.36 | 0.36 | 0.36 | 0.44 |
| Number of observations | 113 | 113 | 113 | 113 | 113 | 113 |

*Notes: The dependent and independent variables have been described in the text. The coefficients on the dummies included to control for fixed effects are not reported. The t-ratios are in parentheses; a = significance at the 0.05 level.*

**Table 2**

**Impact of Economic Performance of each year during Incumbent State Governments' rule in Vidhan Sabha Elections**

| Dependent Variables | Equations | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| $Growth_{st}$ | 0.72[a] | 0.75[a] | 1.44[a] | 1.22[a] |
| | (2.58) | (2.68) | (2.44) | (2.14) |
| $Growth_{s,(t-1)}$ | –0.02 | –0.05 | –0.05 | –0.01 |
| | (–0.07) | (–0.19) | (–0.18) | (–0.04) |
| $Growth_{s,(t-2)}$ | –0.31 | –0.42 | –0.33 | –0.22 |
| | (–1.10) | (–1.38) | (–1.07) | (–0.73) |
| $Growth_{s,(t-3)}$ | –0.46 | –0.49 | –0.53 | –0.47 |
| | (–1.56) | (–1.68) | (–1.79) | (–1.61) |
| $Inflation_{st}$ | –0.03 | –0.09 | –0.19 | –0.08 |
| | (–0.08) | (–0.23) | (–0.46) | (–0.22) |
| $Avg\ Inflation_{st}$ | –0.43 | –0.38 | –0.38 | –0.44 |
| | (–0.61) | (–0.54) | (–0.55) | (–0.63) |
| $Avg\ Literacy_{st}$ | | 0.93 | 1.28 | |
| | | (0.98) | (1.31) | |
| $Avg\ Literacy_{st} \times Growth_{st}$ | | | –0.02 | –0.02 |
| | | | (–1.32) | (–0.99) |
| R-squared | 0.46 | 0.36 | 0.30 | 0.46 |
| Number of observations | 113 | 113 | 113 | 113 |

*Notes: The dependent and independent variables have been described in the text. The coefficients on the dummies included to control for fixed effects are not reported. The t-ratios are in parentheses; a = significance at the 0.05 level.*

## Table 3

**Impact of Economic Performance on Incumbent State Governments' Change of Vote Share in Lok Sabha Elections**

| Dependent Variables | Equations | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| $Growth_{st}$ | 0.06 | 0.06 | 0.36 | 0.25 | 0.02 | 0.03 |
| | (0.26) | (0.25) | (0.83) | (0.45) | (0.12) | (0.12) |
| $Avg\ Grwoth_{st}$ | 0.14 | 0.14 | 0.12 | 0.54 | 0.93 | 0.89 |
| | (0.26) | (0.26) | (0.22) | (0.36) | (0.78) | (0.81) |
| $Inflation_{st}$ | 0.27 | 0.28 | 0.26 | 0.26 | 0.27 | 0.27 |
| | (0.76) | (0.77) | (0.72) | (0.71) | (0.74) | (0.75) |
| $Avg\ Inflation_{st}$ | –0.81 | –0.82 | –0.83 | –0.81 | –0.78 | –0.79 |
| | (–0.91) | (–0.92) | (–0.93) | (–0.89) | (–0.87) | (–0.89) |
| $Avg\ Literacy_{st}$ | | –0.16 | –0.03 | 0.05 | 0.07 | |
| | | (–0.24) | (–0.05) | (0.06) | (0.09) | |
| $Avg\ Literacy_{st} \times Growth_{st}$ | | | –0.01 | –0.01 | | |
| | | | (–0.82) | (–0.44) | | |
| $Avg\ Literacy_{st} \times Avg\ Growth_{st}$ | | | | –0.01 | –0.02 | –0.02 |
| | | | | (–0.31) | (–0.76) | (–0.79) |
| R-Squared | 0.34 | 0.28 | 0.32 | 0.34 | 0.34 | 0.32 |
| Number of observations | 118 | 118 | 118 | 118 | 118 | 118 |

*Notes: The dependent and independent variables have been described in the text. The coefficients on the dummies included to control for fixed effects are not reported. The t-ratios are in parentheses.*

**Table 4**

**The Number of Safe Seats in 1991 and 1996 Vidhan Sabha Elections of West Bengal**

| YEARS | SAFE SEATS | |
|---|---|---|
| | LEFT FRONT | OPPOSITION |
| 1991 | 100<br>(41.32) | 13<br>(25.0) |
| 1996 | 72<br>(35.64) | 15<br>(16.30) |
| MEDIAN =11.37 %<br><br>75 PERCENTILE = 17.06 % | | |

*Notes: The percentages of safe seats are given in parentheses.*

## Table 5

**Impact of Growth Rate Fluctuations on the Number of Seats for Left Front Government in Vidhan Sabha Elections of West Bengal**

| YEARS | SEATS | GROWTH RATE INCREASE 1% | 2% | 3% | DECREASE −1% | −2% | −3% |
|---|---|---|---|---|---|---|---|
| 1991 | CHANGED | 246 (1.65) | 251 (3.72) | 256 (5.79) | 238 (−1.65) | 224 (−7.44) | 210 (−13.22) |
| | ORIGINAL | 242 | 242 | 242 | 242 | 242 | 242 |
| 1996 | CHANGED | 221 (9.41) | 232 (14.85) | 240 (18.81) | 189 (−6.44) | 179 (−11.38) | 163 (−19.31) |
| | ORIGINAL | 202 | 202 | 202 | 202 | 202 | 202 |

*Notes: The percentages of seat increase and decrease are given in parentheses.*