Chapter 4

Electoral Participation: Voter Turnout and Number of Candidates

In this chapter the most basic aspects of aggregate voting behaviour—voter turnout and number of candidates—will be examined. The former is an indicator of the participation of the populace, and the latter participation from the party system. An election is, in a sense, a place where both levels of participations meet.

What factors determine the voter turnout or number of candidates? What is the relationship between the level of electoral participation, that is, the voter turnout, and the number of candidates? It is still difficult to answer these questions, not only for India but even in for developed countries. Different factors may lead to the same level of electoral participation in different countries. But it may be an exaggeration to maintain that each country has a completely different set of factors determining the turnout. It is generally observed in many developing societies that higher socio-economic development is likely to lead to higher voter turnout, as mentioned earlier. Politically sensitive issues are likely to raise the turnout in an election. Moreover, intense electoral competition between major candidates may attract people to the ballot boxes. These factors can be considered to exist in every country, though the magnitude of their effect may vary. The conceptual framework of Figure II-1 and Equation (2-10) is arrived at on the basis of this way of thinking. But in some extraordinary situations, the model in (2-13) might be more useful.

Concerning the number of candidates, as mentioned above, it is more difficult to identify macro-level factors that are explanatory. This is because the decision-making as to whether a particular candidate will enter the electoral fray or not depends on various factors, both at the macro and micro levels. The latter, for example, include his/her relationship with the major

party, financial position and popularity, personal ideology or attitude towards politics, etc. Because of these heterogeneous micro-level factors, it is believed to be difficult to properly identify the socio-economic environmental variables to explain such decisions. But still I would like to insist that there may be macro-level factors influencing decision for a potential candidate to stand for election. This is because we cannot but recognise that micro-level decisions might not be completely isolated from the social or political macro environment. Some form of macro socio-economic environment might be more likely to provide a more comfortable political situation for the participation of politically active persons as candidates.

In this chapter the effects of socio-economic environment variables (namely, "*SE*"), impact of political events with a strong and widespread effect, and electoral competition (namely, "*PM*"), etc., on the electoral participation will be examined.

1. Voter Turnout, Socio-Economic Development and Political Impact

In this section, we attempt to explain turnout using socio-economic environment variables, especially developmental variables. The effect of the political motivation caused by strong political events is also examined, which may explain partly what the socio-economic environment variables cannot. A particular event might be considered to be important in a certain electoral situation. People may go to the polling booth to express something that is on their mind, and by expressing may get some kind of expressive psychological utility. This factor, therefore, involves people's ethics, ideologies, emotions, sentiments, etc. Let us look, for example, at the issues of the great economic difficulties from 1965 to 1967, the internal emergency from 1975 to 1977, or the assassination of Indira Gandhi in 1984. All these issues are considered to have had very strong and widespread psychological impacts on the electorate, irrespective of socio-economic differences and despite the different intensities of party competition in various constituencies. An attempt at rough estimation of these impacts will be made in this chapter, though it is rather difficult on the basis of aggregate data.

Socio-Economic Development Related Variables as Explanatory Variables

First, the effects of the variables of the socio-economic environment (*SE*),

particularly the development related variables, will be examined. The macro developmental variables are fundamental indicators of modernisation. It must be noted here that urbanisation is not considered as development variable. Rather, it is simply a socio-economic environment variable. But urbanisation is included in this section because it is closely connected with the development process. These development related variables can increase or at times, albeit rarely, decrease in the short run. On the other hand, other socio-economic environment variables, such as those representing social cleavages, do not change in the short run, and in that sense, are given or fixed variables. In any case, development related variables may be important in the sense that they can lead to meaningful political change in the relatively shorter term, and are hence worth examining first.

The variables to be used for the statistical analysis are shown in Table IV-1. The table shows a matrix of simple Pearson correlation coefficients between turnout and development related variables in each election. The fundamental principle for the selection of these independent variables has already been explained. Male Crude Literacy and Female Crude Literacy were selected as representing the overall educational aspect of development as well as the gender gap in the society. Urbanisation is an environmental variable closely linked with the social mobilisation or some kind of social changes. Value of 35 crops per hectare representing overall economic progress of the area and the Fertiliser Consumption per net area sown can be an indicator of agricultural modernisation.

Several interesting points emerge from the table. Especially, the contrast between Male Crude Literacy and Female Crude Literacy is noticeable. In all the elections except that of 1962, the Female Crude Literacy is a better predictor for turnout than the Male Crude Literacy. In addition, though this is not shown in the table, the correlations between Female Crude Literacy on the one hand, and the Value of 35 crops per hectare or Fertiliser Consumption per net area sown on the other, are always higher than the correlations between Male Crude Literacy and these variables.[1] Although the differences between the two correlation coefficients does not seem to be large, the differences are very stable in all the cases. It follows that the level of female education appears to be more closely related to the social and political structure than is male education. Female education may be more important for socio-economic development and political participation. The importance of the educational gender difference will be examined later.

Looking at the simple correlation coefficients in the table, these independent variables seem to be significant predictors of turnout. However, the evaluation of these variables in a multiple regression analysis involves

Table IV-1

Simple Pearson's Correlation Coefficient between Turnout and Development Related Variables for Each Year

	1957	1962	1967	1971	1977	1980	1984	1989	1991	1996	1998	1999
Male Crude	0.592	0.519	0.543	0.506	0.490	0.445	0.433	0.409	0.270	0.205	0.130	0.138
Literacy	**	**	**	**	**	**	**	**	**	**	*	*
Female Crude	0.639	0.577	0.584	0.505	0.547	0.475	0.525	0.484	0.384	0.345	0.199	0.246
Literacy	**	**	**	**	**	**	**	**	**	**	**	**
Urban population	0.356	0.379	0.336	0.275	0.249	0.190	0.079	0.043	-0.065	-0.102	-0.151	-0.186
	**	**	**	**	**	**				*	**	**
Value of 35 crops	0.376	0.396	0.467	0.355	0.560	0.416	0.497	0.396	0.481	0.374	0.225	0.276
per hectare	**	**	**	**	**	**	**	**	**	**	**	**
Fertiliser Consumption	0.186	0.364	0.511	0.393	0.511	0.332	0.321	0.271	0.349	0.302	0.237	0.266
per net area sown	**	**	**	**	**	**	**	**	**	**	**	**
Number of Sample	266	274	276	279	279	273	279	272	265	279	279	279

Source: Calculated by the author on the data set based on Bhalla and Singh's districts.

Notes: 1) OLS is applied

2) "*": Statistically significant at 5% level; "**": Statistically significant at 1% level.

some difficulty, among which multicollinearity may in practice be the most detrimental for the interpretation of the regression analysis. Multicollinearity between independent variables can be a troublesome problem in a multiple regression analysis.[2] In the variable set in Table IV-1, for example, the correlation between Male Crude Literacy and Female Crude Literacy is usually very high. Thus, when both variables are included as explanatory variables, the statistical significance of each cannot be determined independently, because the two variables are highly dependent upon each other.

In order to avoid the problem of multicollinearity, I have transformed the original set of five variables into five mutually orthogonal variables set by factor analysis. The five principal components were extracted from the original five variables and then rotated on the varimax condition. Varimax orthogonal rotation was applied so that clearer relationship could be discerned between the original and the new variable. Table IV-2 is a factor loading matrix showing the correlation between the original and new variables. Applying the principle component analysis leads to a normalisation of the new variables, with their averages being zero and their standard deviations one. It goes without saying that the newly synthesised variables are included in the ΔSE_k category.

The transformation to the orthogonal variable set may have another merit. The relation between the dependent variable and the new independent variable can be interpreted without taking into consideration the other new independent variables in the regression equation, because there are no correlations in principle between the new independent variables. Consequently, if the new variables can be easily interpreted sociologically and economically, the multiple regression analysis would give us clearer understanding of the socio-economic basis of electoral participation. If, on the other hand, the new variable consists of several socio-economically heterogeneous variables from the original data set, the interpretation or characterisation would be very difficult. This is not the case in this study.

The features of the new variables are very clear and stable over the five decades. The L-f factor in the table consists mainly of Male Crude Literacy and Female Crude Literacy. Obviously, Literacy is the basic feature of the new variable.

Similarly, the F-f factor is clearly a variable representing fertiliser consumption. Naturally, it is correlated to some extent with the yield of agricultural production, as shown in all the sub-tables except for that for 1957. The sub-table for 1957 is an exception. This is because the use of chemical fertilisers was not prevalent in the 1950s in many part of the

Table IV-2

Transformation of Socio-Economic Variables into Orthogonal Variables Sets: Factor Loading Matrix

1957	L-f	YH-f	U-f	F-f	LFM-f	1962	L-f	U-f	YH -f	F-f	LFM-f
LM	0.927	0.247	0.271	0.047	-0.070	LM	0.916	0.281	0.239	0.127	-0.095
LF	0.771	0.344	0.304	0.163	0.411	LF	0.781	0.306	0.381	0.216	0.323
U	0.293	-0.050	0.954	-0.020	0.042	U	0.291	0.956	-0.037	0.010	0.024
YH	0.295	0.944	-0.054	0.133	0.046	YH	0.320	-0.050	0.910	0.257	0.028
F	0.079	0.116	-0.014	0.990	0.026	F	0.151	0.016	0.218	0.964	0.022

1967	L-f	F-f	U-f	YH-f	LFM-f	1971	L-f	F-f	U-f	YH-f	LFM-f
LM	0.923	0.145	0.268	0.200	-0.120	LM	0.931	0.128	0.258	0.185	-0.127
LF	0.823	0.217	0.277	0.363	0.260	LF	0.845	0.191	0.263	0.354	0.234
U	0.288	0.098	0.952	-0.041	0.014	U	0.288	0.108	0.951	-0.037	0.010
YH	0.338	0.359	-0.065	0.867	0.016	YH	0.331	0.348	-0.057	0.875	0.012
F	0.177	0.935	0.112	0.285	0.015	F	0.158	0.939	0.120	0.279	0.011

1977	L-f	F-f	U-f	YH-f	LFM-f	1980	L-f	F-f	U-f	YH-f	LFM-f
LM	0.946	0.077	0.237	0.153	-0.142	LM	0.950	0.065	0.227	0.139	-0.150
LF	0.880	0.134	0.242	0.318	0.219	LF	0.893	0.121	0.231	0.295	0.219
U	0.278	0.102	0.955	-0.016	0.007	U	0.271	0.099	0.957	-0.004	0.006
YH	0.349	0.423	-0.035	0.835	0.010	YH	0.342	0.452	-0.019	0.823	0.010
F	0.092	0.950	0.114	0.275	0.007	F	0.074	0.952	0.111	0.274	0.007

1984	L-f	F-f	U-f	YH-f	LFM-f	1989	L-f	F-f	U-f	YH-f	LFM-f
LM	0.952	0.064	0.226	0.126	-0.152	LM	0.952	0.056	0.227	0.126	-0.151
LF	0.905	0.127	0.227	0.268	0.206	LF	0.914	0.123	0.225	0.250	0.192
U	0.274	0.102	0.956	0.004	0.004	U	0.280	0.104	0.954	0.014	0.003
YH	0.326	0.489	-0.006	0.809	0.009	YH	0.292	0.453	0.009	0.842	0.008
F	0.074	0.952	0.116	0.273	0.006	F	0.076	0.943	0.115	0.304	0.006

1991	L-f	F-f	U-f	YH-f	LFM-f	1996	L-f	F-f	U-f	YH-f	LFM-f
LM	0.953	0.051	0.226	0.126	-0.151	LM	0.956	0.031	0.224	0.107	-0.153
LF	0.917	0.119	0.224	0.243	0.188	LF	0.918	0.117	0.235	0.227	0.194
U	0.281	0.103	0.954	0.018	0.003	U	0.294	0.107	0.949	0.031	0.004
YH	0.278	0.431	0.015	0.858	0.007	YH	0.231	0.383	0.031	0.894	0.008
F	0.075	0.940	0.113	0.314	0.006	F	0.068	0.936	0.113	0.326	0.007

1998	L-f	F-f	U-f	YH-f	LFM-f	1999	L-f	F-f	U-f	YH-f	LFM-f
LM	0.958	0.023	0.219	0.096	-0.156	LM	0.959	0.019	0.215	0.090	-0.158
LF	0.917	0.116	0.239	0.220	0.201	LF	0.917	0.116	0.240	0.216	0.205
U	0.295	0.107	0.949	0.036	0.004	U	0.294	0.106	0.949	0.039	0.005
YH	0.212	0.368	0.037	0.904	0.009	YH	0.202	0.362	0.040	0.909	0.009
F	0.064	0.936	0.112	0.327	0.007	F	0.062	0.937	0.111	0.326	0.008

Source: Calculated on the basis of Bhalla and Singh's district based data set.
Notes: Transformation by Factor analysis (Principal Component with Varimax Rotation): N=279
Name of Variables;

Original variables		Naming New Variables after the Transformation	
LM	Male Crude Literacy	L-f	Literacy factor
LF	Female Crude Literacy	F-f	Fertiliser factor
U	Urban population	U-f	Urbanisation factor
YH	Value of 35 crops per hectare	YH-f	Agricultural Yield factor
F	Fertiliser Consumption per net area sown	LFM-f	Female-Male Literacy Equality factor

country, and the geographical distribution of the consumption of chemical fertilisers was skewed and limited in several areas. It is only after the 1960s that the use of chemical fertiliser became, by and large, prevalent with the rapid spread of the Green Revolution.

U-f is an urbanisation factor. It has some clear correlations with Male Crude Literacy and Female Crude Literacy. This is sociologically natural, since urban areas attract more educated people, resulting in higher literacy in urban areas. Some degree of correlation between the percentage of urban population and Male Crude Literacy or Female Crude Literacy is a reflection of this sociological fact.

YH-f is an Agricultural Yield factor, which naturally has some degree of correlation with fertiliser consumption.

Finally, LFM-f is a Female-Male Literacy Equality factor. It correlates positively with Female Crude Literacy and negatively with Male Crude Literacy. The correlations with other variables are negligible. In fact, this factor is almost parallel to the vector of "Female Crude Literacy – Male Crude Literacy". The correlation between the factor and "Female Crude Literacy – Male Crude Literacy" varies between around 0.7 and 0.9 over the five decades. As shown in Figure II-2 and II-3, there are no districts where female literacy rate exceeds the male literacy rate. In other words, the higher the ratio of Female to Male Literacy Equality, the smaller the gender

gap in education. This factor can be seen as representing gender equality in education.

These new orthogonally rotated variables are used in the remainder of this study unless otherwise noted.

The basic model of multiple regression based on the "socio-economic environment model" is as follows:

$$T_t = a_{3t1} \cdot L\text{-}f_t + a_{3t2} \cdot F\text{-}f_t + a_{3t3} \cdot U\text{-}f_t + a_{3t4} \cdot YH\text{-}f_t + a_{3t5} \cdot LFM\text{-}f_t +$$
$$\text{constant} + \text{error} \tag{4-1}$$

Where;

T_t	: Voter turnout
$L\text{-}f_t$	: Literacy factor
$F\text{-}f_t$	: Fertiliser factor
$U\text{-}f_t$	: Urbanisation factor
$YH\text{-}f_t$	: Agricultural Yield factor
$LFM\text{-}f_t$	: Female-Male Literacy Equality factor
a_{3tj} $(j=1, \dots 5)$	: Regression Coefficient for each socio-economic development related variable.
"t"	: Election year

This is a specification of the formula (2-10), ignoring ΔR_k and ΔPM_k. The analysis of this section is, therefore, a partial examination of the conceptional framework. One of the important purposes of the regression is to examine the changing effect of each independent variable from election to election over the five decades. The model assumes that the regression coefficients for each independent variable may have changed over the five decades.

Correlation of Voter Turnout with Socio-Economic Environment Variables and Political Impact

Table IV-3 shows the results of the multiple regression analysis. The estimations are based on the OLS. No adjustments were made to deal with the problem of heteroscedasticity, which can be conducted in order to get more accurate estimation. This is because, first of all, the regression analysis in this section is, in a sense, a first-stage rough approach to the statistical estimation. It is also because some statistical adjustment methods used to deal with heteroscedasticity cause damage to the orthogonality of the correlation between the five independent variables.

Table IV-3
Turnout Explained by Development Related Variables, All Samples

Dependent Variable: T1957

	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P
Constant	46.999	.482		97.446	.000
L-f57	5.425	.483	.533	11.237	.000
F-f57	1.101	.473	.110	2.329	.021
U-f57	2.225	.498	.212	4.465	.000
YH-f57	2.400	.485	.234	4.947	.000
LFM-f57	1.849	.488	.180	3.791	.000
N					
265	R^2 0.417		Adjusted R^2 for degree of freedom 0.406		

Dependent Variable: T1962

	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P
Constant	51.744	.547		94.522	.000
L-f62	4.601	.557	.404	8.267	.000
F-f62	2.267	.545	.203	4.161	.000
U-f62	3.229	.554	.285	5.827	.000
YH-f62	2.958	.548	.263	5.395	.000
LFM-f62	1.449	.560	.126	2.586	.010
N					
274	R^2 .361		Adjusted R^2 for degree of freedom .349		

Dependent Variable: T1967

	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P
Constant	57.110	.461		123.813	.000
L-f67	4.251	.460	.430	9.237	.000
F-f67	3.719	.469	.369	7.932	.000
U-f67	1.957	.461	.198	4.250	.000
YH-f67	2.305	.460	.233	5.013	.000
LFM-f67	.508	.462	.051	1.100	.272
N					
276	R^2 0.416		Adjusted R^2 for degree of freedom 0.405		

Dependent Variable: T1971

	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P
Constant	52.048	.501		103.990	.000
L-f71	4.392	.501	.440	8.76	.000
F-f71	2.881	.501	.289	5.746	.000
U-f71	1.279	.501	.128	2.551	.011
YH-f71	1.330	.501	.133	2.653	.008
LFM-f71	-.140	.501	-.014	-.280	.780
N					
279	R^2 .311		Adjusted R^2 for degree of freedom .299		

Dependent Variable: T1977

	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P
Constant	57.524	.416		138.237	.000
L-f77	3.817	.417	.417	9.155	.000
F-f77	3.641	.417	.398	8.734	.000
U-f77	.932	.417	.102	2.236	.026
YH-f77	2.735	.417	.299	6.561	.000
LFM-f77	.301	.417	.033	.723	.470
N		R^2	Adjusted R^2 for degree of freedom		
279		.433	.353		

Dependent Variable: T1980

	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P
Constant	54.147	.455		118.916	.000
L-f80	3.583	.452	.413	7.930	.000
F-f80	2.179	.460	.247	4.742	.000
U-f80	.476	.454	.055	1.047	.296
YH-f80	1.671	.466	.187	3.590	.000
LFM-f80	.200	.457	.023	.438	.662
N		R^2	Adjusted R^2 for degree of freedom		
273		.275	.261		

Dependent Variable: T1984

	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P
Constant	60.566	.429		141.345	.000
L-f84	3.932	.429	.442	9.159	.000
F-f84	2.000	.429	.225	4.660	.000
U-f84	-.619	.429	-.070	-1.442	.151
YH-f84	2.655	.429	.298	6.185	.000
LFM-f84	1.401	.429	.157	3.264	.001
N		R^2	Adjusted R^2 for degree of freedom		
279		.364	.353		

Dependent Variable: T1989

	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P
Constant	58.412	.490		119.087	.000
L-f89	4.236	.486	.442	8.712	.000
F-f89	1.680	.498	.172	3.376	.001
U-f89	-1.142	.491	-.118	-2.327	.021
YH-f89	2.154	.495	.221	4.351	.000
LFM-f89	1.551	.497	.159	3.122	.002
N		R^2	Adjusted R^2 for degree of freedom		
272		.314	.301		

(continued)

Dependent Variable: T1991

	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P
Constant	52.863	.536		98.636	.000
L-f91	3.379	.531	.317	6.358	.000
F-f91	3.497	.611	.287	5.728	.000
U-f91	-1.860	.528	-.175	-3.519	.001
YH-f91	3.611	.539	.334	6.703	.000
LFM-f91	2.543	.539	.236	4.717	.000
N	R^2		Adjusted R^2 for degree of freedom		
263	.359		.347		

Dependent Variable: T1998

	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P
Constant	60.859	.400		152.190	.000
L-f98	1.439	.401	.196	3.592	.000
F-f98	1.659	.401	.226	4.141	.000
U-f98	-1.836	.401	-.251	-4.582	.000
YH-f98	.876	.401	.120	2.188	.030
LFM-f98	.956	.401	.130	2.385	.018
N	R^2		Adjusted R^2 for degree of freedom		
279	.184		.169		

Dependent Variable: T1996

	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P
Constant	54.596	.593		92.014	.000
L-f96	3.378	.594	.280	5.683	.000
F-f96	2.919	.594	.242	4.911	.000
U-f96	-2.776	.594	-.230	-4.671	.000
YH-f96	2.992	.594	.248	5.034	.000
LFM-f96	3.557	.594	.295	5.984	.000
N	R^2		Adjusted R^2 for degree of freedom		
279	.338		.326		

Dependent Variable: T1999

	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P
Constant	58.399	.444		131.396	.000
L-f99	1.976	.445	.228	4.438	.000
F-f99	2.131	.445	.246	4.787	.000
U-f99	-2.617	.445	-.302	-5.877	.000
YH-f99	1.436	.445	.166	3.226	.001
LFM-f99	1.935	.445	.223	4.346	.000
N	R^2		Adjusted R^2 for degree of freedom		
279	.281		.267		

Source: Calculated on the basis of Bhalla and Singh's district based data set.
Notes: 1) OLS is applied
2) Names of variables are the same as in Table IV-2. The 2-digit suffix number indicates year of the variable.

The numbers of the samples differ between the calculations of the regression, due to the exclusion from the calculation of the samples which include missing values of turnout in the original data. The independent variables, therefore, are not completely mutually orthogonal in cases where there are missing samples. However, there is no possibility of severe cases of multicollinearity. Figure IV-1 is an illustration of changes in the standardised regression coefficients of each variable over 12 elections. The number of samples varies from 265 to 279. This magnitude of differences in the number of samples is not considered large enough to damage the compatibility of the standardised Regression Coefficients between elections, because they are basically panel data sets. It is also partly because the independent variables are approximately orthogonal to each other. In any event, according to the figure, the movement of graphs seems to be rather divergent.

First of all, literacy (L-f) is the most important of the independent variables. The higher the literacy rate of the society, the higher the turnout

Figure IV-1

**Standardised Regression Coefficients of Variables
Explaining Turnout, All Samples**
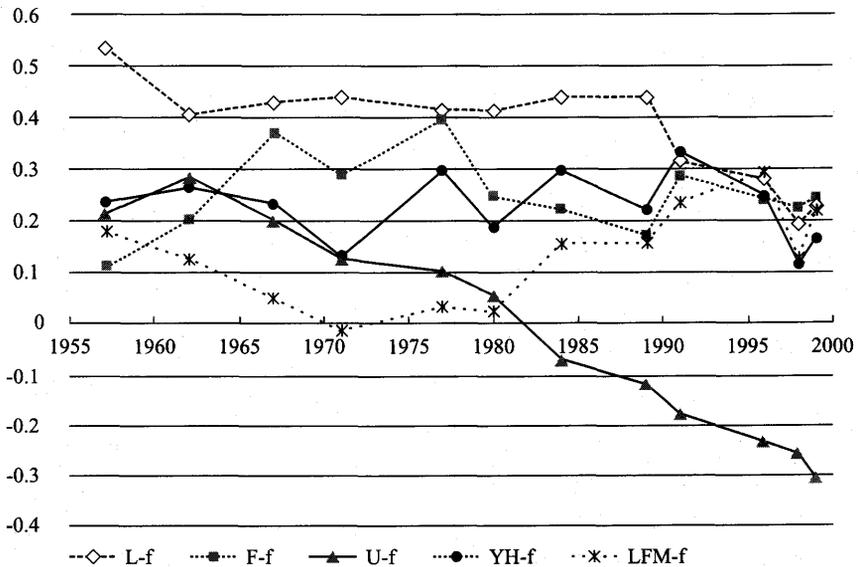
Source: Made by the author from Table IV-3.

rate. In all 12 regressions, it is statistically significant at the 1% level on the basis of t-value. The standardised regression coefficients are, by and large, at the level of around 0.4 from 1962 to 1989 and fall afterward. However, the line of the standardised regression coefficients for Literacy seems to indicate a decreasing tendency. In other words, although the explanatory power of Literacy started at a high level, it decreased gradually over the five decades.

Secondly, the two economic variables are also good predictors of turnout. They are consistently statistically significant at the 1% level, except for Fertiliser (F-f) in 1957 and Agricultural Yield (YH-f) in 1998. However, these two economic variables are clearly less effective than Literacy until the 1989 election, as shown by Figure IV-1.

Voting behaviour is, first of all, a function of political perception. It is, therefore, natural that Literacy, which is more closely related to the recognitional aspect of the psychology of voters, is more effective than economic variables in predicting voting behaviour, including turnout. However, after the 1991 election, the explanatory power of the two economic variables approaches that of Literacy, due to sharp decline in the explanatory power of Literacy.

Among the two variables, Figure IV-1 shows that Fertiliser is clearly a more effective predictor than Agricultural Yield from 1967 to 1980. This is very interesting and suggestive. The spread of chemical fertilisers is considered to correspond to the process of the spread of the Green Revolution. Consequently, it can be said, based on the result of the regression, that the "process of spread" of the Green Revolution raised the level of electoral participation. In the 1950s and early 1960s, the consumption of chemical fertilisers was very limited. Modern inputs such as chemical fertilisers were first introduced under the initiative of the central and State governments, and then spread to progressive farmers, and then to other farmers and tenants. It was only after the 1960s that they spread to more extensive areas and strata of people. The level of consumption increased rapidly, as shown in Figure IV-2. Therefore, it is not strange that chemical fertiliser as a proxy variable for the Green Revolution is not an important predictor of turnout in the 1957 and 1962 elections.

After the 1980s, explanatory power of Fertiliser is, by and large, at the same level as that of Agricultural Yield. The reason for this may be that the effects of the Green Revolution on rural society became prevalent in the major part of rural India by the 1980s. In other words, its impact on rural society became less conspicuous after the 1980s because it had already reached the main portion of farmers, such as small farmers. Therefore, it might be that, even though the per capita consumption level of fertiliser has

Figure IV-2

Fertiliser Consumption per Net Area Sown (kg/hectare)
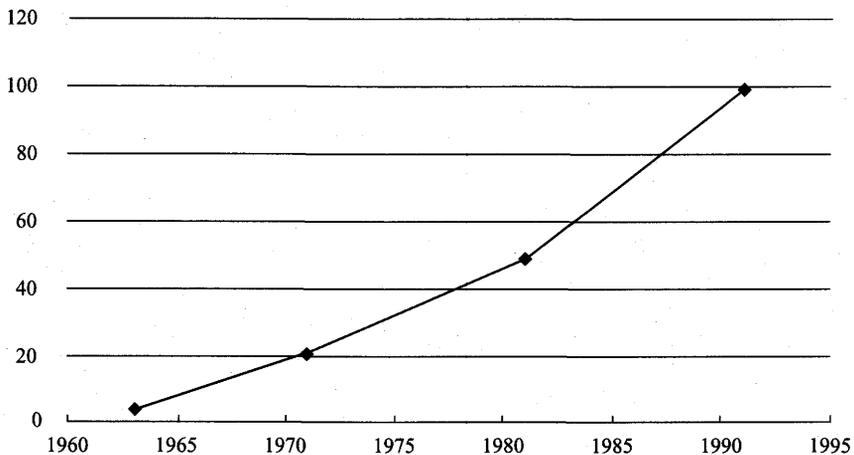
Source: Made by the author from Bhalla, G. S. and Gurmail Singh. *op. cit.*,
    Annexures.

continued to increase until the present, the Fertiliser variable has became less conspicuous as an explanatory variable for turnout since the 1980s.

Thirdly, the most interesting variable is Urbanisation. In the cases of Literacy, Fertiliser, and Agricultural Yield, the results of the regressions show approximately what socio-economic mobilisation theory would predict. Traditional theory insists that urbanisation means overall social mobilisation, and thus results in higher political participation. But according to the graph, the Urbanisation variable in this study fits the traditional theory only in the early part of the five decades. Urbanisation clearly contributed positively to the increase of turnout until the 1971 election. However, from 1971 until 1989, its effect on turnout was negligible. After 1989, the effect has reversed, and Urbanisation has become clearly negatively correlated with turnout.

The line of the standardised regression coefficients declines monotonously throughout the five decades. This pattern is completely different from Literacy or the two economic variables. It may be that in the early period, when the level of overall electoral participation was low, urbanisation could clearly raise the level of political perception in the process of mobilising rural people to urban areas, where political sensitivity was higher. However, the political sensitivity in rural areas rose remarkably after the 1970s because of overall socio-economic development and several political events which

have been mentioned again and again. These political events, together with the overall socio-economic development, raised the political sensitivity in rural areas, which seems to have reduced the gap in political sensitivity between the urban and rural populace. But this hypothesis cannot explain the negative effect of urbanisation after the 1989 election. Another social aspect of urbanisation must be considered in order to explain the latter period.

Urbanisation is the social process of bringing people from rural to urban environments. Rural society in India is generally more structured than urban ones, in the sense that social relations, such as local community solidarity, caste, kith and kin relations, are much more influential in prescribing social activities. It was pointed out in the previous section that the leader of communities or associations can be important "amplifiers" raising or lowering the level of political participation. There are several empirical studies supporting this effect. For example, Benjamin, Blue and Coleman statistically demonstrate the importance of associations, such as trade associations, unions and other community associations, in mobilising people for electoral participation, and, therefore, raising turnout, on the basis of aggregate electoral data.[3] In the case of the 1996 election, Table II-2 from CSDS shows a clearly higher percentage of voters among SCs and a clearly lower percentage among Muslim and STs. In the 1999 elections, a clearly higher turnout rate for SCs is shown by the CSDS survey while the turnout for Muslims is clearly lower.[4]

Although "community voting," "caste voting," etc., have gradually become less conspicuous all over India, they are still relatively more conspicuous in rural than in urban areas. The more modern urban social environment is considered to have an intrinsic tendency to reduce the importance of traditional communities, resulting in less community mobilisation. Thus, urbanisation can have an effect leading to smaller turnout through this effect. This aspect of urbanisation was not conspicuous when the overall level of political participation in the form of turnout was low, and when the social mobilisational aspect of urbanisation was relatively strong as in the 1950s and 1960s. But once rural areas became closely linked with mainstream political evolution through the series of the impacts of political events and by way of dissemination of electoral politics, the mobilisational aspect of urbanisation in urban vis-à-vis rural areas became ambiguous. On the other hand, the community mobilisational aspect in the rural area has remained effective even after the end of the 1980s.

In order to examine this point, it may be necessary to examine the change in the standardised regression coefficient of Urbanisation vis-à-vis two explanatory variables. The first variable is "time," which is based on the

assumption that the social mobilisational aspect of urbanisation decreases with the passage of time. Another explanatory variable is that representing social development, based on the assumption that social development decreases the importance and mobilisational capacities of traditional communities more in urban than in rural areas. Literacy is selected as the developmental variable. The process of regression is as follow;

1) The samples are divided at the zero point of the Literacy variable (=L-f), into Low Literacy Samples and High Literacy Samples.[5]
2) The OLS is made to get the standardised regression coefficient of the Urbanisation for each Literacy level group and in each election year, with other explanatory variables included. The results of the regressions are shown in Table IV-4.
3) The OLS is made for each Literacy level group, with the Standardised Regression Coefficient of the Urbanisation being the dependent variable while the year (=time) is an independent variable. This is a check on the serial correlation. It must be noted that the elections in 1957, 1998 and 1999 are excluded because of the important institutional changes that took place at those times. In the case of the 1957 election, the double member constituencies system severely damaged the comparability of the data with other years. In the cases of 1998 and 1999, the huge increase in the security deposit before the 1998 election drastically reduced the number of candidates, affecting voter turnout. It severely affected the comparability of the two elections with others. According to the OLS, the Durbin-Watson statistics are 1.78 in the case of the Low Literacy group (N=9) and 2.30 in the case of the High Literacy group (N=9), with neither being significant at the level of 5%. It is confirmed that there are no serial correlations in either regression.
4) The average Literacy for each Literacy level group and for each election year is calculated.
5) The OLS is made for the pooled time series data set combining the data of both Low and High Literacy groups (N=18). The result is shown in Table IV-5.

The results of the regression clearly support the two hypotheses. The mobilisational effect of Urbanisation clearly decreases with the passage of time and the modernisation of the society. The analysis of the long-term electoral data on the basis of socio-economic variables clearly shows the changing function of urbanisation vis-à-vis voter turnout.

Table IV-4

Turnout Explained by Development Related Variables, Low and High Literacy Samples

Dependent Variable = Turnout (T)

Low Literacy Samples

	1957		1962		1967		1971		1977		1980	
	St. co.	P	St. co.	P	St. co.	P	St. co.	P	St. co.	P	St. co.	P
L-f	0.704	0.000	0.344	0.000	0.242	0.011	0.157	0.096	0.216	0.009	0.395	0.000
F-f	0.412	0.000	0.295	0.000	0.387	0.000	0.253	0.001	0.420	0.000	0.218	0.008
U-f	0.269	0.000	0.339	0.000	0.256	0.000	0.214	0.005	0.182	0.009	0.102	0.189
YH-f	0.694	0.000	0.439	0.000	0.256	0.002	0.127	0.128	0.228	0.002	0.274	0.002
LFM-f	0.629	0.000	0.319	0.001	0.265	0.006	0.131	0.172	0.100	0.227	0.328	0.001
N	143		156		156		160		158		149	
R^2	0.307		0.311		0.264		0.133		0.296		0.187	

	1984		1989		1991		1996		1998		1999	
	St. co.	P	St. co.	P	St. co.	P	St. co.	P	St. co.	P	St. co.	P
L-f	0.505	0.000	0.476	0.000	0.388	0.000	0.469	0.000	0.132	0.142	0.113	0.170
F-f	0.214	0.003	0.147	0.053	0.259	0.000	0.219	0.001	0.191	0.021	0.270	0.000
U-f	0.004	0.949	-0.073	0.328	-0.152	0.033	-0.139	0.033	-0.073	0.377	-0.203	0.007
YH-f	0.454	0.000	0.322	0.000	0.364	0.000	0.293	0.000	0.059	0.485	0.149	0.053
LFM-f	0.469	0.000	0.487	0.000	0.460	0.000	0.679	0.000	0.350	0.000	0.408	0.000
N	152		151		147		145		146		148	
R^2	0.354		0.262		0.313		0.460		0.140		0.278	

High Literacy Samples

	1957		1962		1967		1971		1977		1980	
	St. co.	P	St. co.	P	St. co.	P	St. co.	P	St. co.	P	St. co.	P
L-f	0.390	0.000	0.346	0.000	0.553	0.000	0.562	0.000	0.535	0.000	0.332	0.001
F-f	0.020	0.791	0.153	0.060	0.457	0.000	0.410	0.000	0.471	0.000	0.374	0.000
U-f	0.158	0.040	0.270	0.001	0.224	0.002	0.122	0.132	0.124	0.075	0.026	0.758
YH-f	0.121	0.111	0.229	0.006	0.312	0.000	0.195	0.012	0.369	0.000	0.254	0.002
LFM-f	0.303	0.000	0.103	0.258	-0.189	0.018	-0.258	0.005	-0.119	0.123	-0.169	0.082
N	123		118		120		119		121		124	
R^2	0.377		0.308		0.493		0.356		0.523		0.244	

	1984		1989		1991		1996		1998		1999	
	St. co.	P	St. co.	P	St. co.	P	St. co.	P	St. co.	P	St. co.	P
L-f	0.300	0.001	0.396	0.000	0.121	0.158	0.019	0.819	0.025	0.765	0.091	0.278
F-f	0.276	0.000	0.235	0.004	0.326	0.000	0.288	0.000	0.283	0.000	0.244	0.002
U-f	-0.153	0.054	-0.136	0.101	-0.232	0.003	-0.345	0.000	-0.371	0.000	-0.389	0.000
YH-f	0.308	0.000	0.275	0.001	0.431	0.000	0.344	0.000	0.189	0.018	0.199	0.013
LFM-f	0.042	0.625	-0.109	0.224	0.141	0.097	0.099	0.204	-0.048	0.550	0.018	0.818
N	127		121		118		134		133		131	
R^2	0.329		0.323		0.382		0.325		0.252		0.272	

Source: Calculated by the author on the basis of Bhalla and Singh's district data set made.

Notes: 1) OLS is applied.
2) Low literacy Samples : L-f < 0, High literacy Samples : L-f > 0.
3) There is no regression suffering from severe multicollinearity.
4) "St.co." = "Standardised Regression Coefficient"

Table IV-5

**The Effect of Time and Social Development
on the Mobilisational Effects of Urbanisation**

Dependent Variable: The Standardised Regression Coefficient of Urbanisation for Each
Literacy Level Group and for Each Election Year

	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P
Constant	33.371	2.033		16.411	0.000
Election Year	-0.017	0.001	-0.950	-16.391	0.000
The average Literacy for each Literacy level group for each Election Year	-0.058	0.014	-0.239	-4.132	0.001
N	R^2	Adjusted R^2 for degree of freedom			
18	.975	.950			

Fourthly, Female-Male Literacy Equality is statistically significant at the 1% level except for the elections from 1967 to 1980, as well as in 1998. It means that the turnouts are relatively higher when educational gender equality is higher. But the standardised regression coefficients are rather low for the 1957 and 1962 elections. The aggregate Female-Male Literacy Equality variable is considered to represent an important aspect of the modernisation of the social structure. Higher educational gender equality essentially means more numerous educational opportunities for females. Education is the main modern institution through which individuals can climb the social ladder. Besides, education generally increases the capacity of individuals to perceive and recognise social and political processes. In a society where women's status was rather low and under rigid social stratification, the expansion of education, therefore, had a strong impact on aggregate political behaviours including voting. Thus, gender equality is considered to be a non-negligible variable in explaining turnout.[6] As shown in Figure IV-3, the gap between male and female turnout has, by and large, decreased over the five decades, and this can be considered one aspect of increasing modernity.

The question is why its explanatory power was so low before the 1984 election. There can be two reasons to explain this. One is the very disturbing effect of politics from the latter half of the 1960s to the 1980s, as explained in the previous chapter. The series of striking political events might have made educational gender differences relatively meaningless in relation to political participation. Another reason might be that the effectiveness of the

variable is different in different stage of socio-economic development. In order to examine this hypothesis, the results of regression which are conducted in the case of Urbanisation should be looked at again, in which Literacy is adopted as the measurement for the development of the society.

The contrast between the results of the regressions on Low Literacy and High Literacy Samples is obvious in Table IV-4. The regressions on the basis of Low Literacy samples clearly show the expected result, namely, the Female-Male Literacy Equality variables are statistically significant at the

Figure IV-3
Male-Female Differences in Voter Turnout
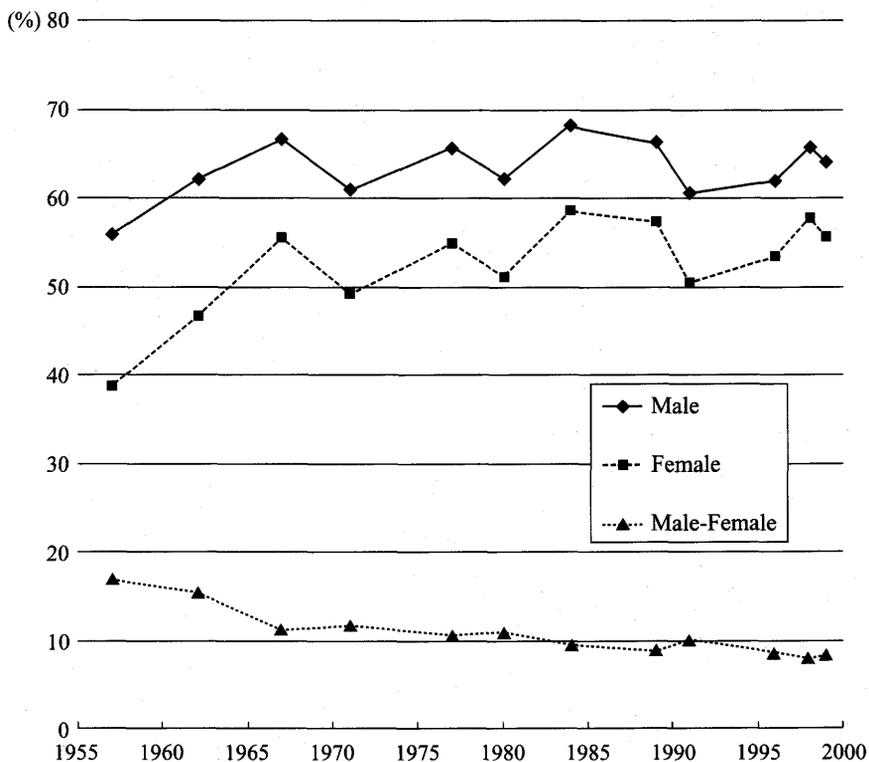
Source: 1) Concerning the 1957, 1962, and 1967 elections, David Butler, et al. 1989. *India Decides—Elections 1952–1989*. New Delhi: Living Media India, p. 8.
2) After the 1971 election: Election Commission of India, Reports of various Lok Sabha elections at the Election Commission of India website. See at, http://www.eci.gov.in/ARCHIVE.

1% level except for the 1971 and 1977 elections. It contributed to the increase in turnout in these cases. Since the 1989 elections, the Female-Male Literacy Equality has consistently been the most important explanatory variable for turnout.

On the other hand, the regressions on the basis of High Literacy samples are ambiguous. The Female-Male Literacy Equality variables are not statistically significant at the 1% level except for the 1957 and 1971 elections. Moreover, the plus and minus signs are not stable over the 12 elections. In 1971 there was even a minus sign, meaning that the variable shows the causality opposite to what the hypothesis predicts.

Thus, it is clear that the Female-Male Literacy Equality is important in relatively less literate districts. It is considered natural for a 1% increase in female literacy in less developed areas to have much more impact on society than in a more developed area. It can be safely stated that Female-Male Literacy Equality is a significant variable that raises political participation in less developed areas.

Table IV-4 as well as Figures IV-4 and IV-5, which are visualisations of

Figure IV-4

Standardised Regression Coefficients of Development Related Variables Explaining Turnout Based on the Low Literacy Samples
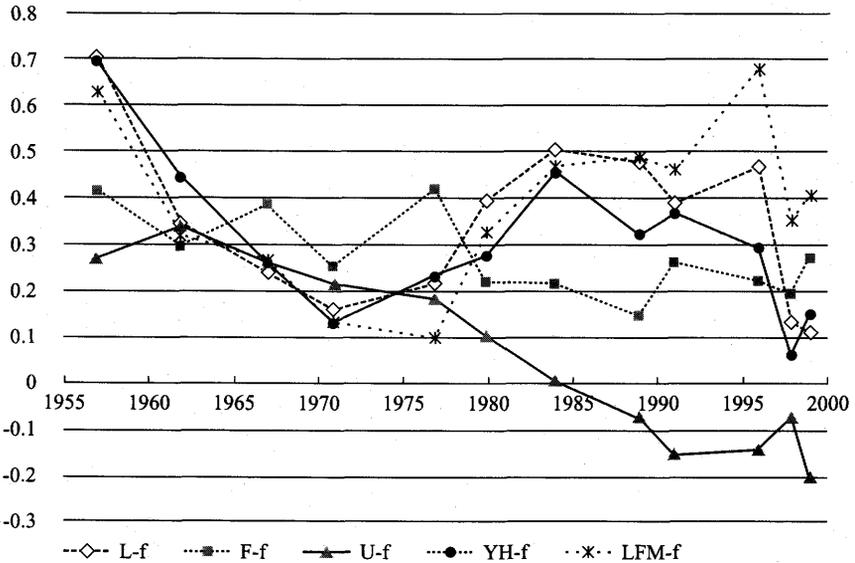
Source: Table IV-4.

the standardised regression coefficients of independent variables in Table IV-4, show the complex movements of the explanatory powers of each independent variable. One thing must be noted in the comparison between Figure IV-4 and IV-5. The shape of the line "Urbanisation" is, by and large, similar between the two. However, a "shift" is observed between the two graphs. It is based on the difference in social modernisation, as examined just above.

On the other hand, the line shapes of the other variables are widely different between the two figures. Among them, the case of Female-Male Literacy Equality variable is a typical one, as explained above. The variable is clearly important only in lower development stages. The significance of Literacy has also decreased after the 1991 election in the cases of High Literacy samples and after the 1998 election in the cases of Low Literacy samples.

Fifth, the overall fitness of the model is not bad. Figure IV-6 indicates the change in the percentage of explained variances of turnout (=R^2) in Table IV-3 and IV-4. The R^2s for all samples are in the range of around 0.27 to 0.43, except for the 1998 election. It can be said that the explanatory power of the

Figure IV-5

Standardised Regression Coefficients of Development Related Variables Explaining Turnout Based on the High Literacy Samples
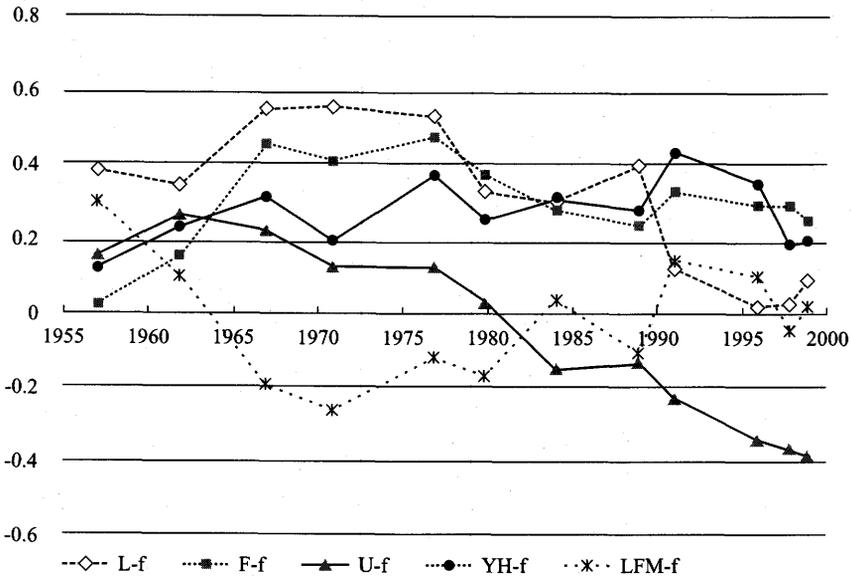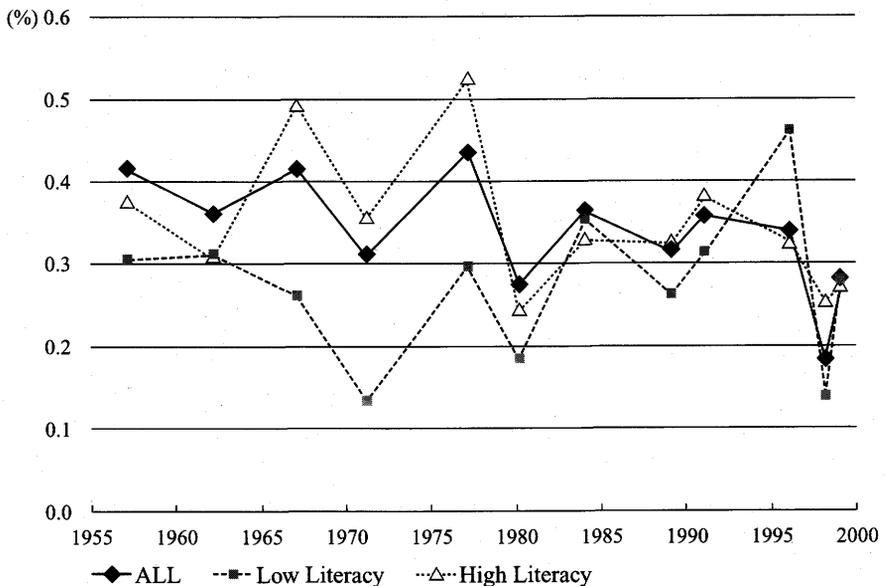

Source: Table IV-4.

model as a whole is at a high level and is basically stable over the 12 Lok Sabha elections. It must, therefore, be recognised that the macro socio-economic development related variables has a significant and stable influence on electoral participation.

In addition, it must be noted that the fluctuation of R^2s is clearly wide. The most conspicuous peaks are in the 1967, 1977 and 1984 elections. Concerning the 1957 election result, we must be careful about the result. The high R^2 might be an artificial result. The existence of double-member constituencies in the 1957 election may have contributed to the high figure. The fluctuations of R^2 for Low and High Literacy samples show basically similar patterns. At any rate, the question is, why did the explanatory power of the model peak in the elections that were affected by the most severe political events?

According to Figure III-1, voter turnout was relatively high in the 1967, 1977 and 1984 elections. These are, therefore, relatively more politically mobilised elections. There is no intrinsic or *a priori* reason for the high political mobilisation itself to automatically result in a higher correlation

Figure IV-6

Explained Variance of Turnout (=R^2)

Source: Made by the author from Table IV-3 and IV-4.

between turnout and socio-economic development related variables. However, it happened in reality. This can be explained more convincingly by the more general model (2-13) rather than (2-10). What happened is that within the highly politically mobilised atmosphere, ΔPM_k homogenously shifted to the higher level by "Δpm" (> 0) all over India, or from ΔPM_k to $\Delta PM_k + \Delta pm$. The average of $\Delta PM_k + \Delta pm$ is, therefore, "0" $+ \Delta pm = \Delta pm$. The model (2-13) is reproduced below;

$$\overline{V}_k = a_1 \cdot \Delta R_k + a_2 \cdot \Delta PM_k + a_3 \cdot \Delta SE_k + b_4 \cdot \Delta R_k \cdot \Delta PM_k + b_5 \cdot \Delta R_k \cdot \Delta SE_k +$$

$$b_6 \cdot \Delta PM_k \cdot \Delta SE_k + \text{constant} + \text{error}$$

If, we assume that "$\Delta R_k \cdot \Delta SE_k$" is small enough to be ignored,

$$\overline{V}_k = a_1 \cdot \Delta R_k + a_2 \cdot \Delta PM_k + a_3 \cdot \Delta SE_k + b_4 \cdot \Delta R_k \cdot \Delta PM_k + b_6 \cdot \Delta PM_k \cdot \Delta SE_k +$$

$$\text{constant} + \text{error}$$

When, $\Delta PM_k + \Delta pm$, is inputted in place of ΔPM_k, then;

$$
\begin{aligned}
\overline{V}_{k\Delta pm} &= a_1{}^* \cdot \Delta R_k{}^* + a_2{}^* \cdot (\Delta PM_k{}^* + \Delta pm) + a_3{}^* \cdot \Delta SE_k{}^* + b_4{}^* \cdot \Delta R_k{}^* \cdot (\Delta PM_k{}^* \\
&\quad + \Delta pm) + b_6{}^* \cdot (\Delta PM_k{}^* + \Delta pm) \cdot \Delta SE_k{}^* + \text{constant}^* + \text{error} \\
&= a_1{}^* \cdot \Delta R_k{}^* + a_2{}^* \cdot \Delta PM_k{}^* + a_3{}^* \cdot \Delta SE_k{}^* + b_4{}^* \cdot \Delta R_k{}^* \cdot \Delta PM_k{}^* + \\
&\quad b_6{}^* \cdot \Delta PM_k{}^* \cdot \Delta SE_k{}^* + a_2{}^* \cdot \Delta pm + b_4{}^* \cdot \Delta R_k{}^* \cdot \Delta pm + b_6{}^* \cdot \Delta pm \cdot \Delta SE_k{}^* \\
&\quad + \text{constant}^* + \text{error} \qquad\qquad\qquad (4\text{-}2)
\end{aligned}
$$

Where, "$*$" shows that the parameters and variables are those of another election.

In the above change from ΔPM_k to $\Delta PM_k{}^* + \Delta pm$, the coefficient for ΔSE_k is considered to be increased by "$b_6{}^* \cdot \Delta pm$," if we can assume that $a_3{}^*$, $b_6{}^*$, and $\Delta SE_k{}^*$ are approximately the same as a_3, b_6, and ΔSE_k respectively. Usually "$b_6{}^*$" can be considered to be positive, therefore, $b_6{}^* \cdot \Delta pm > 0$. Theoretically, thus, the explanatory power of the socio-economic development related variables is to be increased by "$b_6{}^* \cdot \Delta pm$" because of additional "Δpm," if other things being equal. This is the result of the interaction effect of ΔPM_k and ΔSE_k combined, which, I think, can happen only in an extraordinary political situation. Such particular political situations may have included the extreme socio-economic hardship in 1967, the impact of the internal emergency in 1977 and the psychological shock

caused by the assassination of Indira Gandhi in 1984. The clear increase of the explanatory power of the socio-economic environment variable in the politically highly mobilised situation can be seen as evidence for the theory that the socio-economic environment variable functions as a channel through which political motivation appears in the form of turnout. This is illustrated below.

Politicisation → **Socio-Economic Environment Channel** _____ → **Personal Psychological Reward Mechanisms** → Electoral Participation

Therefore, in cases where the level of politicisation is very high, the facilitating or conditioning effect of socio-economic variable can appear fully, and the explanatory power of the socio-economic environment variable rises. Conversely, if the level of the politicisation is lower, the facilitating or conditioning effect of the socio-economic variable does not appear fully. In this case, the explanatory power of the socio-economic environment variable will be smaller.

In addition, it is important to note that the channel can be considered to be "broadened" by socio-economic development. It is because macro socio-economic development provides more favourable social environment for people to participate in or express themselves through electoral politics, which has been demonstrated so far in this chapter. The developmental variables are very important among the socio-economic environmental variables in that sense.

It is also important to note that macro socio-economic development is only one of the factors conditioning electoral participation. It is believed, therefore, that when the socio-economic environment channel becomes broad enough in the future due to socio-economic development, the effectiveness of the facilitating or conditioning effect of the socio-economic development variables will decrease. The comparison of the change of R^2 of the low and high Literacy samples can be seen as evidence for the hypothesis. The R^2 of the low Literacy samples has a tendency to increase over the five decades, though it fluctuates widely. On the other hand, the R^2 of the high Literacy samples shows a declining trend. That is to say, the effectiveness of the socio-economic development for conditioning rises up to some point and then begins to decline, even if the socio-economic development is continuous. In the process, the relative importance of the

socio-economic development variables would be declining while other socio-economic environment variables will become relatively more important in explaining turnout.

Effect of Political Impact

It goes without saying that the socio-economic environment channel is meaningless for electoral participation if there are no political motivations and psychological reward mechanisms leading to voting. As explained repeatedly, there were very clear overall increases of the political motivation in the cases of the 1967, 1977 and 1984 elections, which are represented conceptually as "Δpm." I think that the clear politicisation led to an increase of electoral participation through the expressive psychological utility mechanism shown in Figure II-1. We can make a rough estimation of the impact of "Δpm" by comparing the constant terms between the two election based on the result of the regression in Table IV-3.

The impact of "Δpm" may be estimated under some assumptions. In the extraordinary election with very high level of politicisation, the constant term which is actually calculated in Table IV-3 includes theoretically both "$a_2* \cdot \Delta pm$" and "constant*" in (4-2) formula. The "$a_2* \cdot \Delta pm$" is included because the "Δpm" is also assumed to be constant for the entire samples. On the other hand, in the ordinary election, something like the "$a_2* \cdot \Delta pm$" term is not included in the "constant" simply because "Δpm" is not considered to exist. So, if we are able to assume the "constant*" in the extraordinary election is approximately the same as the "constant" in the ordinary election, though this assumption might be too strong to be applied, we can roughly estimate "$a_2* \cdot \Delta pm$" by deducting the actually measured constant in the ordinary election from that in the extraordinary election, namely, by following expression: $a_2* \cdot \Delta pm$ + constant* − constant.

The difference above is a rough estimation of the political impacts after taking into consideration the changes of other parameters. It is better to compare successive 2 elections in order to estimate the impact of "Δpm," because the difference between "constant*" and "constant" is considered to be minimum when the interval time between two elections is minimum.

Thus a very rough estimation of the expressive aspect of voting behaviour might be made through a comparison of the constant terms of the successive two elections, with one being ordinary and another being extraordinary election under a strong political impact. In the case of 1967 election the difference of the turnout represented by the constant terms between 1962 and 1967 election is 5.4% and that between 1967 and 1971 is 5.1%. Thus, on

average, 5.2% difference in turnout is observed between the politically highly mobilised and ordinary elections. Similarly, the differences are 4.4% and 4.3% in the 1977 and 1984 elections. These differences may be considered to be effects of the motivational political impact coming out through expressive psychological mechanism.

It is no doubt true that the widespread agony caused by the economic failure in the 1967 election, the anger and antipathy against the state of emergency in the 1977 election, and the sympathy and anger for the sudden death of the late Indira Gandhi in the 1984 election attracted a large number of people who wanted to express their emotions and passion. However, this calculation is based on the thinking that the 1962, 1971, 1980, and 1989 elections were "ordinary" ones, which is not a completely acceptable hypothesis. Therefore, the differences in turnout brought about by the strong political impacts examined can only be seen as rough estimations.

Another way of measuring the impact of strong political mobilisation is to compare two groups of samples in an election, one being the samples with strong political motivational impact, and another being those without strong impact. There are no Lok Sabha elections suiting this condition except the 1991 election. In the election the former Prime Minister, Rajiv Gandhi, was assassinated at the first phase of the election. As a result of that, voting behaviours of the people after the assassination were considered to be affected by the impact. In particular, turnouts in those constituencies were considered to be raised by the psychological impact. It is possible to measure the impact on turnouts by comparing two groups of constituencies. This cross-sectional comparison is expected to yield more accurate estimation of the political motivational impact than the simple comparison of the successive two elections conducted above. It is because the context or bases of comparison is, by and large, common in the case of cross-sectional comparison. It can be, therefore, assumed that most of the parameters are basically the same between the two sample groups.

In order to fulfil this assumption in approximation, it would be desirable that only those States which contain the two groups of samples should be selected for analysis, so that other conditions might be as equal as possible. In the 1991 election, there were five States suitable for this condition, that is, Andhra Pradesh, Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh. In these States, there were 117 constituencies out of 246 where elections were conducted after the Rajiv's assassination. Impact of the assassination would be quantitatively estimated by measuring the increase of turnout of the 117 constituencies in comparison to the remaining 129 constituencies. In order to

estimate the impact, a dummy variable representing the 117 constituencies is used in regression analysis. The data of dummy variable based on the electoral constituency is adjusted to the Bhalla and Singh's district based data by using the same procedure of proportional allocation explained in the section 2 of Chapter 2. The modelling for estimation is as follows.

In order to estimate the impact of Rajiv Gandhi assassination, we can add a dummy variable "d" which represents the impact of the assassination. In (2-13), "$\Delta PM_k + d$" is to be substituted in place of "ΔPM_k." We also attach the suffix "#" in each variable and parameter in order to specify the election of the Rajiv Gandhi assassination. Then;

$$
\begin{aligned}
\overline{V}_{k\#} = {}& a_{1\#}{\cdot}\Delta R_{k\#} + a_{2\#}{\cdot}(\Delta PM_{k\#} + d) + a_{3\#}{\cdot}\Delta SE_{k\#} + b_{4\#}{\cdot}\Delta R_{k\#}{\cdot}(\Delta PM_{k\#} + d) + \\
& b_{5\#}{\cdot}\Delta R_{k\#}{\cdot}\Delta SE_{k\#} + b_{6\#}{\cdot}(\Delta PM_{k\#} + d){\cdot}\Delta SE_{k\#} + \text{constant}_\# + \text{error} \\
= {}& a_{1\#}{\cdot}\Delta R_{k\#} + a_{2\#}{\cdot}\Delta PM_{k\#} + a_{3\#}{\cdot}\Delta SE_{k\#} + b_{4\#}{\cdot}\Delta R_{k\#}{\cdot}\Delta PM_{k\#} + \\
& b_{5\#}{\cdot}\Delta R_{k\#}{\cdot}\Delta SE_{k\#} + b_{6\#}{\cdot}\Delta PM_{k\#}{\cdot}\Delta SE_{k\#} + (a_{2\#} + b_{4\#}{\cdot}\Delta R_{k\#} + \\
& b_{6\#}{\cdot}\Delta SE_{k\#}){\cdot}d + \text{constant}_\# + \text{error}
\end{aligned}
$$

Here we would like to further consider the difference of the turnout between two elections.

$$
\begin{aligned}
\overline{V}_{k\#} - \overline{V}_k = {}& (a_{1\#}{\cdot}\Delta R_{k\#} - a_1{\cdot}\Delta R_k) + (a_{2\#}{\cdot}\Delta PM_{k\#} - a_2{\cdot}\Delta PM_k) + (a_{3\#}{\cdot}\Delta SE_{k\#} - \\
& a_3{\cdot}\Delta SE_k) + (b_{4\#}{\cdot}\Delta R_{k\#}{\cdot}\Delta PM_{k\#} - b_4{\cdot}\Delta R_k{\cdot}\Delta PM_k) + \\
& (b_{5\#}{\cdot}\Delta R_{k\#}{\cdot}\Delta SE_{k\#} - b_5{\cdot}\Delta R_k{\cdot}\Delta SE_k) + (b_{6\#}{\cdot}\Delta PM_{k\#}{\cdot}\Delta SE_{k\#} - \\
& b_6{\cdot}\Delta PM_k{\cdot}\Delta SE_k) + (a_{2\#} + b_4{\cdot}\Delta R_{k\#} + b_6{\cdot}\Delta SE_{k\#}){\cdot}d + (\text{constant}_\# - \\
& \text{constant}) + \text{error} \\
= {}& (a_{1\#} - a_1{\cdot}\Delta R_k/\Delta R_{k\#}){\cdot}\Delta R_{k\#} + (a_{2\#} - a_2{\cdot}\Delta PM_k/\Delta PM_{k\#}){\cdot}\Delta PM_{k\#} + \\
& (a_{3\#} - a_3{\cdot}\Delta SE_k/\Delta SE_{k\#}){\cdot}\Delta SE_{k\#} \\
& + \{b_{4\#} - b_4{\cdot}(\Delta R_k{\cdot}\Delta PM_k)/(\Delta R_{k\#}{\cdot}\Delta PM_{k\#})\}{\cdot}\Delta R_{k\#}{\cdot}\Delta PM_{k\#} \\
& + \{b_{5\#} - b_5{\cdot}(\Delta R_k{\cdot}\Delta SE_k)/(\Delta R_{k\#}{\cdot}\Delta SE_{k\#})\}{\cdot}\Delta R_{k\#}{\cdot}\Delta SE_{k\#} \\
& + \{b_{6\#} - b_6{\cdot}(\Delta PM_k{\cdot}\Delta SE_k)/(\Delta PM_{k\#}{\cdot}\Delta SE_{k\#})\}{\cdot}\Delta PM_{k\#}{\cdot}\Delta SE_{k\#} \\
& + a_{2\#}{\cdot}d + b_{4\#}{\cdot}\Delta R_{k\#}{\cdot}d + b_{6\#}{\cdot}\Delta SE_{k\#}{\cdot}d + (\text{constant}_\# - \text{constant}) \\
& + \text{error}
\end{aligned}
$$

In this equation, all the terms except "$a_{2\#}{\cdot}d$," "$b_{4\#}{\cdot}\Delta R_{k\#}{\cdot}d$," and "$b_{6\#}{\cdot}\Delta SE_{k\#}{\cdot}d$" are considered to be much smaller if the two elections conducted at different times are "similar." In the similar elections, "$a_{1\#}$" and "$\Delta R_{k\#}$," for example, would be approximately the same as "a_1" and "ΔR_k" respectively. Then "$a_{1\#}{\cdot}\Delta R_{k\#} - a_1{\cdot}\Delta R_k$" would be very small compared to "$a_{2\#}{\cdot}d$, $b_{4\#}{\cdot}\Delta R_{k\#}{\cdot}d$, and $b_{6\#}{\cdot}\Delta SE_{k\#}{\cdot}d$". The same thing can be said concerning other terms. This is an important, because even if there are important

explanatory variables which we do not know and, therefore, cannot be inputted in the equation, the influence of the unknown variables is considered to be much smaller in estimating "$a_{2\#} \bullet d$."[7]

If we assume that those interaction terms, except for "$\Delta R_{k\#} \bullet d$," and "$b_{6\#} \bullet \Delta SE_{k\#} \bullet d$," are small enough to be ignored vis-à-vis other terms, and if we further assume that "$\Delta R_k / \Delta R_{k\#}$," "$\Delta PM_k / \Delta PM_{k\#}$," "$\Delta SE_k / \Delta SE_{k\#}$," are, by and large, constant, then;

$$\overline{V}_{k\#} - \overline{V}_k \approx c_1 \bullet \Delta R_{k\#} + c_2 \bullet \Delta PM_{k\#} + c_3 \bullet \Delta SE_{k\#} + D_{Rajiv} \bullet d + b_{4\#} \bullet \Delta R_{k\#} \bullet d +$$
$$b_{6\#} \bullet \Delta SE_{k\#} \bullet d + \text{constant}_{\#c} + \text{error} \qquad (4\text{-}3)$$

where;
$c_1 = a_{1\#} - a_1 \bullet \Delta R_k / \Delta R_{k\#}$
$c_2 = a_{2\#} - a_2 \bullet \Delta PM_k / \Delta PM_{k\#}$
$c_3 = a_{3\#} - a_3 \bullet \Delta SE_k / \Delta SE_{k\#}$
$D_{Rajiv} = a_{2\#}$
$\text{constant}_{\#c} = \text{constant}_\# - \text{constant}$

In the actual statistical estimation, the effects of "d," namely, "D_{Rajiv}" is estimated in relation to other possibly important variables in the categories of "$\Delta PM_{k\#}$" and "$\Delta SE_{k\#}$." In order to identify the important explanatory variables among many, stepwise regression (basically forward selection method) is applied.[8] In the estimation of the parameters, it is anticipated that "c_2" and "c_3" would be very small or statistically not significant because the difference between $a_{1\#}$ and a_1, or, $a_{3\#}$ and a_3 is very small if two elections are conducted in short span of time. In order to fulfil this condition in approximation, the data of the 1989 election as control is to be utilised because 1989 election is the nearest election to the 1991 election.

Table IV-6 is the result of stepwise regression. The impact of Rajiv Gandhi assassination on turnout is statistically significant and it is estimated that the impact raised turnout by 2.8 percent in the five States. As expected, all the socio-economic development related variables are not selected as significant variables. But the dummy variables representing Uttar Pradesh and Bihar are selected. It can be that the political motivational psychological structure based on the regional difference is changeable even in short span of time and therefore important in order to explain the turnout change from the 1989 to 1991 election. And Non-Hindu population is also selected, which is considered to show that the political motivational psychological structure based on the difference of religion also can be changeable in short span of time.

Table IV-6

Impact of Rajiv Gandhi Assassination on Turnout in the Andhra Pradesh, Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh: Stepwise Regression Analysis

Dependent Variable		T1991-T1989		N=146	R^2=0.649		
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		-11.384	.490		-23.208	.000	
UP	Uttar Pradesh	5.721	.634	.526	9.024	.000	1.366
BI	Bihar	7.166	.964	.402	7.431	.000	1.175
d	Rajiv assassination dummy	2.833	.548	.263	5.173	.000	1.036
NH91	Non-Hindu	.142	.034	.245	4.200	.000	1.365

Notes:

Explanatory Variables to be selected: *d* (=Dummy for district where election was conducted after Rajiv's assassination), FS1991(=Two Parties Gap), L-f91(=Literacy factor), F-f91 (=Fertiliser factor), U-f91 (=Urbanisation factor), YH-f91 (=Agricultural Yield factor), LFM-f91 (=Female-Male Literacy Equality factor), CAN1991 (=Number of Candidates per one million electorate), NH91 (=% of Non-Hindu population), SC91 (=% of Scheduled Castes), ST91 (=% of Scheduled Tribes), CW91 (=% of Cultivators / main workers), AW91 (=% of Agricultural Labourers / main workers), AP (=Dummy for Andhra Pradesh), BI (=Dummy for Bihar), MP (=Dummy for Madhya Pradesh), RA (=Dummy for Rajasthan), UP (=Dummy for Uttar Pradesh), INC91 (=% of votes polled by Indian National Congress), CP91 (=% of total votes polled by CPI and CPI (Marxist)), and BJP91 (=% of votes polled by BJP).

Anyway, the impact of the 1991 Rajiv Gandhi assassination on turnout is estimated to be smaller than those impacts in the of 1967, 1977, and 1984 elections.

2. Voter Turnout in the Socio-Economic and Political Context

The facilitating or conditioning effects of socio-economic development related variables have been examined above. Stable and significant correlations are discerned, and the causal relationship between the turnout and each socio-economic variable as well as the process of change over the five decades is considered. The importance of the socio-economic variables as a mobilisational channel is emphasised. In addition, the effects of political

motivation caused by strong political events were examined in relation to the socio-economic development variables.

Although the coefficients of determination for the multiple regression explaining the turnout are sufficiently high, they can only explain around 40% of the variance at best, and their explanatory power has been declining in the process of socio-economic development. It is quite obvious that other variables must be found in order to get a better explanation of the mechanism of electoral participation. Several variables of both political motivation (*PM*) and socio-economic environment (*SE*) can be included in the analysis. I would like to discern significant variables based on the simple (2-10) model, which ignores interaction terms.

On variables of political motivation, excluding the strong political impacts examined above, there is, for example, a party competition variable based on the model that the competition between parties mobilises voters to polling stations, raising the turnout. As is theoretically discussed earlier, the electoral competition between major parties may increase turnout. In particular, if the popularities of the two major parties or candidates are at a similar level, the competition will be more intense, and this is likely to result in a higher turnout. To examine this hypothesis, the percentage gap between the votes of the winner and the runner-up is correlated with turnout.

There may be another aspect to electoral competitiveness. It can be extensive in the sense that more candidates enter the electoral arena. The number of candidates has basically risen over the five decades, with the exception of elections when institutional changes or an extreme "tightening" of party system occurred. Additional candidates can be expected to mobilise different strata of people, who hitherto did not participate. This additional participation results in an increase in turnout. We will examine this aspect as well. There may also be cases where a particular political party may have high mobilisational capacity. The two Communist Parties, for example, are often considered to have the organisational capacity to effectively mobilise the lower strata of the populace. Jana Sangh before 1977 and the BJP after 1980 are also said to be organised parties with active party workers who can mobilise the grassroots populace.

Concerning other socio-economic environment variables, some socio-economic demographic ones may have some importance on electoral participation. The competitive socio-political atmosphere between the majority Hindu and minorities, such as Muslims, Christians, and Sikhs, may raise the turnout in the competing communities. STs may have a tendency toward lower participation.

The theory as to why people participate in elections is far from complete,

from any point of view. And every country has, no doubt, particular reasons explaining electoral participation due to the factors peculiar to it, in terms of social stratification, culture, ethnicity, etc. The search for complex factors, therefore, cannot but include inductive methods. In the above section, a deductive method is adopted basicaly. Regression models are first specified based on the socio-economic environment model and political motivation model, and the degree of validity of the model is examined. In this section, the inductive method is used to identify the important explanatory variables, as a means to make up for the limitations of the deductive way of research. Based on this consideration, several independent variables, which are anticipated to have some correlation with turnout, are examined and significant variables are added to the model equation.

Generally speaking, it is better to compare all the combinations of variables in order to select the "best" combination of explanatory variables based on certain statistical criteria.[9] But in practice, a unique best model cannot be adopted because it is virtually impossible to prepare "all" the "genuine" explanatory variables. Rather, it should be considered that any regression coefficient in any specific model will have some degree of bias. It is also not practical to make comparisons of all the possible combinations of variables because of the huge amount of computation that would be required. For these reasons, a more simplified method, namely, the stepwise regression method is applied to select the significant explanatory variables from among the various variables. Backward elimination might be better procedure, as long as there are no severe cases of multicollinearity. But in reality, the problem of multicollinearity cannot be ignored in the first several steps of the backward elimination of the variable-set used in this study. Consequently, the stepwise regression method is adopted. Although this method might not give the "best" model, it provides a better combination of explanatory variables within tolerable limits. The interpretation of the result of the stepwise regression should be made considering these limitations.

The usefulness of the stepwise regression is basically conditioned by the selection of original variables which are to be examined. The original variables are the orthogonally rotated 5 socio-economic variables made in the previous section, the "Two Parties Gap" (Difference of percentage votes polled by the winner and runner-up), and other variables already shown in Table II-4.

First, the "First and Second Votes Gap" (=FS) is included in order to examine the effect of party competition. The working hypothesis is that the smaller the gap between the winner and runner-up, the more competitive the

electoral mobilisation, resulting in higher turnout. This variable, in a sense, indicates the "depth" of electoral competitiveness. On the other hand, as explained earlier, electoral competitiveness may be affected by the number of candidates. The greater the number of candidates, the wider the social stratum of people to be mobilised, and hence the higher turnout. This variable may indicate the "width" of electoral competitiveness. Both the competitive variables will be included in the analysis.

We originally planned to include the percentage of votes polled by major parties. It was expected that parties with effective organisation and active workers, like CPI(M), CPI, and Jana Sangh as well as the BJP, might raise the voter turnout. On the other hand, the so-called centrist parties like Congress or the Janata Party in 1977 and 1980 may have had some influence on changes in turnout, and we examined them. However, in the end we decided to omit these party variables from the regression. The problem in dealing with party votes is that there are many constituencies where the parties did not field candidates. Naturally, there would be samples in the data set which included constituencies where the party did not field its candidate. It would then be very difficult to accurately evaluate the "genuine" mobilisational effect of the party even if the party variable was selected in the stepwise regression process. This problem is particularly troublesome when trying to estimate the effect of large and comprehensive parties like Congress. This is because, for one thing, the very comprehensiveness of the party makes it difficult to discern mobilisational effects of the party in constituencies where a candidate is fielded, from the non-mobilisational effect of the party in constituencies where no candidate is fielded. In addition, the internal dynamics of comprehensive parties in elections tend to be very complex. There are factional fights, and there are differences between candidates in terms of their manpower and money power. All these complex factors affect the mobilisational abilities of candidates.

In the case of small parties such as CPI and CPI(M), or, Jana Sangh before 1977, the mobilisational effects are relatively easier to infer. Simple correlations with turnout are higher than those of Congress.[10] However, the problem with non-candidate constituencies still exists, making it difficult to infer the effect of the parties. For these reasons, we decided to drop the party vote percentage as possible explanatory variable from the stepwise regression.

Second, other demographic variables such as the percentage of Non-Hindu population, percentage of SCs and STs, and the percentage of agricultural labourers per main workers, are put into the stepwise regression. Agricultural labourer is an important variable related to the

socio-economic structure of rural society. However, the variable of the percentage of cultivators per main workers was dropped from the stepwise regression. This is because, in many cases, information on the percentages of cultivators is redundant in relation to the percentage of agricultural labourers per main workers and the percentage of urbanisation. The sum of the percentage of cultivators plus agricultural labourers per main workers ranges from 63 to 72 percent in the 12 elections. Moreover, if the main workers in urban areas are added, the total percentage may reach more that 80 to 90 percent. It follows that the nearly linear dependent relation among the three variables is brought into the stepwise regression, which is not desirable. The redundant variable has to be removed. A preliminary stepwise regression was made to check this, and we decided to drop the percentage of cultivators per main workers.[11]

The Non-Hindu population, which represents the ratio of minorities against the majority Hindus, is a very important variable in considering the politics of religion in India. One of the most important factors leading to the partition in 1947 was religion. The relation between politics and religion has been a very delicate issue in India. There is no doubt that the resurgence of the BJP after the 1989 election and the flourishing of "Hindutva"[12] ideology, especially in the northern and western parts of the country by the "Sangh Parivar,"[13] have sensitised the nexus between religious and politics. It is worth examining the relevance of this variable in relation to electoral participation.

The percentages of SCs and STs may also be important demographic variables in relation to turnout. ST population tends to be concentrated in a particular geographical area, making it easy to identify the relevance of their presence in the turnout in an area-based data set. Compared to the STs, the effects of SCs are much more difficult to interpret. This is because SC population tends to be geographically dispersed and relatively more evenly distributed. Hence, it is difficult to separately interpret their effect on turnout, even if this variable is selected in the stepwise regression.[14] However, it must be noted that the social and political importance of SCs in elections cannot be denied from individual-based survey data such as the series of survey-based research by CSDS.

The last group of independent variables is the dummy variables representing States. Each State under the Indian union is a very compact political unit, and this has been especially true since the language-based reorganisation of boundaries in 1956, and the bifurcation of Bombay and Punjab States in 1960 and 1966 respectively. It is quite natural that most regional parties now are based in particular States, which are relatively

homogeneous units in terms of culture and society. The Telugu Desam Party in Andhra Pradesh, Asom Gana Parishad in Assam, and both the AIADMK and DMK in Tamil Nadu, are regional parties which grew in the peculiar socio-cultural environments of their States. It is essential to take into consideration the peculiarity of each State in the regression analysis. State dummy variable is considered to represent the uniqueness of the State in relation to turnout. The uniqueness would be rooted in the political motivational aspect in the society and culture of the State.

The stepwise regression analyses are carried out and statistically significant independent variables are selected. The P value based on the t-value for the taking-in of independent variable is fixed at 0.05, and that for the taking-out is fixed at 0.10. In order to improve the estimation of regression coefficients, the problem of heteroscedasticity is dealt with by the approximate "Feasible Generalised Least Square" estimation. The factor which appears most likely to amplify the heteroscedasticity is the category of State. As shown in Figure III-5, for example, the patterns and levels of turnout differ widely between States. And as mentioned just above, the States are relatively homogeneous political entities based on a relatively common culture and social base. There is, therefore, sufficient reason for the heteroscedasticity of the error terms of the regression explaining the turnouts to be closely related to differences between States. Although it is impossible to estimate the "genuine" variance of the error term for each sample, a rough estimation of the variance was made in the following way:

1)   A preliminary regression analysis is first made with the independent variables of "Literacy," "Agricultural Yield," and "Urbanisation" for each State samples, and the standard error is calculated for each State. Generally speaking, all of the "genuinely" relevant variables should be included in the preliminary regression in order to get a less biased standard error. However, the specification of a "genuine" model is impossible. The second best choice is to include the three characteristic variables, which are confirmed as important variables explaining turnout.

2)   The Weighted Least Squares method is applied, with the weights being the reciprocals of the standard errors for each State samples, which are calculated in the above step.

Although, theoretically, the complete orthogonality of the correlation between the five socio-economic development related variables is to be lost in the process of the Feasible Generalised Least Square estimation, still

nearly orthogonal relations are observed between them. Feasible Generalised Least Square estimation gives a better estimation of the Regression Coefficient, and as a result it is expected that the accuracy of the stepwise selection process will be improved. The results are shown in Table IV-7.

No cases of severe multicollinearity are observed in any of the elections.[15] According to Table IV-7, the maximum VIF of 2.626 occurs in the 1984 election in the case of the State dummy variable of Kerala, which is not very high. In most cases the VIFs are less than 2.0.[16] This is not considered to be a serious case of multicollinearity, which would be detrimental to the interpretation of the results.

It should be pointed out that the coefficients of determination are improved a great deal. The R^2s are 0.678, 0.821, 0.775, 0.638, 0.741, 0.646, 0.801, 0.825, 0.821, 0.854, 0.714, and 0.765, respectively from the 1957 to the 1999 elections. The variables which contribute most are obviously the State dummy variables, showing the importance of the peculiarity of State politics.

Socio-Economic and Demographic Variables: Socio-Economic Environment

For variables related to socio-economic development, approximately the same patterns as shown in the previous section are observed. The basic importance of Literacy as a factor raising turnout is ascertained, and the declining trend of its explanatory power is obvious in the series of sub-tables in view of the change in the *t*-values. However, the declining trend appears more clearly. Literacy is not selected after the 1991 election. In the analysis of the previous section, Literacy is always statistically significant at the 0.001 level. The inclusion of other variables has made the decreasing trend of its explanatory power more clear.

The correlations of the two economic variables with turnout also show a similar pattern to the previous section. But the relative importance between the two variables shows some difference. The result of the stepwise regression shows that Agricultural Yield is always selected. On the other hand, Fertiliser Consumption is not selected in 1957 and 1998 as a significant variable, but it is clearly more important than Agricultural Yield in the 1971, 1980, 1984, 1996 and 1999 elections. In the analysis of the previous section, Fertiliser is clearly a more effective predictor than Agricultural Yield from the 1962 to 1980 elections. I have argued that this is due to the mobilisational effect of the spreading Green Revolution.

Although both variables are related to agricultural economic activities,

Agricultural Yield is a more comprehensive variable in the sense that it represents the overall level of rural economic activities, whereas Fertiliser Consumption forms a part of it. It is natural that the influence of Agricultural Yield is always identified as statistically significant. It is also natural that Fertiliser Consumption has emerged after 1970s as important explanatory variable.

Urbanisation also shows basically the same pattern but in the more attenuated form. It contributed positively to increasing turnout until the 1962 election. But from the 1967 to 1984 election, its influence on turnout was negligible. Then beginning with the 1989 election, the effect has been clearly reversed. Urbanisation shows a clear effect of reducing the level of the turnout from then on.

Finally, Female-Male Literacy Equality, however, does not show a similar pattern to the previous section. The statistical significance is identified only in the case of the 1996 elections and the sign of the regression coefficient has the same sign as expected. Female-Male Literacy Equality is, by and large, not an effective explanatory variable. Although the improvement of the specification of the model or using another type of the regression might show the significance, Female-Male Literacy Equality should be considered to be basically unimportant in explaining turnout.[17]

At any rate, four out of five of the socio-economic development related variables demonstrate a basically stable correlation with turnout, even if other statistically significant variables are added. These four socio-economic development related variables are basically robust, and in that sense the "Socio-Economic Environment Channel" model can be firmly supported.

For the demographic variables, it should be noted again that interpretations of the results must be made carefully, while taking into consideration the feature of the distribution of samples of the target population. The interpretations of the Non-Hindu population and ST population ratios are somewhat easier than that of the SC population variable, as explained before. On the contrary, it is expected that it will be difficult to select the SC population variable in all the stepwise regressions due to its flat sample distribution.[18] The results of the stepwise regression show that this expectation is true. However, this does not mean that it is meaningless to use SCs as a politically specific grouping. Some individual-survey based data, for example, shows that the turnout of SCs is clearly higher than average in the 1999 election.[19] The effect of SCs is better measured on the basis of individual-based survey data, though, as is discussed before, markers of personal socio-economic situation such as SCs might be less significant as explanatory variable.

Table IV-7

Analysis of Turnout from 1957 to 1999: Stepwise Regression Analysis

Dependent Variable		T1957			N = 266	R² = 0.678	
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		47.625	0.801		59.465	0.000	
L-f57	Literacy	5.116	0.390	0.510	13.116	0.000	1.246
YH-f57	Agricultural Yield	2.150	0.417	0.215	5.151	0.000	1.440
U-f57	Urbanisation	0.899	0.407	0.085	2.208	0.028	1.220
NH57	Non-Hindu	0.136	0.030	0.187	4.530	0.000	1.408
AS	Assam	-10.467	2.822	-0.135	-3.709	0.000	1.096
BI	Bihar	-8.473	1.567	-0.200	-5.409	0.000	1.123
HA	Haryana (The area to become Haryana State)	13.553	2.649	0.182	5.117	0.000	1.045
MP	Madhya Pradesh	-6.398	1.201	-0.221	-5.325	0.000	1.426
OR	Orissa	-14.950	1.543	-0.386	-9.690	0.000	1.310
RA	Rajasthan	-3.922	1.493	-0.107	-2.627	0.009	1.370
TA	Tamil Nadu (Madras)	-6.385	1.422	-0.185	-4.489	0.000	1.399
WB	West Bengal	-5.722	1.757	-0.117	-3.257	0.001	1.065

Dependent Variable		T1962			N = 274	R² = 0.821	
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		54.209	1.190		45.547	0.000	
L-f62	Literacy	3.264	0.373	0.276	8.749	0.000	1.427
YH-f62	Agricultural Yield	1.926	0.359	0.166	5.370	0.000	1.373
F-f62	Fertiliser Consumption	1.281	0.351	0.110	3.647	0.000	1.310
U-f62	Urbanisation	1.085	0.359	0.090	3.021	0.003	1.274
NH62	Non-Hindu	0.150	0.024	0.238	6.341	0.000	2.033
ST62	Scheduled Tribes	-0.054	0.024	-0.072	-2.228	0.027	1.518
FS1962	Two Parties Gap	-0.090	0.039	-0.068	-2.277	0.024	1.293
AP	Andhra Pradesh	6.758	1.840	0.110	3.672	0.000	1.295
AS	Assam	-8.215	1.785	-0.131	-4.603	0.000	1.164
BI	Bihar	-9.311	1.444	-0.185	-6.449	0.000	1.182
HA	Haryana (The area to become Haryana State)	9.489	2.001	0.138	4.742	0.000	1.220
MP	Madhya Pradesh	-7.355	1.166	-0.216	-6.306	0.000	1.680
OR	Orissa	-28.997	1.893	-0.457	-15.321	0.000	1.277
TA	Tamil Nadu (Madras)	8.705	1.650	0.168	5.276	0.000	1.456
UP	Uttar Pradesh	-4.280	1.114	-0.138	-3.844	0.000	1.843
WB	West Bengal	-7.432	1.707	-0.121	-4.352	0.000	1.107

(continued)

Dependent Variable		T1967			N=276	R²=0.775	
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		60.228	0.614		98.045	0.000	
L-f67	Literacy	2.748	0.331	0.295	8.308	0.000	1.463
YH-f67	Agricultural Yield	2.075	0.283	0.234	7.322	0.000	1.188
F-f67	Fertiliser Consumption	1.509	0.371	0.181	4.073	0.000	2.285
ST67	Scheduled Tribes	-0.083	0.025	-0.117	-3.361	0.001	1.418
AP	Andhra Pradesh	4.888	1.385	0.119	3.531	0.000	1.321
AS	Assam	-7.861	1.526	-0.169	-5.151	0.000	1.259
BI	Bihar	-10.606	1.804	-0.180	-5.879	0.000	1.092
HA	Haryana	9.475	1.436	0.210	6.599	0.000	1.183
MP	Madhya Pradesh	-4.763	1.115	-0.146	-4.271	0.000	1.362
OR	Orissa	-18.950	1.851	-0.323	-10.239	0.000	1.154
PU	Punjab	4.194	1.393	0.130	3.012	0.003	2.174
TA	Tamil Nadu	8.382	1.520	0.186	5.513	0.000	1.328
UP	Uttar Pradesh	-7.076	1.072	-0.257	-6.598	0.000	1.764

Dependent Variable		T1971			N=279	R²=0.638	
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		56.225	0.554		101.522	0.000	
L-f71	Literacy	2.185	0.403	0.221	5.420	0.000	1.229
YH-f71	Agricultural Yield	0.877	0.380	0.089	2.307	0.022	1.104
F-f71	Fertiliser Consumption	1.357	0.340	0.165	3.996	0.000	1.256
ST71	Scheduled Tribes	-0.107	0.028	-0.165	-3.832	0.000	1.373
AS	Assam	-6.635	2.113	-0.123	-3.141	0.002	1.130
BI	Bihar	-8.459	2.187	-0.146	-3.868	0.000	1.047
HA	Haryana	6.551	1.795	0.138	3.651	0.000	1.058
MP	Madhya Pradesh	-5.774	1.322	-0.176	-4.367	0.000	1.197
OR	Orissa	-14.384	1.875	-0.306	-7.672	0.000	1.175
TA	Tamil Nadu	9.060	1.657	0.217	5.469	0.000	1.164
UP	Uttar Pradesh	-10.034	1.156	-0.358	-8.679	0.000	1.250

Dependent Variable		T1977		N=279	R²=0.741		
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		53.149	1.090		48.770	0.000	
L-f77	Literacy	3.920	0.320	0.460	12.242	0.000	1.452
YH-f77	Agricultural Yield	2.462	0.315	0.276	7.828	0.000	1.277
F-f77	Fertiliser Consumption	2.264	0.386	0.221	5.862	0.000	1.466
NH77	Non-Hindu	0.100	0.028	0.138	3.590	0.000	1.527
ST77	Scheduled Tribes	-0.055	0.023	-0.086	-2.419	0.016	1.308
AW77	Agricultural Labourers	0.111	0.036	0.127	3.109	0.002	1.727
AP	Andhra Pradesh	3.736	1.327	0.100	2.815	0.005	1.307
AS	Assam	-4.644	1.983	-0.081	-2.341	0.020	1.241
HA	Haryana	14.777	1.693	0.287	8.730	0.000	1.108
KA	Karnataka	2.657	1.290	0.067	2.060	0.040	1.099
OR	Orissa	-14.000	1.530	-0.307	-9.151	0.000	1.158
RA	Rajasthan	5.432	1.257	0.168	4.321	0.000	1.554

Dependent Variable		T1980		N=273	R²=0.646		
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		52.250	1.203		43.428	0.000	
L-f80	Literacy	2.498	0.384	0.288	6.513	0.000	1.432
YH-f80	Agricultural Yield	1.587	0.355	0.176	4.474	0.000	1.136
F-f80	Fertiliser Consumption	1.975	0.310	0.261	6.371	0.000	1.231
ST80	Scheduled Tribes	-0.072	0.024	-0.128	-2.964	0.003	1.375
AW80	Agricultural Labourers	0.110	0.039	0.140	2.804	0.005	1.823
BI	Bihar	-4.275	1.789	-0.093	-2.389	0.018	1.108
HA	Haryana	8.171	1.679	0.193	4.868	0.000	1.158
OR	Orissa	-10.506	1.658	-0.248	-6.336	0.000	1.124
RA	Rajasthan	5.086	1.410	0.188	3.607	0.000	1.991
TA	Tamil Nadu	4.353	1.709	0.101	2.547	0.011	1.147
UP	Uttar Pradesh	-5.235	1.105	-0.227	-4.739	0.000	1.690
WB	West Bengal	13.802	1.512	0.347	9.128	0.000	1.058

Dependent Variable		T1984			N=279	R²=0.801	
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		60.123	0.969		62.020	0.000	
L-f84	Literacy	1.928	0.385	0.220	5.005	0.000	2.536
YH-f84	Agricultural Yield	0.831	0.332	0.090	2.504	0.013	1.714
F-f84	Fertiliser Consumption	1.660	0.294	0.185	5.636	0.000	1.420
ST84	Scheduled Tribes	-0.080	0.021	-0.130	-3.837	0.000	1.519
AW84	Agricultural Labourers	0.062	0.028	0.075	2.180	0.030	1.546
FS1984	Two Parties Gap	-0.073	0.028	-0.089	-2.569	0.011	1.584
AP	Andhra Pradesh	6.547	1.204	0.192	5.439	0.000	1.637
AS	Assam	17.848	1.595	0.370	11.191	0.000	1.437
GU	Gujarat	-4.030	1.210	-0.105	-3.331	0.001	1.297
HA	Haryana	4.937	1.609	0.090	3.069	0.002	1.118
KA	Karnataka	3.372	1.423	0.073	2.370	0.018	1.230
KE	Kerala	8.857	2.157	0.184	4.106	0.000	2.626
OR	Orissa	-4.042	1.335	-0.091	-3.028	0.003	1.200
TA	Tamil Nadu	6.497	1.446	0.151	4.493	0.000	1.477
UP	Uttar Pradesh	-4.230	0.909	-0.167	-4.654	0.000	1.693
WB	West Bengal	15.434	1.203	0.416	12.832	0.000	1.381

Dependent Variable		T1989			N=272	R²=0.825	
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		59.464	0.836		71.166	0.000	
L-f89	Literacy	1.540	0.373	0.161	4.127	0.000	2.222
YH-f89	Agricultural Yield	1.732	0.300	0.174	5.774	0.000	1.324
F-f89	Fertiliser Consumption	1.246	0.347	0.132	3.586	0.000	1.985
U-f89	Urbanisation	-0.647	0.299	-0.062	-2.168	0.031	1.203
ST89	Scheduled Tribes	-0.125	0.022	-0.181	-5.786	0.000	1.438
AW89	Agricultural Labourers	0.058	0.029	0.065	2.003	0.046	1.534
AP	Andhra Pradesh	6.558	1.229	0.175	5.335	0.000	1.577
GU	Gujarat	-6.074	1.504	-0.112	-4.040	0.000	1.119
KA	Karnataka	3.671	1.184	0.087	3.101	0.002	1.157
KE	Kerala	10.881	1.983	0.201	5.489	0.000	1.956
MP	Madhya Pradesh	-2.698	0.971	-0.082	-2.778	0.006	1.268
PU	Punjab	-3.769	1.552	-0.084	-2.428	0.016	1.736
UP	Uttar Pradesh	-11.607	0.889	-0.464	-13.049	0.000	1.856
WB	West Bengal	16.781	1.156	0.421	14.518	0.000	1.230

Dependent Variable		T1991			N=265	R²=0.821	
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		45.202	0.715		63.224	0.000	
YH-f91	Agricultural Yield	0.954	0.376	0.089	2.534	0.012	1.706
F-f91	Fertiliser Consumption	0.963	0.407	0.081	2.367	0.019	1.635
U-f91	Urbanisation	-0.904	0.320	-0.082	-2.828	0.005	1.176
NH91	Non-Hindu	0.092	0.035	0.097	2.620	0.009	1.885
ST91	Scheduled Tribes	-0.087	0.021	-0.126	-4.078	0.000	1.314
AP	Andhra Pradesh	13.221	1.346	0.284	9.819	0.000	1.156
AS	Assam	23.445	2.052	0.361	11.425	0.000	1.387
BI	Bihar	9.972	1.919	0.145	5.196	0.000	1.087
HA	Haryana	16.925	1.964	0.240	8.617	0.000	1.076
KA	Karnataka	7.993	1.405	0.159	5.691	0.000	1.086
KE	Kerala	22.787	1.932	0.390	11.797	0.000	1.514
MA	Maharashtra	4.811	1.193	0.127	4.035	0.000	1.364
OR	Orissa	8.027	1.303	0.191	6.161	0.000	1.330
RA	Rajasthan	3.202	1.027	0.097	3.117	0.002	1.348
TA	Tamil Nadu	14.678	1.434	0.301	10.237	0.000	1.200
WB	West Bengal	27.238	1.340	0.616	20.330	0.000	1.274

Dependent Variable		T1996			N=279	R²=0.854	
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		56.445	1.300		43.419	0.000	
YH-f96	Agricultural Yield	1.101	0.386	0.088	2.855	0.005	1.703
F-f96	Fertiliser Consumption	1.156	0.318	0.103	3.633	0.000	1.440
U-f96	Urbanisation	-0.837	0.341	-0.066	-2.455	0.015	1.291
LFM-f96	Female-Male Literacy Equality	0.919	0.352	0.074	2.614	0.009	1.462
AW96	Agricultural Labourers	0.066	0.037	0.059	1.802	0.073	1.937
AS	Assam	16.003	1.948	0.246	8.215	0.000	1.618
GU	Gujarat	-20.671	1.372	-0.402	-15.069	0.000	1.283
HA	Haryana	10.204	2.265	0.114	4.505	0.000	1.145
KE	Kerala	9.258	1.974	0.129	4.690	0.000	1.372
MP	Madhya Pradesh	-4.914	1.132	-0.127	-4.341	0.000	1.541
MA	Maharashtra	-3.352	1.373	-0.066	-2.441	0.015	1.335
RA	Rajasthan	-12.398	1.478	-0.295	-8.386	0.000	2.231
TA	Tamil Nadu	4.945	1.440	0.095	3.435	0.001	1.383
UP	Uttar Pradesh	-12.631	1.083	-0.342	-11.658	0.000	1.553
WB	West Bengal	20.972	1.299	0.416	16.141	0.000	1.194

(continued)

Dependent Variable		T1998			N = 279	$R^2 = 0.714$	
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		60.255	1.057		57.026	0.000	
YH-f98	Agricultural Yield	0.913	0.296	0.121	3.090	0.002	1.422
U-f98	Urbanisation	-1.119	0.269	-0.147	-4.162	0.000	1.152
ST98	Scheduled Tribes	-0.063	0.019	-0.131	-3.379	0.001	1.390
CAN1998	No. of Candidates	0.271	0.117	0.104	2.319	0.021	1.848
FS1998	Two Parties Gap	-0.190	0.039	-0.176	-4.939	0.000	1.180
AP	Andhra Pradesh	4.440	1.117	0.144	3.974	0.000	1.218
BI	Bihar	2.937	1.231	0.084	2.385	0.018	1.136
HA	Haryana	5.729	1.445	0.158	3.966	0.000	1.459
KA	Karnataka	5.575	1.183	0.166	4.712	0.000	1.145
KE	Kerala	7.500	1.900	0.143	3.946	0.000	1.209
MP	Madhya Pradesh	1.851	0.883	0.084	2.097	0.037	1.482
TA	Tamil Nadu	-3.684	1.300	-0.109	-2.833	0.005	1.359
UP	Uttar Pradesh	-6.755	0.889	-0.363	-7.597	0.000	2.107
WB	West Bengal	19.014	1.110	0.627	17.126	0.000	1.239

The Non-Hindu population ratio and the Scheduled Tribes population ratio emerge as important variables from the stepwise regression. Non-Hindu includes mainly Muslims, Christians, Sikhs, etc. It is no wonder that the variable is chosen in the 1957 and 1962 elections, when the reverberation of partition remained. It is not unnatural that areas where the Non-Hindu minorities population was sizeable were more sensitive to politics, and hence had higher electoral participation when the memories of the "communal"[20] tensions had still not completely settled down. It must be noted that the higher turnout in areas with sizeable Non-Hindu populations does not automatically mean that minorities had a higher turnout. The Hindu communities in the area may well have been a factor raising the turnout. We cannot determine from aggregate level data which community has higher electoral participation. Nevertheless, the Non-Hindu population variable is useful in taking into consideration the relevance of communal factors in the election.

Since Independence religious minorities have been one of the most important support bases of Congress, because that party, with its secular ideology, was viewed as being in a position to protect minorities in the conflict-laden environment between religious communities. The higher turnout in the areas with sizeable Non-Hindu minorities population in the 1977 election does not seem to be not unnatural, because the ruling party at

Dependent Variable		T1999			N = 279	R² = 0.756	
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		54.741	0.505		108.492	0.000	
YH-f99	Agricultural Yield	0.935	0.321	0.106	2.909	0.004	1.502
F-f99	Fertiliser Consumption	0.992	0.276	0.121	3.594	0.000	1.265
U-f99	Urbanisation	-1.812	0.275	-0.206	-6.591	0.000	1.100
AP	Andhra Pradesh	12.129	1.027	0.408	11.811	0.000	1.339
AS	Assam	13.670	1.665	0.263	8.209	0.000	1.154
BI	Bihar	4.183	1.658	0.078	2.523	0.012	1.079
GU	Gujarat	-6.508	1.149	-0.183	-5.666	0.000	1.169
HA	Haryana	7.459	1.830	0.127	4.076	0.000	1.085
KA	Karnataka	12.266	1.063	0.377	11.543	0.000	1.195
KE	Kerala	13.451	2.204	0.194	6.103	0.000	1.136
MA	Maharashtra	8.412	1.109	0.252	7.587	0.000	1.238
TA	Tamil Nadu	3.381	1.299	0.092	2.603	0.010	1.389
UP	Uttar Pradesh	-2.217	0.866	-0.093	-2.560	0.011	1.487
WB	West Bengal	17.473	1.221	0.489	14.313	0.000	1.313

Notes:
1) The variables from which explanatory variables are to be selected are: L-f, YH-f, F-f, U-f, LFM-f (Development Related variables), NH, SC, ST, AW (Demographic variables), FS, CAN (Party competition variables), and AP, AS, BI, GU, HA, KA, KE, MP, MA, OR, PU, RA, TA, UP, WB (State dummy variables).
2) Estimated by Weighted Least Squares Method. The weights are the reciprocals of the standard errors for each State samples in the regression with the independent variables being "Literacy," "Agricultural Yield," and "Urbanisation."
3) P value = 0.05 for taking in independent variables; P value = 0.10 for taking out independent variables.
4) VIF = Variance Inflation Factors (for checking the multicollinearity of the concerned variable).
5) No severe multicollinearity exists for all cases in all tables.

that time was Congress and the level of politicisation of the society was high.[21] In the case of the 1991 election, it is obvious that the communal tension raised by RSS's Sangh Parivar including the BJP, and Vishwa Hindu Parishad on the Ayodhya issue was the main cause for the higher turnout in areas with sizeable non-Hindu minorities population, especially Muslim. The Ayodhya movement of the Sangh Parivar and other Hindu nationalist forces resulted in the sad event of the demolition of the Babri Masjid in December, 1992 and the subsequent communal violence and loss of many

lives. However, the communal feelings of the populace seem to have gradually decreased since the latter half of the 1990s, at least in the electoral scene, considering that the variable is not selected in the 1996, 1998 and 1999 elections.

For STs, the stepwise regression always selects this variable except for the elections of 1957, 1996, and 1999. In 1957, there are two important reasons for the variable not being selected. One reason is, probably, the effect of the two-member constituencies. In the 1957 election, 15 out of 31 seats reserved for STs were double member constituencies. In calculating the turnouts of the double member constituencies, the effect of the ST variable is likely to be attenuated. Another more important reason seems to be that the average level of turnout in the 1950s was generally low.[22] The difference between the general populace and STs in electoral participation, therefore, was less conspicuous.

In any case, it is clear that in areas where the ST population ratio was higher, turnout was lower from the 1960s until the beginning of the 1990s. The problem is whether this aggregate level statistical evidence can be considered as true for the individual voting behaviours of the ST populace. The answer seems to be positive, based on the CSDS survey data. Data from its series of individual-based surveys show a lower participatory tendency among the ST populace. However, the survey following the 1999 election shows a new trend: the difference in turnout between the ST respondents and the average is only 0.4 percent. They conclude that there was a participatory upsurge in the 1990s, as citizens from the lower strata entered the political arena.[23] Our aggregate data demonstrate basically the same phenomenon, with the exception of the 1998 election. We can safely insist that the ST populace had a lower tendency toward participation until the 1990s, but that this tendency weakened from the 1990s.

Finally, the Agricultural Labourers variable is selected from all the elections from 1977 to 1989 and in the 1996 election. The sign of the variable is positive and stable. In areas where the ratio of Agricultural Labourers per main worker is higher, the turnout tends to be higher in these elections. It is not certain whether it means higher turnout among Agricultural Labourers or not. However, it seems to be very meaningful that this variable is selected in this period, because this variable is considered to be closely related to the overall agrarian interests in the rural society. The formation of the Janata Party and its victory in the 1977 Lok Sabha elections against Indira Gandhi's Congress had an aspect of bringing agrarian economic interests to the central stage of politics in the massive way for the first time. The Janata Party was formed through a merger of the four main

opposition parties—Congress (O), Jana Sangh, Bharatiya Lok Dal and the Socialist Party—in April 1977. The Bharatiya Lok Dal,[24] led by Charan Singh, had an important function of representing agrarian interests, and its demands included calls for cheaper agricultural inputs and higher agricultural price support by the government. The invigoration of agrarian interests in politics was becoming conspicuous at the State level in the middle of the 1960s. Although the Janata Party's massive victory in 1977 was basically due to the antipathy against the repressive internal emergency by the Indira Gandhi's Congress, it was, no doubt, true that the victory had another meaning as an expression of agrarian interests on the central political stage, especially those of the middle and rich peasantry. The United Front Government, coming to power after the 1996 election victory, had the same aspect in representing agrarian interests. The political evolution of agrarian interests was based on the progress of the Green Revolution.

The process of the Green Revolution has, no doubt, destabilised social relations in rural area,[25] within which the agricultural labourer as a distinct

Figure IV-7

Estimated Average Percentages of Cultivators and Agricultural Labourers per Main Workers in Election Years
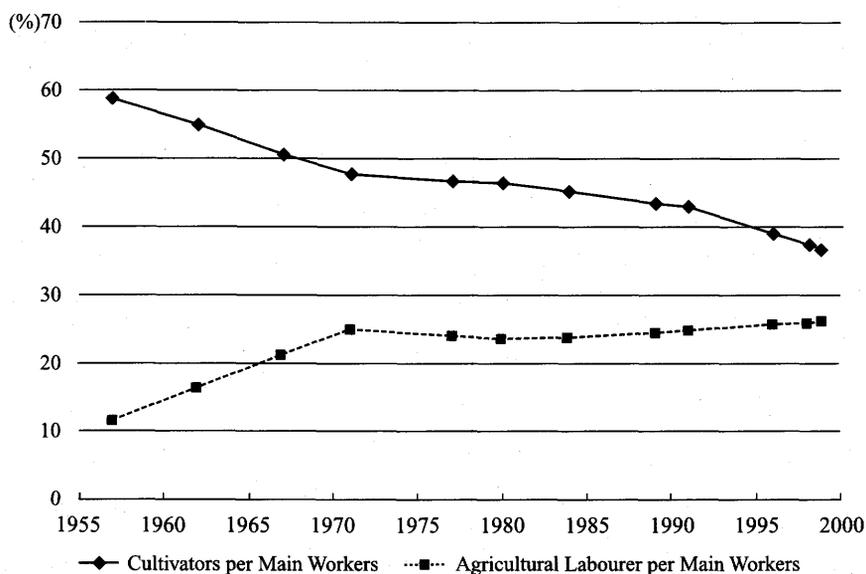
Source: Estimated by the author from decennial population Census data on the basis of Bhalla and Singh districts.

socio-political grouping, was an important element. As shown in Figure IV-7, the quantitative importance of Agricultural Labourers has not decreased, while that of Cultivators has. By contrast, the economic condition of agricultural labourers has not improved. The problem of underemployment is very acute among agricultural labourers, most of who belong to the category of casual wage labour.[26] Although political movements among them are still weak vis-à-vis the so-called, "peasant movements" or "farmer's movements" by middle class or rich farming class farmers, the possibility of a politicisation of agricultural labourers can not be ignored. This is especially so where the class movement of agricultural labourers is linked to the supports from leftist parties such as the CPI(M).[27] The politicisation of agricultural labourers would further irritate "peasants" or "farmers." Thus, we can understand the Agricultural Labourer variable as a proxy indicator for the politicisation of agrarian interests in rural society. The results of the stepwise regression can be interpreted as indicating that the mobilisation and activation of agrarian interests raised their electoral participation. The same can be said in the case of the 1996 election, since the victorious United Front coalition of Janata Dal and other State-level parties are clearly more closely related to agrarian interests than is Congress.

Party Competition and State Politics: Political Mobilisation

The stepwise regression fails to provide clear evidence for the Party Competition hypothesis. The "Two Party Gap" is selected only in the 1962, 1984, and 1998 elections, though the signs in all the cases show the expected direction. The smaller the difference of the percentage of votes between the winner and runner-up, the higher the turnout is in the three elections. Although the hypothesis is statistically significant for only three out of 12 elections, this does not mean that it is necessary to abandon this hypothesis. To begin with, it is theoretically only a "weak" hypothesis. Voters cannot have the subjective feeling of "being decisive" unless the two top candidates are competing neck and neck, or, unless the parties or candidates have the capacity to mobilise the electorate massively. In all cases but these, the theory does not expect the Party Competition hypothesis to work effectively. Thus, it might be that the explanatory power of the hypothesis is not intrinsically strong and so its effect is likely to be concealed when other hypothesis are sufficiently strong. It is also possible that the effect of Two Party Competition is hard to discern because more than three candidates are usually competing with each other.

Theoretically speaking, the Party Competition hypothesis is likely to be

more effective in constituencies where there are only two major candidates and all other candidates, who are likely to disturb the competition between the two major ones, are trivial ones. The hypothesis would become clearer in elections where other hypotheses are less effective. It is, therefore, not strange for the effect of party competition to appear most clearly in the 1998 election. The effectiveness of the socio-economic environment channel hypothesis clearly declines in the 1990s, and there were no highly emotional issues in the election to induce the wide-spread expressive response. The gap of percentage votes between the winner and runner-up is the smallest, as shown in Figure III-4, and the average number of candidates is very small due to the institutional change, where a huge security deposit was imposed to discourage trivial candidates who had little chance of being elected or receiving at least the one-sixth of the votes polled from running. These favourable conditions in the 1998 election make the Party Competition hypothesis more effective. In that election, the variable of the number of candidates is also selected. The greater the number of candidates, the higher the turnout. However, it must be noted that the variable is selected in a situation where the average number of candidates has been reduced by the removal of trivial candidates due to the institutional change. The removal of the trivial candidates has improved the explanatory power of the variables.

As shown by Table IV-7, the State dummy variables are the most important set for explaining voter turnout. Statistically, the inclusion of the important categorisation in the form of dummy variables improves the accuracy of the other variables (= covariates). The regression coefficients of the State dummy variables in the stepwise regression demonstrate a statistically significant difference between the average turnout for all the samples and the average turnout in particular State samples. The State dummy variable shows a statistically significant difference of the State from the national average turnout. The variable, therefore, can be an indicator of the level of electoral politicisation of the State, from the point of view of the average level of electoral politicisation for India as a whole. But, of course, the variable does not show the contents or reasons of the electoral politicisation. The meaning of the selected State dummy variables has to be interpreted on the basis of studies of State politics, which is really diverse. Figure III-5, which shows turnouts for both Lok Sabha and State Legislative Assembly election by State, reveals a wide variety of patterns between States. Table IV-8 is a summary of the 12 sub-tables in terms of the standardised regression coefficient of the State dummy variables.

The table clearly shows that there are regional differences. States in the Hindi speaking region, with the exception of Haryana tend, by and large, to

show lower turnouts compared to other States, especially before the 1977 election. Uttar Pradesh, Madhya Pradesh and Bihar have negative correlations before 1977, with the exception of Uttar Pradesh in 1957. Rajasthan has a negative regression correlation only in the 1957 election, with the variable not being selected in other elections before 1977. In spite of these minor exceptions, it can be said that the level of electoral participation in the States in the Hindi-belt before the 1977 election is generally lower than the socio-economic and demographic variables predict. The generally lower level of electoral politicisation in these States before 1977 cannot but be obvious. We can point to some forms of common political culture, socio-political structure, or historical processes in order to explain the lower level of politicisation in these Hindi-belt States before the 1977 election.

In these States, the most influential turning point is the 1977 election. The impact of the internal emergency and formation of the Janata Party increased turnout in these States at that time. This is obvious in view of the fact that State dummies are not selected in Bihar, Madhya Pradesh, and Uttar Pradesh, and the regression coefficient increased in Rajasthan. In the former three States, the increase in turnout of the States made the difference between the turnout of the States and that of India statistically insignificant. Haryana also shows a clear increase of the regression coefficient. The impact of political developments in the mid-1970s clearly raised the level of electoral participation in the Hindi-belt States.

The 1977 election can be said to be a turning point also in the sense that the regression coefficients in these States become unstable after that year. Of course, there were many important political events that brought a strong electoral response from the electorate, such as the assassinations of Indira Gandhi and her son, Rajiv in 1984 and 1991 and the communal politicisation around Ayodhya, which had the potential to disturb the pattern of electoral participation. However, before 1977, there were also several political developments which induced a wide-spread response in electoral politics, such as the severe economic crisis in the middle of the 1960s, the split of Congress in 1969 and the populistic "Garibi Hatao" slogan used by Indira Gandhi in the 1971 elections. In spite of these developments, the regression coefficients before the 1977 election appear to be relatively stable compared to those afterward. The 1977 election can be said to represent a turning point in these Hindi-belt States.

In the case of Haryana (including, before 1966, the area that would later become Haryana State), there are basically two reasons for the constantly high regression coefficients. One is its location next to Delhi, the centre of national politics. Uttar Pradesh is also located adjacent to Delhi, but its large

Table IV-8

Summary of the Standardised Regression Coefficient of the State Dummy Variables in the Stepwise Regression for Voter Turnout

	1957	1962	1967	1971	1977	1980	1984	1989	1991	1996	1998	1999
Andhra Pradesh		0.110	0.119		0.100		0.192	0.175	0.284		0.144	0.408
Assam	-0.135	-0.131	-0.169	-0.123	-0.081	n.e.	0.370	n.e.	0.361	0.246		0.263
Bihar	-0.200	-0.185	-0.180	-0.146		-0.093			0.145		0.084	0.078
Gujarat (Including the area to become part of the State in 1957)							-0.105	-0.112		-0.402		-0.183
Haryana (Including the area to become the State in 1957 and 1962)	0.182	0.138	0.210	0.138	0.287	0.193	0.090		0.240	0.114	0.158	0.127
Karnataka					0.067		0.073	0.087	0.159		0.166	0.377
Kerala							0.184	0.201	0.390	0.129	0.143	0.194
Madhya Pradesh	-0.221	-0.216	-0.146	-0.176				-0.082		-0.127	0.084	
Maharashtra (Including the area to become part of the State in 1957)									0.127	-0.066		0.252
Orissa	-0.386	-0.457	-0.323	-0.306	-0.307	-0.248	-0.091		0.191			
Punjab			0.130					-0.084	n.e.			
Rajasthan	-0.107				0.168	0.188			0.097	-0.295		
Tamil Nadu (Madras before 1967)	-0.185	0.168	0.186	0.217		0.101	0.151		0.301	0.095	-0.109	0.092
Uttar Pradesh		-0.138	-0.257	-0.358		-0.227	-0.167	-0.464		-0.342	-0.363	-0.093
West Bengal	-0.117	-0.121				0.347	0.416	0.421	0.616	0.416	0.627	0.489

Source: Table IV-7.
Notes: "n.e.": Election was not held or data are not available.

scale attenuates the effect of this proximity. Another reason is its relationship with Punjab. The politics of the Haryana area was always influenced by political development in Punjab before the bifurcation in 1966. Before 1966, the process that eventually resulted in the bifurcation of the old Punjab State into the new Punjab and Haryana created an exalted political mood among the people, and the regression coefficients show that the peak of this mood came in the 1967 election. After 1966, several factors, including the internal emergency in 1977 and the two assassinations in the Nehru family in 1984 and 1991, are seen to have raised the turnout in Haryana, which is sensitive to political developments in the centre. It should be noted that the relatively small regression coefficient in the 1984 election was due to the fact that the assassination raised turnout all over the India, and hence Haryana was less conspicuous.

In Punjab, a heightened political mood is shown in the clearly higher regression coefficient in the 1967 election. This was a reflection of the prolonged Punjabi Suba agitation, led by Akali Dal.[28] The negative regression coefficient in the 1989 election is a clear demonstration of a feeling of disappointment toward politics in the centre, which resulted in communal violence and terrorism between Sikh radicals and the Hindu majority. The disappointment and communal violence and terrorism made it impossible to hold the 1991 election, which was finally held the following year.

Turning to the eastern States, Orissa shows a strongly statistically significant negative correlation during the period between 1957 and 1984. It should be noted that the level of participation is clearly much lower than what other socio-economic variables, such as Literacy, Agricultural Yield, or percentage of Scheduled Tribes would anticipate. It is assumed that this shows the backwardness of electoral participation owing to some political structure or culture. However, the absolute value of the negative regression coefficient had gradually fallen, indicating that Orissa was catching up to other States into the 1980s, in terms of the electoral participation. After 1984, the variable is selected only in the 1991 election, but its sign is positive. In a nutshell, then, it can be said that in spite of the exceptions, Orissa has come close to being an ordinary State in terms of turnout after 1984.[29]

West Bengal is the most extraordinary State in India when looking at turnout. Average turnout rose rapidly from the latter half of the 1960s to the 1970s, and as a result the regression coefficients moved from negative values until 1962 to very clearly positive ones after the 1980 election. Undoubtedly, the reason for the remarkable increase in turnout is the inauguration of the Left Front Government led by Jyoti Basu of the CPI (M) in 1977. It is quite

certain that the penetration of its political influence through its grass-roots level party organisations and local governmental or semi-governmental bodies such as Panchayati Raj institutions or cooperative societies, raised the level of electoral participation. Through these structures, patronage is considered to have been distributed among the rural masses, especially the poor. In addition, important land reforms were carried out by the Left Front Government, among which Operation Barga was most famous.[30]

What was important is the fact that the Left Front has taken the office of the Government. The combination of two factors, namely the Left Front Parties and the entry into the State Government, was critical for the progress of significant policies which were carried out more efficiently than under the previous Congress Government, leading to increasing electoral support for the Left Front in rural areas and a rise in electoral participation. Therefore, it is not strange that it was not in 1977, when the Left Front took office, but in the 1980 election and after, that the participatory level in West Bengal showed a really remarkable increase.

Concerning Assam, the change in the direction of the regression coefficients is very clear. The violent ethnic conflict from the end of the 1970s to the 1980s changed the party system and electoral scenery. The 1980 election was held, but the large-scale violence and boycotts made the election essentially void. The ultimate cause was the ethnic strife between Assamese and Bengalese.[31] Moreover, the 1989 election was cancelled due to the violent Bodo tribal agitation against others.[32] Because of these severe political developments, which affected the populace, the relatively low turnouts before 1980 became clearly higher after the 1980 when election was held. This is a clear example of the politicisation of electoral politics by large-scale ethnic violence.[33]

The States in the southern part of India stand in stark contrast to the States mentioned above. The regression coefficients in Table IV-8 show that, by and large, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu have relatively higher participation than the socio-economic and demographic variables would anticipate. This is especially clear after the 1980 election.

For Andhra Pradesh, the positive regression coefficients in the 1962 and 1967 elections seem to be a result of politicisation stemming from a few incidents of agitation, such as those regarding the steel plant in the Vishakapatnam district or for a separate Telangana State in the 1960s.[34] The patterns of changes in the regression coefficients in Andhra Pradesh and Karnataka are basically similar after the 1977 election. Both States clearly responded to the internal emergency and to the formation of the Janata Party more positively than the all India average in the 1977 election. From 1984

on, both States show relatively high turnouts with the exception of the 1996 election.

Kerala[35] is another State where Leftist parties have been powerful. The CPI government headed by E.M.S. Namboodripad was first installed in India, as a result of the party's victory in the 1957 State Legislative Assembly election. However, the government soon collapsed following destabilisation and political interference by the central government. As in the case of West Bengal, the dummy variable does not show any positive correlation before the 1980 election. The United Front of Leftists' Parties and Left Democratic Front, both led by the CPI(M), won the State Assembly elections in 1967[36] and 1980. However, neither government lasted long enough for the leftist governments to be able to construct a stable political basis among the people through governmental or semi-governmental institutions. The situation changed after the 1984 election. The frequent changes of government and coalitional partners and the destabilisation by agitational political activities by the CPI(M) and others after 1980 seem to be the main factors leading to the high electoral participation from the 1984 election onward. The regression coefficients in the 1991 elections are particularly high. This is because the Left Democratic Front Government, led by E. K. Nayanar of the CPI(M), held power from 1987.[37] The Kerala case also shows the importance of a combination of the two factors, namely, the leftist parties, especially CPI(M), and their entry into government.

Finally, among the southern States, Tamil Nadu became politicised much earlier. Its politicisation is no doubt related to the Dravida movement whose origin goes back to the colonial period.[38] The regression coefficient was negative in the 1957 election during the Congress State government. However, it turned positive and increased up until the 1971 election, accompanying the anti-Hindi agitation as well as the growth of the DMK, which won the 1967 State Legislative Assembly and Lok Sabha elections in the State. Since its loss of the 1967 election, Congress has never been returned to the State government. Congress has not been able to do anything more than to seek appropriate partners in the State, through which it could maintain its share in the Lok Sabha. These regional parties, namely, the DMK or AIADMK, had major representation in the State Legislative Assembly.

It is difficult to interpret the regression coefficients of the remaining two States, namely, Gujarat and Maharashtra. The two State dummies are not selected before the 1984 election, which mean that the turnouts in these two States up to 1980 are approximately at the level that the socio-economic and demographic variables would anticipate. From the 1980s on, the Gujarat

dummy is selected four times, with all the sign being negative.[39] In the case of Maharashtra dummy, it is selected three times, and the sign is negative only in the 1996 election.

To what extent can the State dummy variables as a whole explain turnout? This is a very interesting question, because the State is the most basic structure of politics in India directing political motivation of the people. To evaluate the importance or the change in importance of the State factor, the mean squares explained by the State factor and the standard deviations are calculated for 12 elections. The analysis of covariance is made for the panel data set excluding all samples with missing turnout values, with the same weights used in the stepwise regression. The samples for Assam and Punjab are excluded in order to make the comparison more accurate. The covariates included for the calculation of the 12 elections are Literacy, Agricultural Yield, Fertiliser Consumption, Urbanisation, and

Figure IV-8

Standard Deviation of Mean Squares of Turnout Explained by State Factor
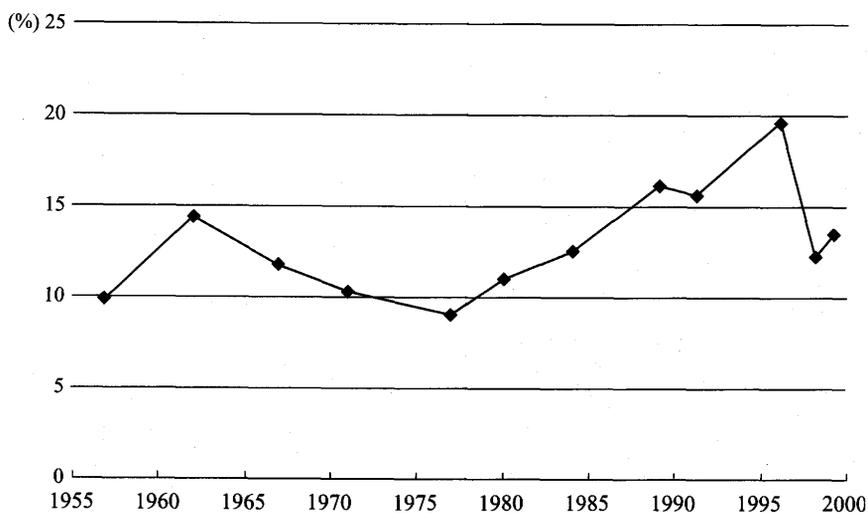
Note: Analysis of covariance is made for the panel data set excluding all the samples which include missing values concerning Turnout, with weights used in the stepwise regression. As a result, the samples from Assam and Punjab are excluded. N=243. The GLM procedure of the SPSS is used. The factor is a set of State dummy variables. Covariates included for all 12 elections are Literacy, Agricultural Yield, Fertiliser Consumption, Urbanisation, and Scheduled Tribes.

Scheduled Tribes.[40] The standard deviations worked out from the variances explained by the State factor are shown in Figure IV-8.

The results are very interesting. The most interesting feature is the continuity of the graph. Although there is a clear discontinuity between the 1996 and 1998 elections, it is believed that this is due to the institutional change, i.e. the imposition of huge security deposits, and the consequent sharp decrease of the number of candidates. It can be that this decreased the differences of turnouts between States.

Table IV-9 looks at the effect of the decrease of candidates between the 1996 and 1998 elections. A stepwise regression is made using 1998 turnout as the dependent variable. The variables to be selected are basically the same set as in Table IV-7, but the difference in the number of candidates (CAN9698 = CAN1996 − CAN1998) is added instead of the number of

Table IV-9

Change in the Number of Candidates from 1996 to 1998: Stepwise Regression Analysis

Dependent Variable		T1998			$N=277$	$R^2=0.232$		
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		65.609	0.892		73.581	0.000	
CAN9698	CAN1996 − CAN1998	-0.267	0.048	-0.318	-5.614	0.000	1.136
F-f98	Fertiliser Consumption	1.246	0.403	0.174	3.091	0.002	1.123
U-f98	Urbanisation	-1.451	0.422	-0.191	-3.434	0.001	1.087
LFM-f98	Female-Male Literacy Equality	0.900	0.417	0.119	2.156	0.032	1.071
ST98	Scheduled Tribes	-0.077	0.028	-0.160	-2.736	0.007	1.213

Notes:
1) The variables to be selected as explanatory variables are: CAN9698, L-f98, YH-f98, F-f98, U-f98, LFM-f98, NH98, SC98, ST98, AW98, FS1998
2) Two outlier samples, one in Andhra Pradesh and another in Karnataka, are excluded from the calculation.
3) Estimated on Weighted Least Squares Method. The weights are the reciprocals of the standard errors for each State sample in the regression with the independent variables being "Literacy," "Agricultural Yield," and "Urbanisation."
4) P value = 0.05 for taking in independent variables; P value = 0.10 for taking out independent variables.
5) VIF = Variance Inflation Factors (for checking the multicollinearity of the concerned variable).
6) No severe multicollinearity.

candidates (CAN1998), and the State dummy variables are removed. It is very clear that the difference in the number of candidates is the most important variable. The change in the number of candidates from 1996 to 1998 is significantly correlated with the turnout distribution in 1998. The more candidates are removed due to the institutional changes, the lower the turnout becomes. However, if State dummy variables are added, CAN9698 does not enter the equation, and, instead, the State dummy variables are selected. In other words, CAN9698 is significantly correlated with the State factor (that is, in a sense, the set of the State dummy variables). The change in the number of candidates was much greater between States than within State. This means that if the turnout distribution in 1998 became more level, owing to change of the number of candidates, the levelling was due more to a decrease in the difference between States than within State. Indeed, the standard deviation of turnout clearly decreased from 6.07 percent in 1996 to 3.84 percent in 1998. Consequently, it follows that the institutional change in the 1998 election brought about the decrease in the standard deviation of the turnout, in the form of a decrease in between-States turnout differences through the decrease in the between-States candidates differences.

Regarding the discontinuity between the 1957 and 1962 elections, it is not clear whether the institutional change, i.e. the abolition of the two-member constituencies, increased the standard deviation of the turnout in 1962.[41] The much more important reason would be the rapid increase in average turnout from 1957 to 1962 as shown in the Figure III-1. Such rapid increase in average turnout occurred in the States which were much more different from each other in the 1950 and 1960. The increase in average turnout, therefore, is considered to mean much more heterogeneous increases in turnouts among States.

The second feature is the clearly decreasing trend of the standard deviations of turnout explained by the State factor from 1962 to 1977. The difference between States decreased during this period. During this time, the Indira Gandhi Congress government in the centre was centralising politics and frequently interfered in State politics. The end point of the centralisation process was, in a sense, the imposition of the state of emergency in 1975. At any rate, it can be said that through the centralising process, politics were becoming more closely linked between centre and States. The closer linkage is considered to have resulted in the homogenisation of electoral politics, and consequently to smaller between-States differences in turnout.

Finally, the period after 1980 can be characterised as a process of diversification of the pattern of the electoral participation between States.

After that year, many powerful State parties, such as Telugu Desam Party, have emerged in the particular political context of the States. The diversification of the pattern of electoral participation is considered to be partly due to the different patterns of socio-economic transformation in each State, which prepared the conditions of the emergence of the powerful State parties. It is also considered to be partly due to the growth of a powerful anti-Congress political process, resulting in the emergence of the powerful State parties, as a reaction to the centralising process by Congress itself.[42] The disappearance of Indira Gandhi from the central political arena in 1984 may have precipitated this centrifugal tendency.[43] It can be seen as a natural course of political development for the multi-party system based on participatory diversification from the 1980s to have developed, and for the powerful State parties to have begun to enter into the central government as partners from 1989. In any case, the process is based on the diversification of the electoral politics between the States, as revealed in Figure IV-8.

It is obvious that voter turnout is closely linked with both the socio-economic development related variables and demographic structures, as well as the particular political structures of the States. It was revealed in the previous section that the socio-economic environment channel has been enhanced up until the present, in line with socio-economic development. As a result, the conditionality of the socio-economic variables has gradually weakened. The same thing can be said for some demographic variables. The most important among them regards the STs, who were gradually being incorporated into the mainstream of Indian politics until the end of the 1990s. However, there is one potentially important demographic variable which does not show a clear tendency toward incorporation: the variable of Non-Hindu population. In the stepwise regression, it is sporadically selected, responding most probably to the communal situation between the majority Hindu and religious minorities.

An analysis of the State dummy variables and the standard deviation explained by the State factor demonstrates the importance of particular developments in State politics in terms of turnout, for example, as in the case of Assam. It also shows clearly different regional patterns. The States in the Hindi belt are clearly different from the southern States in terms of the pattern of electoral participation. The eastern States have also their own distinctive patterns. Similar patterns of electoral participation are observed within regions and the distinctive differences are seen between regions. Although there was a centralising tendency upto the mid-1970s under Indira Gandhi Government, it has subsided since then. Anyway, the statistical

evidence seems to show that the cultures and social structures, which are products of long-term historical processes based on particular socio-geographic environment, are a very important base for electoral participation. In simple terms, turnout is deeply embedded in society.

3. Number of Candidates

There has been a remarkable proliferation in the number of candidates, as shown in Figure III-3. Parties and their electoral candidates are intermediate variables which mediate between the electorate and politics. In a sense both party and independent candidates are interfaces between the party system and society. The number of candidates, therefore, can be a function of both the party system and of the level of political mobilisation or participation in India's fragmented society. If the party system is fragmented, there could be more candidates. On the other hand, if the society is politicised and fragmented, there could also be more candidates. In this sense, the number of candidates may be an appropriate variable showing the degree of diffusion of the party-people interface.

The statistical continuity is shown in Table III-1. The continuity is, by and large, higher than the Congress votes percentage but lower than the voter turnout. The lowest continuity is seen at the time around the 1977 election.[44] As discussed earlier, voter turnout is said to be a socially embedded variable. The Number of Candidates is expected to be a partly socially embedded variable because it has an interface with society. It is, hence expected that certain socio-economic environmental and demographic variables will show some significant correlations with it.

The Increasing Number of the Candidates and Reasons for the Increase

We will begin by examining the long-term increase in the number of the candidates. Table IV-10 shows the results of the stepwise regression analysis, which is conducted in order to determine the basic long-term factors explaining the increase in the number of candidates. The 1962 and 1991 elections are taken to be datum points. The number of candidates increased from 9.24 per million electorate in the 1962 election to 16.68 in the 1991 election. In order to ensure the accuracy of the statistical analysis, the election should fulfil a few conditions. It appears that the most important conditions are that there should be no major institutional change in the

Table IV-10

Increase of the Number of Candidates from 1962 to 1991: Stepwise Regression Analysis

Dependent Variable : CAN9162 = (CAN1991 - CAN1962)   N = 265 R^2 = 0.336

Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		10.465	1.042		10.039	0.000	
YH-fm	Average Agricultural Yield	-1.704	0.422	-0.232	-4.039	0.000	1.272
U-fm	Average Urbanisation	1.319	0.369	0.188	3.572	0.000	1.072
STm	Average Scheduled Tribes	-0.084	0.024	-0.196	-3.438	0.001	1.254
SC9162	Difference between SC62 and SC91	0.610	0.148	0.238	4.109	0.000	1.290
INC91	Congress party	-0.073	0.028	-0.152	-2.601	0.010	1.324
CP91	CPI(M)+CPI	-0.114	0.033	-0.193	-3.487	0.001	1.180
BI	Bihar	6.395	1.725	0.200	3.708	0.000	1.125
KA	Karnataka	-4.571	1.425	-0.171	-3.209	0.002	1.095

Notes:
1)   The variables to be selected as explanatory variables are;
     State dummy variables: AP, AS, BI, GU, HA, KA, KE, MP, MA, OR, RA, TA, UP, WB (PU is excluded because the election was not held in 1991 in Punjab).
     Mean socio-economic variables: L-fm = (L-f62+L-f91)/2, YH-fm = (YH-f62+ YH-f91)/2, F-fm = (F-f62+ F-f91)/2, U-fm = (U-f62+U-f91)/2, LFM-fm = (LFM-f62+LFM-f91)/2.
     Differences of the socio-economic variables between 1962 and 1991: L-fc = L-f91 − L-f62, YH-fc = YH-f91 − YH-f62, F-fc = F-f91 − F-f62, U-fc = U-f91 − U-f62, LFM-fc = LFM-f91 − LFM-f62
     Mean demographic variables: NHm = (NH62+NH91)/2, SCm = (SC62+ SC91)/2, STm = (ST62+ ST91)/2, AWm = (AW62+AW91)/2.
     Differences of demographic variables between 1962 and 1991: NHc = NH91 − NH62, SCc = SC91 − SC62, STc = ST91 − ST62, AWc = AW91 − AW62.
     Party related variables: INC62, INC91, CP62, CP91, J62, BJP91, FS1962, FS1991.
2)   OLS is applied in the stepwise regression. P value = 0.05 for taking in independent variables; P value = 0.10 for taking out independent variables.
3)   VIF = Variance Inflation Factors (for checking the multicollinearity of the concerned variable)
4)   No severe multicollinearity.

election system and there should be no major coalition formation by the main political parties before the election.

Institutional changes in the election system can have significant impact on potential candidates, and, as a result, the number of candidates might be reduced, as was seen with the 1998 election. The formation of a coalition by the main political parties can also make the electoral competition so tough that it would reduce the entry of trivial or weak potential candidates, consequently disturbing the "natural" distribution of the number of candidates among samples. Both of the elections clear these conditions. The 1962 election was held under a stable party system called the "one party dominant system" under the Congress party led by Nehru. No major electoral coalition was formed by the main opposition parties. The 1957 election can not be datum point because of the two-member constituency problem and its disturbing effect on the number of candidates. The conditions for using 1991 as a datum point are approximately the same. In that election, the Congress party was basically stable despite the assassination of Rajiv Gandhi. There was also no major electoral coalition among the main opposition parties. By contrast with 1991, the 1996 election cannot be used because of the formation of the United Front among non-Congress and non-BJP opposition parties. Although the "United Front," which consisted of National Front and Left Front parties, was only formally created after the election, electoral cooperation among the parties was already taking place during the electoral process. It is, therefore, not appropriate to use the 1996 election as a datum point. The 1998 and 1999 elections are also not appropriate because of the institutional change that took place in 1998.

The State dummy variables, mean socio-economic variables, differences of the socio-economic variables between 1962 and 1991, mean demographic variables, differences of demographic variables between 1962 and 1991, and the party-related variables are prepared for the stepwise regression as shown in the note of the table. The differences between the socio-economic and demographic variables between 1962 and 1991 are also included, in order to examine their effect on the increase in the number of candidates. The party-related variables in the 1962 and 1991 elections are included. No averages of these are used for the stepwise regression. This is because the distribution of the percentages of votes polled by any particular party changed a great deal in the three decades. Consequently, averaging the percentage of votes polled by any particular party in 1962 and 1991 is not enough to ensure that the variable represents the party accurately.

The Table shows, first, that the coefficient of determination is rather

Table IV-11

**Increases in Number of Candidates from 1962 to 1991
by State (Candidates per 1 million electorate)**

	State Name	Average	Standard Deviation	N
AP	Andhra Pradesh	6.09	4.42	17
AS	Assam	5.79	1.61	7
BI	Bihar	13.52	3.61	13
GU	Gujarat	10.06	7.37	18
HA	Haryana (Including the area to become part of the State in 1957 and 1962)	6.96	3.30	7
KA	Karnataka	4.30	5.13	19
KE	Kerala	2.74	2.21	7
MP	Madhya Pradesh	7.64	7.72	43
MA	Maharashtra	10.04	9.19	25
OR	Orissa	4.79	2.83	11
RA	Rajasthan	8.99	9.28	26
TA	Tamil Nadu (Madras before 1967)	3.13	3.60	11
UP	Uttar Pradesh	8.20	6.22	47
WB	West Bengal	2.49	2.35	14
Total		7.44	6.91	265

Source: Calculated by the author on the basis of Bhalla and Singh's district based data
set.

small. This means that it is relatively difficult to explain the number of candidates using these variables.

Second, a small number of socio-economic variables play an important role in explaining the increase in the number of candidates. Areas with higher agricultural productivity have a smaller increase. There seem to be a few important reasons for this. The three decades of electoral politics (from 1962 to 1991 in this case) under Indian democracy are considered to have had an approximately equal politicisation effect on the economically more developed areas and less developed ones. However, economically backward or deprived area would tend to experience frustration when comparing their relative backwardness with the more developed area, and this might lead to greater politicisation in the form of the more candidates. This type of effect seems to be conspicuous in areas where the level of development is low but that are highly politicised as a result of the three decades of electoral politics. Table IV-11 shows increases in the number of candidates from 1962 to 1991 by State. The least developed States, such as Bihar, show a remarkable increase in candidates. Becoming a politician means, in many cases, getting

power and money, which can be an irresistible temptation for ambitious people in least developed areas. Electoral competition is usually very intense, and illegal means are frequently adopted. As shown in Table I-3, the number of persons disqualified under Section 10A of the Representation of People Act, 1951, due to financial irregularities, are among the highest in this State.

Another important explanatory socio-economic environment variable is Urbanisation. The increase in the number of candidates can be said to be an urban phenomenon, as indicated again later in this section.

With regard to demographic variables, the ST variable is clearly important. In areas where the ST ratio is high, there are fewer candidates. From this statistical evidence it can be said that the ST populace is less active in electoral politics in terms of standing as candidates. This is not an ecological fallacy if we take into consideration the argument made earlier.

It may not be difficult to understand the selection of the difference in the SC ratio between 1962 and 1991 as an important variable. First, until the beginning of the 1980s there was a general tendency for the SC population to clearly support Congress, but this support began to decline rapidly in the 1980s according to the CSDS survey.[45] The decaying Congress system and, as a result, the fragmentation of the party system as well as the expansion of the influence of other parties over SCs has, without doubt, contributed to the politicisation of the SCs after 1980s. In turn, the intensification of SC politics has probably contributed to the further politicisation of the political arena as a whole, which most likely led to the proliferation of candidates.

Secondly, although it is difficult to select the SC variable itself as a statistically significant variable, owing to its flat distribution, the difference between two points of time may have some characteristic distribution and consequently an important correlation with politics. On average, the ratio of SCs in population increased by only 1.68 percent, as shown in Table IV-12. However, wide differences are observed between States, which is strange if it is only the natural growth of the population that is taken into consideration. A caste is designated as a SC by the State government, and the central government is in a position to recognise such designations. The unnatural increases in Maharashtra, Karnataka and West Bengal are due to the decisions of the State governments. The process of designating a particular caste as an SC involves a politics within States. The unnatural increase in the ratio of SC ratio in these States appears to be linked in the competitive and fluid situation in State politics, especially party politics. The weak or unstable State government may, for example, have a tendency to designate more castes as SCs because such political decision can expect more support

Table IV-12

Difference of SCs Ratio between 1962 and 1991 (%)

	State Name	Average	Standard Deviation	N
AP	Andhra Pradesh	1.31	2.62	17
AS	Assam	0.80	1.02	7
BI	Bihar	0.39	1.00	13
GU	Gujarat	0.86	0.96	18
HA	Haryana (Including the area to become part of the State in 1957 and 1962)	1.53	1.66	7
KA	Karnataka	3.23	2.58	19
KE	Kerala	1.64	0.91	7
MA	Madhya Pradesh	6.02	4.28	25
MP	Maharashtra	1.65	2.17	43
OR	Orissa	-0.17	1.28	11
RA	Rajasthan	0.77	1.03	26
TA	Tamil Nadu (Madras before 1967)	0.56	1.45	11
UP	Uttar Pradesh	0.32	1.37	47
WB	West Bengal	3.65	2.25	14
Total		1.68	2.69	265

Source: Calculated by the author on the basis of Bhalla and Singh's district based data set.

to the ruling party or parties from those caste people. The competitive and fluid situation in State party politics can be an important factor of increasing candidates. It is, therefore, not strange to find the increase of SC population ratio to be positively linked to the increase in the number of candidates.

One interesting case is Uttar Pradesh, where a strong SC-based party, Bahujan Samaj Party, which was established in 1984, began encroaching on the traditional support base of Congress, namely, dalits and other minorities. However, the increase of the SC did not contribute to an increase in the number of candidates, as verified by a regression separately made for Uttar Pradesh.[46] The emergence of the Bahujan Samaj Party undoubtedly invigorated SC politics in the State.[47] However, the influence of the Bahujan Samaj Party (as well as other main parties) is considered to have restricted the diversification of SC politics in the State. This suggests that the growth of stable party does not lead to the increase in candidates.

Party-related variables are also important. The large established parties have substantial influence in conditioning the arena of party politics. It is therefore not strange to find that the Congress and Communist Party variables are selected. Their influence is likely to brake the proliferation of

candidates. Weak candidates will feel difficult to enter the electoral fray if there is a strong candidate from the established party entering the same field. In addition, it must be noted that the 1991 party variables are selected instead of those of 1962. The major increase of candidates occurred after the 1980s, and it is therefore, natural for the variable in 1991 to be selected.

Finally, it is interesting that only two State dummy variables are selected. Basic reason is that the operation of making the difference between two points of times has reduced the speciality of the State, hence, the dissimilarity between States has become less conspicuous. It is, therefore, especially important that two State dummy variables are selected, which shows the speciality of Bihar and Karnataka. Concerning Bihar, the widespread political disturbance due to the decaying governance, the extreme poverty and the Naxalite problem in the rural area, caste problem, etc., are some of the basic reasons leading to the remarkable proliferation of the candidates.[48]

States as a whole is, however, relatively not so important compared to the socio-economic, demographic and party variables in explaining the three decades of increase in the number of candidates.

In the following step, the stepwise regressions are conducted and statistically significant independent variables are identified.

The Number of Candidates and the Party System

In the stepwise regressions that follow, essentially the same procedure is adopted as in the case of turnout. However, "Urbanisation" is the only covariate to be included for the calculation of the standard error of each State. It is the most highly correlated variable among the five socio-economic development related variables, based on the preliminary regression analysis.[49] To deal with the problem of heteroscedasticity, the approximate "Feasible Generalised Least Square" estimations are conducted on the basis of the reciprocals of the standard error of each State.

The results of the regression in Table IV-13 show, first of all, the ability of the established parties, and especially Congress, to limit the proliferation in the number of candidates. The Congress party's ability to restrict the proliferation was especially clear up until the 1967 election. This was the period of the "one party dominant system." In the 1957 and 1962 elections, the "Two Parties Gap" is also selected, but its sign is negative. In areas where the difference between the winner and runner-up is small, there are only few candidates. In the 1957 and 1962 elections, the number of candidates was inversely related to the strength of the Congress party and of

Table IV-13

Analysis of Number of Candidates from 1957 to 1999: Stepwise Regression Analysis

Dependent Variable   CAN1957   N = 121 $R^2 = 0.394$

Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		10.723	0.773		13.866	0.000	
FS1957	Two Parties Gap	0.050	0.016	0.296	3.064	0.003	1.761
INC57	Congress party	-0.096	0.018	-0.536	-5.438	0.000	1.828
J57	Jana Sangh	0.038	0.019	0.154	2.012	0.047	1.101
BI	Bihar	3.462	0.969	0.271	3.572	0.001	1.082
MP	Madhya Pradesh	1.562	0.657	0.179	2.377	0.019	1.073
PU	Punjab	2.948	1.402	0.155	2.103	0.038	1.026

Dependent Variable   CAN1962   N = 279 $R^2 = 0.540$

Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		11.654	0.693		16.807	0.000	
FS1962	Two Parties Gap	0.069	0.015	0.229	4.501	0.000	1.518
INC62	Congress party	-0.095	0.016	-0.331	-6.014	0.000	1.768
BI	Bihar	1.679	0.554	0.131	3.031	0.003	1.091
HA	Haryana	4.143	0.704	0.254	5.884	0.000	1.093
KE	Kerala	-3.211	0.556	-0.262	-5.772	0.000	1.205
MP	Madhya Pradesh	1.199	0.403	0.134	2.975	0.003	1.195
OR	Orissa	-2.599	0.515	-0.215	-5.046	0.000	1.066
UP	Uttar Pradesh	3.323	0.409	0.375	8.127	0.000	1.242
WB	West Bengal	-1.906	0.443	-0.188	-4.298	0.000	1.114

Dependent Variable   CAN1967   N = 279 $R^2 = 0.440$

Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		13.089	0.779		16.807	0.000	
INC67	Congress party	-0.105	0.017	-0.327	-6.271	0.000	1.308
BI	Bihar	2.406	0.701	0.165	3.433	0.001	1.104
HA	Haryana	6.842	1.366	0.229	5.007	0.000	1.009
KE	Kerala	-2.056	0.775	-0.124	-2.652	0.008	1.058
OR	Orissa	-3.069	0.658	-0.229	-4.662	0.000	1.160
PU	Punjab	2.841	0.712	0.188	3.988	0.000	1.069
TA	Tamil Nadu	-2.329	0.609	-0.178	-3.826	0.000	1.045
UP	Uttar Pradesh	2.646	0.548	0.242	4.824	0.000	1.209
WB	West Bengal	-1.581	0.613	-0.121	-2.578	0.010	1.054

Dependent Variable	CAN1971		N=279		R²=0.567		
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		15.819	1.013		15.615	0.000	
U-f71	Urbanisation	0.348	0.151	0.101	2.299	0.022	1.195
NH71	Non-Hindu	0.051	0.010	0.222	5.009	0.000	1.203
AW71	Agricultural Labourers	-0.061	0.014	-0.199	-4.382	0.000	1.271
FS1971	Two Parties Gap	-0.153	0.021	-0.366	-7.395	0.000	1.508
INC71	Congress party	-0.026	0.010	-0.147	-2.521	0.012	2.093
BI	Bihar	5.170	0.705	0.310	7.338	0.000	1.099
GU	Gujarat	2.243	0.654	0.149	3.430	0.001	1.158
HA	Haryana	4.661	1.140	0.169	4.088	0.000	1.047
KA	Karnataka	-2.023	0.619	-0.148	-3.270	0.001	1.264
KE	Kerala	-2.363	0.737	-0.159	-3.206	0.002	1.516
TA	Tamil Nadu	-3.269	0.602	-0.290	-5.430	0.000	1.758
UP	Uttar Pradesh	1.940	0.448	0.186	4.329	0.000	1.139

Dependent Variable	CAN1977		N=279		R²=0.434		
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		11.971	0.930		12.867	0.000	
U-f77	Urbanisation	0.628	0.129	0.232	4.879	0.000	1.066
NH77	Non-Hindu	0.025	0.011	0.126	2.265	0.024	1.462
INC77	Congress party	-0.079	0.012	-0.435	-6.428	0.000	2.156
JN77	Janata Party	-0.061	0.010	-0.527	-6.201	0.000	3.414
BI	Bihar	3.614	0.636	0.287	5.680	0.000	1.206
GU	Gujarat	2.245	0.598	0.177	3.753	0.000	1.049
HA	Haryana	1.976	0.955	0.101	2.068	0.040	1.117
KE	Kerala	-4.068	0.889	-0.251	-4.575	0.000	1.421
TA	Tamil Nadu	-3.278	0.864	-0.248	-3.793	0.000	2.014
UP	Uttar Pradesh	2.398	0.457	0.292	5.249	0.000	1.462
WB	West Bengal	-2.336	0.663	-0.201	-3.522	0.001	1.539

Dependent Variable	CAN1980		N=273			R²=0.477		
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		9.000	0.298		30.203	0.000	
U-f80	Urbanisation	1.484	0.218	0.306	6.812	0.000	1.018
BI	Bihar	7.096	0.953	0.341	7.447	0.000	1.057
HA	Haryana	9.686	1.972	0.220	4.912	0.000	1.011
MP	Madhya Pradesh	4.004	0.752	0.245	5.322	0.000	1.068
MA	Maharashtra	2.519	0.832	0.138	3.026	0.003	1.057
PU	Punjab	5.844	1.224	0.215	4.773	0.000	1.028
RA	Rajasthan	4.166	0.879	0.217	4.738	0.000	1.054
UP	Uttar Pradesh	8.144	0.723	0.519	11.257	0.000	1.073

Dependent Variable	CAN1984		N=279			R²=0.647		
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		13.040	0.415		31.445	0.000	
YH-f84	Agricultural Yield	-0.851	0.242	-0.140	-3.520	0.001	1.188
F-f84	Fertiliser Consumption	-0.564	0.329	-0.124	-1.713	0.088	3.923
U-f84	Urbanisation	2.190	0.240	0.351	9.141	0.000	1.110
LFM-f84	Female-Male Literacy Equality	-0.638	0.259	-0.108	-2.460	0.015	1.458
AP	Andhra Pradesh	-3.935	0.915	-0.182	-4.299	0.000	1.340
BI	Bihar	3.462	0.913	0.149	3.794	0.000	1.156
GU	Gujarat	-2.311	1.058	-0.084	-2.185	0.030	1.100
HA	Haryana	11.826	1.936	0.234	6.108	0.000	1.099
OR	Orissa	-4.260	0.920	-0.188	-4.630	0.000	1.234
PU	Punjab	-3.930	1.394	-0.215	-2.819	0.005	4.384
TA	Tamil Nadu	-6.750	1.106	-0.268	-6.104	0.000	1.446
UP	Uttar Pradesh	6.848	0.911	0.341	7.519	0.000	1.542
WB	West Bengal	-4.476	0.989	-0.184	-4.524	0.000	1.242

Dependent Variable	CAN1989		N=272			R²=0.515		
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient		t value	P value for t	VIF
Constant		15.831	1.130			14.014	0.000	
U-f89	Urbanisation	1.301	0.236	0.246		5.515	0.000	1.077
ST89	Scheduled Tribes	-0.060	0.016	-0.172		-3.673	0.000	1.178
INC89	Congress party	-0.080	0.030	-0.150		-2.699	0.007	1.667
AP	Andhra Pradesh	-5.505	0.808	-0.357		-6.810	0.000	1.481
HA	Haryana	19.505	2.883	0.294		6.765	0.000	1.018
KA	Karnataka	-3.771	0.854	-0.212		-4.415	0.000	1.250
OR	Orissa	-3.454	1.058	-0.151		-3.265	0.001	1.149
PU	Punjab	3.067	1.173	0.121		2.615	0.009	1.157
WB	West Bengal	-3.805	0.801	-0.215		-4.747	0.000	1.107

Dependent Variable	CAN1991		N=265			R²=0.563		
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient		t value	P value for t	VIF
Constant		18.674	0.575			32.458	0.000	
YH-f91	Agricultural Yield	-1.128	0.333	-0.169		-3.384	0.001	1.433
U-f91	Urbanisation	1.737	0.307	0.249		5.655	0.000	1.116
LFM-f91	Female-Male Literacy Equality	-0.659	0.324	-0.099		-2.032	0.043	1.377
ST91	Scheduled Tribes	-0.092	0.023	-0.204		-4.019	0.000	1.487
AP	Andhra Pradesh	-3.748	1.195	-0.142		-3.136	0.002	1.181
BI	Bihar	6.997	1.324	0.232		5.285	0.000	1.114
KA	Karnataka	-6.002	1.138	-0.241		-5.274	0.000	1.199
KE	Kerala	-6.140	1.594	-0.197		-3.851	0.000	1.509
OR	Orissa	-4.593	1.210	-0.180		-3.797	0.000	1.291
TA	Tamil Nadu	-6.910	1.285	-0.266		-5.377	0.000	1.414
UP	Uttar Pradesh	2.002	1.008	0.098		1.985	0.048	1.398
WB	West Bengal	-8.274	1.022	-0.373		-8.093	0.000	1.221

Dependent Variable   CAN1996   N = 277 $R^2 = 0.678$

Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		23.481	1.238		18.959	0.000	
L-f96	Literacy	-1.186	0.379	-0.128	-3.127	0.002	1.381
YH-f96	Agricultural Yield	-1.904	0.366	-0.193	-5.207	0.000	1.126
U-f96	Urbanisation	1.645	0.384	0.161	4.284	0.000	1.154
ST96	Scheduled Tribes	-0.105	0.028	-0.166	-3.762	0.000	1.601
INC96	Congress party	-0.091	0.034	-0.126	-2.683	0.008	1.802
AS	Assam	-5.512	1.939	-0.104	-2.843	0.005	1.099
HA	Haryana	5.557	2.386	0.084	2.329	0.021	1.062
KA	Karnataka	-3.307	1.574	-0.076	-2.101	0.037	1.073
MP	Madhya Pradesh	8.444	1.508	0.214	5.601	0.000	1.193
OR	Orissa	-5.531	1.275	-0.191	-4.339	0.000	1.594
UP	Uttar Pradesh	10.662	1.535	0.328	6.947	0.000	1.823
WB	West Bengal	-9.698	1.118	-0.335	-8.676	0.000	1.223

Dependent Variable   CAN1998   N = 278 $R^2 = 0.461$

Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		6.931	0.220		31.558	0.000	
ST98	Scheduled Tribes	-0.020	0.008	-0.130	-2.637	0.009	1.207
CP98	CPI(M)+CPI	-0.030	0.011	-0.139	-2.827	0.005	1.193
AP	Andhra Pradesh	0.990	0.556	0.082	1.781	0.076	1.066
BI	Bihar	1.115	0.456	0.116	2.445	0.015	1.116
GU	Gujarat	-1.537	0.405	-0.190	-3.794	0.000	1.245
HA	Haryana	5.443	0.987	0.252	5.513	0.000	1.036
KA	Karnataka	-0.922	0.388	-0.119	-2.378	0.018	1.240
MP	Madhya Pradesh	2.405	0.415	0.291	5.792	0.000	1.254
UP	Uttar Pradesh	3.299	0.388	0.430	8.497	0.000	1.275

Dependent Variable		CAN1999		N=279		R^2=0.640		
Variable	Name	Regression Coefficient	Standard Error	Standardised Regression Coefficient	t value	P value for t	VIF
Constant		5.621	0.263		21.336	0.000	
NH99	Non-Hindu	0.025	0.008	0.125	3.133	0.002	1.177
ST99	Scheduled Tribes	-0.031	0.007	-0.173	-4.253	0.000	1.239
AS	Assam	2.032	0.831	0.092	2.445	0.015	1.053
BI	Bihar	2.667	0.455	0.225	5.855	0.000	1.097
HA	Haryana	4.048	0.802	0.191	5.050	0.000	1.064
KA	Karnataka	-1.962	0.364	-0.218	-5.388	0.000	1.217
MP	Madhya Pradesh	1.910	0.358	0.220	5.330	0.000	1.275
MA	Maharashtra	-1.007	0.319	-0.127	-3.150	0.002	1.204
TA	Tamil Nadu	1.532	0.539	0.110	2.844	0.005	1.113
UP	Uttar Pradesh	5.861	0.395	0.596	14.834	0.000	1.202

Notes:
1) The variables to be selected as explanatory variables are; L-f, YH-f, F-f, U-f, LFM-f (Socio-economic variables), NH, SC, ST, AW (Demographic variables), FS (Party competition variables), and AP, AS, BI, GU, HA, KA, KE, MP, MA, OR, PU, RA, TA, UP, WB (State dummy variables).
2) Estimated on Weighted Least Squares Method. The weights are the reciprocals of the standard errors for each State samples in the regression with the independent variable being "Urbanisation."
3) P value = 0.05 for taking in independent variables; P value = 0.10 for taking out independent variables.
4) Two outlier samples are excluded in the 1996 election.
5) The samples including two-member constituencies are excluded in the 1957 regression.
6) VIF = Variance Inflation Factors (for checking the multicollinearity of the concerned variable)
7) Some degree of multicollinearity is observed in the 1957, 1962, 1967, 1971, 1977, and 1989 regression, in which, the sum of all the reciprocals of the eigen values is bigger than the number of independent variables multiplied by five. However, the maximums do not exceed 115. Besides, the smallest eigen values in all these cases are larger than 0.01. We do not think that the multicollinearity damages the interpretation of the equation.

the runner-up. It is very natural that weak candidates lost the will to enter the electoral fray when the potentially strongest two candidates were competing with each other neck in neck. And in many constituencies, the seat went to the Congress party. This was because there was no room or possibility for a weak candidate to wedge himself in an election. In the 1967 election, the situation was rather different, because the popularity of Congress had decreased due to the severe socio-economic conditions. Within this environment, it seems to be that although the influence of Congress was still strong because of the continuity of its popular image among many potential candidates, the possibility of winning appeared to increase for many candidates. In other words, a situation of tight electoral competition by the two candidates could not be envisaged in many constituencies because of the fluid electoral situation. This seems to be the main reason for the failure to select the "Two Parties Gap" in the case of the 1967 election.

The "Two Parties Gap" variable is selected as a very significant variable in the 1971 election, but the sign is negative. The limiting effect of the Congress party was also weakened at that time. This seems contradictory, and some new factor must be added to explain the result. The most conspicuous feature of the 1971 election was the breakdown of the seemingly stable "one party dominant system," due to the major split of the Congress party in 1969 and the populistic electioneering of Indira Gandhi. In a situation where Congress was split and the popularity of the party under Indira Gandhi was unknown, the possibility of winning may have seemed high for the many potential candidates. However, Indira Gandhi succeeded, through her populistic slogan, in attracting as many votes as in the 1962 election. Indira's Congress received 43.7 percent of the votes polled in 1971, and 44.7 percent in 1962. On the other hand, the emergence of another not-so-weak but not-so-strong party, Congress (O), diversified the votes polled to the opposition parties as a whole, and resulted in the wider "Two Parties Gap." It seems that the popularity of Indira Gandhi's Congress on the one hand, and the split of the old Congress and diversification of votes among the main opposition parties on the other, brought about the proliferation of candidates and the widening gap between the winner (Indira's Congress candidate in most cases) and the runner-up. In this case, the negative correlation between the number of candidates and the "Two Parties Gap," appears to be a "spurious correlation." This odd correlation would not have existed without the special factor of the Congress split and the popularity of Indira's Congress party. This is an exception for the general tendency where a stable oligopolistic party system is likely to restrict the proliferation of candidates. Another exception seems to be the percentage of votes received

by Jana Sangh in the 1957 election. But the level of the statistical significance shown by the P value is rather low. This is partly because Jana Sangh was a new and very small party in the 1950s. This cannot be strong counterevidence, thus, against the general tendency.

The 1977 election followed the general case. The very competitive two party system under Indira's Congress and the newly formed Janata Party clearly restricted the proliferation of candidates. The standardised regression coefficients of both the variables are clearly and negatively correlated with the dependent variable.

However, after the 1980 election, the party variables are only sporadically selected in the stepwise regression. As shown in Figure III-3, the number of candidates increased very rapidly from 1980 until the 1996 election. The cause of the rapid increase is not directly related to the party system, as shown later. It seems that a new factor, which became very clear after collapse of the Janata Party, made the effect of the established party ambiguous. But even after the 1970s the effect of the party variable becomes significant when the oligopolistic tendency of the party system is relatively clear compared to other factors. It was in 1989, 1996, 1998 and 1999 that the oligopolistic aspect became clear due to the emergence of the coalition party system. In the 1989 election, strong anti-Congress electoral cooperation emerged where those ideologically opposite parties, namely BJP and CPI(M), cooperated, though indirectly, through the National Front. In the 1996 election, there was competition among three major parties or coalitions: Congress, the BJP, and the United Front. In this case, however, the oligopolistic character was relatively weak because of the triangular contest. In 1998 and 1999, the BJP led coalition triumphed, but the institutional change just before the 1998 election changed the situation. The proliferation of candidates was restrained and the average number of candidates dropped very sharply after 1998.

On the basis of these explanations, there is nothing strange that the party variables are selected in the stepwise regressions like, the Congress votes percentage in 1989 and 1996, and two Communist parties' votes percentage in 1998. The regression coefficients in all these cases are negative, which is in line with the general tendency. However, the levels of statistical significance are not as high as they were for Congress or the Janata Party before 1980.

The Number of Candidates and Social Change

Among the new factors, Urbanisation is the most important variable in the

period from 1971 to 1996 as a whole. Urbanisation clearly contributed to the proliferation of candidates during that period. In the analysis of factors explaining the long-term increase in the number of candidates from 1962 to 1991, Urbanisation emerged as an important variable. The proliferation of candidates after 1980 can be said to be an urbanisation phenomenon. The regression for the 1971 election seems to follow the general pattern also, though it selects Agricultural Labourers. This variable correlated negatively with the number of candidates. That is to say, there were more candidates in areas with fewer agricultural labourers. However, the institutional change in 1998 reduced clearly the effectiveness of Urbanisation.

Other important socio-economic variables include the Agricultural Yield, selected in 1984, 1991, and 1996, Female-Male Literacy Equality, in 1984 and 1991, Fertiliser Consumption, in 1984, and Literacy, in 1996. In essence, the same logic used to explain the increase in the number of candidates can be applied in these cases. It is very interesting that they all correlate negatively with the number of candidates. In a sense, socio-economic development can be seen as having the effect of absorbing the fragmenting tendency of the party system. In addition, it should be noted that these variables are not selected in the 1989, 1998 and 1999 elections, showing that these relatively weak variables may lose their effectiveness when the party system is tightened as a result of firm electoral co-operation, as in the 1989 election, or following an institutional change as in 1998.

Looking at demographic variables, the ST ratio is the most important. It is always selected after the 1989 election and correlates negatively with the number of candidates. The reason for it not being selected before 1989 is considered due to the fact that the average number of candidates was not very high. Consequently, the lower level of politicisation in the form of the number of candidates in ST areas was not so conspicuous before the 1980s. However, the rapidly increasing number of candidates from the latter half of the decades in non-ST areas made the difference between the ST areas and non-ST areas more conspicuous. The smaller number of candidates in ST areas can be seen as a result of the lower level of politicisation of the ST populace. The lower turnout among this populace, which was pointed out previously on the basis of the CSDS survey is considered to be closely related to the lower electoral politicisation in those areas, resulting in the fewer number of candidates.

Another important demographic variable is the Non-Hindu population ratio, which is selected for 1971, 1977, and 1999, and is always positively correlated. It is not clear whether it was the Hindu or non-Hindu communities in areas with high non-Hindu populations that contributed more to the

proliferation of candidates. Most probably, it is the interaction between the communities in the form of, for example, communal tensions or sometimes clashes, that led to the politicisation and as a result larger number of candidates. Under the seemingly stable "one party dominant system" until the 1960s, religious minorities were clearly supportive of the Congress party for political and social security. However, the confusion in the party system beginning from the split of Congress in 1969 began to disturb this traditional electoral support structure. Therefore, it is not strange that the Non-Hindu variable is selected after the 1960s. But the timing of the selection of this variable is not easy to understand for political scientists working in Indian politics. Further micro investigation will be necessary to gain a better understanding.

Pattern of Regional Difference

Finally, regional differences can be identified from the pattern of the standardised regression coefficients of the State dummy variables. Table IV-14 is a summary of the standardised regression coefficients of the State dummy variables in the stepwise regressions for the Number of Candidates.

The Hindi-belt States clearly show a higher number of candidates. The sign of the State dummy variables for Bihar, Haryana, Madhya Pradesh, Rajasthan, and Uttar Pradesh are always positive when they are selected. However, in the case of Rajasthan, the dummy variable is selected only once, in 1980, demonstrating that the number of candidates in Rajasthan is approximately at the same level as the all India average.

Contrasting cases against the Hindi-belt States can be found in southern and eastern India. Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu have a relatively small number of candidates when they are selected, with the exception of Andhra Pradesh in 1998 and Tamil Nadu in 1999. Both of the latter cases occurred after the institutional change in 1998.

For Orissa and West Bengal, the coefficients are always negative when they are selected. However, the basic reason for the negative correlation seems to be different between the two. In the case of West Bengal, the oligopolistic coalition party system between the Left Front and Congress party restrained other candidates from entering into the electoral fray. In the case of Orissa, the generally backward social structure and lower level of politicisation of the society was seen as the main cause of the small number of candidates before 1998.

In the cases of other States including Assam, Gujarat, Maharashtra, and Punjab, the patterns are not stable. In addition, the absolute values of the

Table IV-14

Summary of the Standardised Regression Coefficient of the State Dummy Variables in the Stepwise Regression for the Number of Candidates

	1957*	1962	1967	1971	1977	1980	1984	1989	1991	1996	1998#	1999#
Andhra Pradesh							-0.182	-0.357	-0.142		0.082	
Assam						n.e.		n.e.		-0.104		0.092
Bihar	0.271	0.131	0.165	0.310	0.287	0.341	0.149		0.232		0.116	0.225
Gujarat (Including the area to become part of the State in 1957)				0.149	0.177	0.220	-0.084				-0.190	
Haryana (Including the area to become part of the State in 1957 and 1962)		0.254	0.229	0.169	0.101		0.234	0.294		0.084	0.252	0.191
Karnataka				-0.148				-0.212	-0.241	-0.076	-0.119	-0.218
Kerala		-0.262	-0.124	-0.159	-0.251				-0.197			
Madhya Pradesh	0.179	0.134				0.245				0.214	0.291	0.220
Maharashtra (Including the area to become part of the State in 1957)						0.138						-0.127
Orissa		-0.215	-0.229				-0.188	-0.151	-0.180	-0.191		
Punjab	0.155		0.188			0.215	-0.215	0.121	n.e.			
Rajasthan						0.217						
Tamil Nadu (Madras before 1967)			-0.178	-0.290	-0.248		-0.268		-0.266			0.110
Uttar Pradesh	0.375		0.242	0.186	0.292	0.519	0.341		0.098	0.328	0.430	0.596
West Bengal		-0.188	-0.121		-0.201		-0.184	-0.215	-0.373	-0.335		

Source: Table IV-13.
Notes: "n.e.": Election was not held or data are not available.
"*": The N=121 in the case of the 1957 election due to the exclusion of the two-member constituencies.
"#": The security deposit was raised as an institutional change.

regression coefficients are not very high even when selected, and the signs are not stable. One interesting case is the contrast of the coefficients between 1980 and 1984 in Punjab. The very clear decrease in the number of candidates between 1980 and 1984 is considered to be due to the very severe political tension caused by a series of the political events from the destruction of the Golden temple to the assassination of Indira Gandhi, the anti-Sikh riots and the spread of terrorism in 1984. This very repressive and disturbing political pressure, no doubt, reduced the number of candidates in the State, which is said to have a highly fragmented party system..

Finally, the explanatory power of the State dummy variables as a whole is examined. The procedure is basically the same as that used for turnout. The covariates used to remove irrelevant variance for all the 12 elections are

Figure IV-9

Standard Deviation of Mean Squares of Number of Candidates Explained by State Factor (Candidates per 1 million electorate)
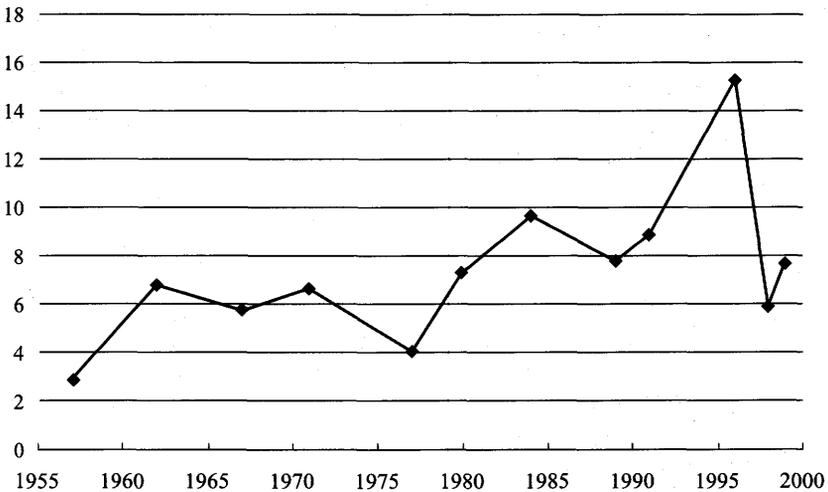
Note: Analysis of covariance is made for the panel data set excluding the all the samples with missing values concerning number of candidates with weights used in the stepwise regression. As a result, the samples from Assam and Punjab are excluded. The exception is the case of the 1957 election, because the samples including two-member constituencies are excluded. N=113 in the 1957 election. In other elections, N=253. The GLM procedure of the SPSS is used. The Factor is a set of State dummy variables. Covariates included for all 12 elections are Agricultural Yield, Urbanisation, and Scheduled Tribes.

Agricultural Yield, Urbanisation, and Scheduled Tribes, with their weights being used in the stepwise regression. The results are shown in Figure IV-9. It shows the change in the standard deviation of mean squares of Number of Candidates, as explained by State factor. A few points should be made.

First, the graph is very similar to that of Figure IV-8, on the number of candidates per one million electorate. The explanatory power of the State factor is, by and large, proportional to the number of candidates.

Second, the basic trend is toward increasing between-States difference. However, a clear case of discontinuity is again discerned between the 1996 and 1998 elections. This is undoubtedly due to the institutional change involving the imposition of a huge security deposit and the consequent sharp decrease of the number of candidates.

Third, it is confirmed that the clear troughs in the 1977 and 1989 are obviously the result of the oligopolistic party system, which was explained already. The tight oligopolistic party system reduced the between-States difference in the number of candidates as well as the number of candidates themselves. It is difficult to compare the relatively wide difference between the 1957 and 1962 elections, because the number of samples in 1957 is less than a half that in the other elections, due to the exclusion of samples of the two-member constituencies.

In this section, we have found that the oligopolistic features of the party system, economic development, and a higher ST ratio are factors that reduce the number of candidates. By contrast, the divergent features of the party system and urbanisation increase the number of candidates. However, the number of candidates is very sensitive to institutional changes in the electoral system. And finally, clear regional differences are also discerned. The contrast between the Hindu-belt States and southern and eastern States is evident.

Notes

[1] The correlation coefficients are as follows:

		1957	1962	1967	1971	1977	1980	1984	1989	1991	1996	1998	1999
Value of 35 crops per hectare	Male Crude Literacy	0.494	0.527	0.519	0.498	0.481	0.463	0.440	0.410	0.397	0.334	0.305	0.290
	Female Crude Literacy	0.576	0.646	0.657	0.644	0.623	0.601	0.574	0.536	0.519	0.469	0.446	0.435
Fertiliser Consumption	Male Crude Literacy	0.143	0.315	0.384	0.349	0.229	0.195	0.191	0.189	0.184	0.153	0.137	0.129
	Female Crude Literacy	0.147	0.421	0.487	0.446	0.325	0.290	0.289	0.288	0.284	0.273	0.267	0.263

[2] Chatterjee and Price suggest a criterion for the identification of severe multicollinearity, where the smallest eigenvalue for a principle component is less than 0.01 and the sum of all the reciprocal values of the eigenvalues is larger than the number of independent variables multiplied by five. Chatterjee, S. and B. Price. 1977. *Regression Analysis by Example.* New York: John Wiley & Sons, Chapter 9, Section 9. In addition, the Variance Inflation Factors (VIF) should be paid attention to. These points should be kept in mind while examining the multicollinearity in this study.

[3] Benjamin, Roger W., Richard N. Blue, and Stephen Coleman. 1971. "Modernization and Political Change: A Comparative Aggregate Data Analysis of Indian Political Behavior." *Midwest Journal of Political Science*, Vol. 15, no. 2, May.

[4] According to the CSDS post-poll survey data for the 1999 election, SCs showed a turnout 2.2 percentage points higher than the national average while in the case of Muslim it was 2.2 percent lower than the average. *Frontline.* 1999. Heath, Oliver, "Election Analysis: The turnout factor?," 5 November, p. 125.

[5] "L-f" is standardised in the factor analysis. The average value, therefore, is "0." Because of the categorisation, the orthogonality between variables is not maintained in each data set.

[6] Education and a liberal social environment are very important factors explaining women's participation in voting. In feudalistic social relations where the activism of women is not likened and husband's influence generally overwhelms the will of his wife in socio-political behaviours, the turnout of the women appears to be rather lower. See, for example, Shukla, D.M. 1988. *Political Socialization and Women Voters (A Case Study of Kodarma Constituency).* New Delhi: Janaki Prakashan, Chapter 7.

[7] Concerning the impact on votes polled by major parties see, *Frontline.* 1991. Sen, Abhijit and C. P. Chandrasekhar, "Verdict' 91—Going behind the figures." 19 July.

[8] In the stepwise process, a variable is to be entered if the p value based on F statistics is less that 0.05, and it is to be removed from equation if the p value is more than 0.10. This criterion is to be applied in the stepwise regressions hereafter.

[9] For example, a model can be selected on the basis of the statistics such as the Adjusted R-squared, C(p), Akaike Information Criterion.

[10] The simple Pearson's correlation coefficient between turnout and the percentage votes of the CPI and CPI(M) combined in each election are especially high and their signs are stable over the elections, as shown in the following table.

Year	1957	1962	1967	1971	1977	1980	1984	1989	1991	1996	1998	1999
Correlation	0.298	0.300	0.280	0.283	0.233	0.483	0.557	0.536	0.606	0.549	0.562	0.497

N=243: Only for samples in which turnouts are always not zero for all the elections.

[11] In cases where the percentage of Cultivators per main workers was provided, it was selected in the 1984, 1989 and 1991 elections as a statistically important variable. It was correlated positively with turnout in the three elections. However, the simple correlation with turnout was -0.502 (N=279), -0.554 (N=279), and -0.436 (N=265) in 1984, 1989 and 1991 respectively. The statistical significance of the variable is, even if it is selected, therefore, likely to be spurious. On the other hand, in the case of the percentage of Agricultural Labourers per main workers, the signs in the multiple regression (when selected) and simple regression are always the same. It is, therefore, better to drop the percentages of Cultivators per main workers.

[12] According to Vinayak Damodar Savarkar, a central leader of Hindu Mahasabha, "Hindutva" might be translated as "Hinduness." The essentials of Hindutva are "a common nation (Rashtra) a common race (Jati) and a common civilization (Sanskriti)." The modern concept of "Hindutva" was coined by him to express the totality of the cultural, historical, and the national aspects along with the religious ones, marking out the Hindu People as a whole. In this connection, "Hindutva" is often translated as "Hindu nationalism." See, Savarkar, Vinayak Damodar. 1989. *Hindutva: Who is A Hindu?, Veer Savarkar Prakashan.* New Delhi: Bharti Sahitya Sadan, (the first edition published in 1923), p. 116.

[13] It is translated as "Sangh family." The Rashtriya Swayamsevak Sangh (=RSS) which was established in Nagpur in 1925 is the parent organisation. It includes the BJP, established in 1980 (formerly Jana Sangh established in 1951 by RSS), Vishwa Hindu Parishad (World Hindu Council) established in 1964, and other Hindu nationalist organisations with close linkages with RSS.

[14] The Distribution of the Non-Hindu, SC, and ST population based on the Bhalla and Singh Data set are shown in Appendix II. The sample was put in order starting from the bottom to show the distributional patterns. The demographic distributions of Non-Hindu and STs on the one hand, and of SCs on the other are very different. It can be easily understood that SC population is much more evenly distributed compared to Non-Hindu and ST populations in this area-based sample. Because of this distributional feature of the SCs, it is difficult for them to be selected as a statistically significant explanatory variable in the stepwise regression. On the other hand, the distribution of the Non-Hindu and ST populations are more biased. It is, therefore, much easier to identify the effect of the two variables in this area-based sample set.

[15] In all the regressions, the least eigen value is more than 0.01 and the sum of all the reciprocal values of the eigen values is less than the number of independent variables multiplied by five. Thus, all the regressions fulfil the criteria suggested by Chatterjee and Price in the note mentioned above.

[16] In the stepwise process of taking in or taking out processes of independent variables, no severe cases of multicollinearity were found.

[17] The correlations of Female-Male Literacy Equality are not improved in the regressions in the stepwise regression for low Literacy samples which I have conducted. The t-values (P values) in the stepwise regression for only the low Literacy samples are -2.863 (0.005) and -2.494 (0.014) in the 1957 and 1962 elections respectively. And it is 4.196 (0.000) in the 1996 election. In other elections, the stepwise regressions based on the low Literacy samples do not select it. The statistical significance of this variable is not stable in the different combination of the explanatory variables, hence, not robust in that sense.

[18] See, Appendix II

[19] According to the CSDS post-poll survey data in the 1999 election, SCs had a turnout figure 2.2 percentage points higher than the national average. Heath, Oliver, *op cit.*, p. 125.

[20] In the South Asian context, the term, "communal" or "communalism" usually refers to the negative aspect of the relations between different religious communities.

[21] In the 1984 election, the Non-Hindu variable is not statistically significant at the 5% level. No interpretation of the variable, therefore, is made.

[22] A stepwise regression based on the same procedure but only for the samples which consist of only single-member constituencies does not select STs as an important variable.

Dependent Variable   T1957   N=121 R^2=0.678

Variable	Name	Coefficient	Standard Error	Standardised Coefficient	t value	P value for t	VIF
Constant		45.051	1.091		41.305	0.000	
L-f57	Literacy	5.359	0.543	0.549	9.865	0.000	1.067
YH-f57	Agricultural Yield	2.324	0.520	0.262	4.474	0.000	1.183
NH57	Non-Hindu	0.216	0.048	0.268	4.497	0.000	1.223
AP	Andhra Pradesh	7.071	3.341	0.116	2.116	0.037	1.040
AS	Assam	-14.820	4.653	-0.183	-3.185	0.002	1.133
BI	Bihar	-11.236	2.658	-0.232	-4.227	0.000	1.036
HA	Haryana (The area to become Haryana State)	17.499	3.230	0.298	5.417	0.000	1.040
KA	Madhya Pradesh	5.897	2.037	0.161	2.895	0.005	1.070
OR	Orissa	-10.745	2.717	-0.221	-3.955	0.000	1.080

Note: Calculation is made only for the sample consisting of only single-member constituencies.

[23] Heath, Oliver, *op. cit.*, p. 125.

[24] Bharatiya Lok Dal was formed in August 1974 by a merger of the following seven parties: Bharatiya Kranti Dal, Samyukta Socialist Party, Swatantra, Utkal Congress, Rashtriya Laktantrik Dal, Kisan Mazdoor Party of Haryana and Punjab Khetibari Zamindar Union, with Charan Singh as Chairman.

[25] See, for example, Nadkarni, M. V. 1987. *Farmers' Movements in India*. New Delhi: Allied; Varshney, Ashutosh. 1995. *Democracy, development, and the countryside—Urban-rural struggles in India*. Cambridge: Cambridge University Press; Sarkar, Goutam K. 1995. *Agriculture and Rural Transformation in India*. Calcutta: Oxford University Press.

[26] See, Ministry of Labour (Government of India). 1992. *Report of the National Commission on Rural Labour, Volume I*. Coimbatore: Government of India Press, Chapter 4, 5 and 6.

[27] See, for example, Bouton, Marshall M. 1985. *Agrarian Radicalism in South India*. Princeton: Princeton University Press; Kohli, Atul. 1987. *The State and Poverty in India—The Politics of Reform*. Cambridge: Cambridge University Press; Lieten, G. K. 1992. *Continuity and Change in Rural West Bengal*. New Delhi: Sage.

[28] See for example, Brass, Paul R. 1974. *Language, Religion and Politics in North India*. London: Cambridge University Press, Part IV.

[29] Concerning the electoral politics in Orissa after independence see, for example, Jena, B. B. and J. K. Baral. 1989. *Election Politics and Voting Behaviour in India: A Study of Orissa*. Delhi: Discovery Publishing; Misra, Surya Narayan. 1989. *Party Politics and Electoral Choice in An Indian State*. Delhi: Ajanta. These studies point out various socio-political structures to explain the lower electoral participation before the 1980s.

[30] See, Kohli, Atul. 1987. *op. cit.*; Lieten, G. K., 1992, *op. cit.*; Mallick, Ross. 1993. *Development Policy of a Communist Government—West Bengal since 1977*. New York: Cambridge University Press.

[31] In 1980, the All Assam Students Union and Gana Sangram Parishad agitated for the deportation of "foreign" nationals and the holding of elections on the basis of

rolls from which the names of such persons had been deleted. Their demand targeted Bengalese, who they believed were infiltrating into Assam from Bangladesh. President's rule was imposed in Assam in 1980.

[32] The All Bodo Students Union (ABSU) and other Bodo extremists groups demanded the establishment of "Bodoland," and violent clashes occurred between Bodo and others. The Assam Gana Parishad State government could not respond to the demand. The army was called out into the violence-affected areas of Assam to intervene between Bodo tribals and non-tribals.

[33] See, Baruah, Sanjib. 1999. *India Against Itself: Assam and the Politics of Nationality*. Oxford: Oxford University Press; Baruah, A. K. and Sandhya Goswami. 1999. "Fractured Identities: Politics in a Multi-Ethnic State." *Economic and Political Weekly*, 21–28 August.

[34] Concerning the agitation see for example, Innaiah, I. 1986. *State Government and Politics—A Study of Andhra Pradesh Politics 1885–1985*. Hyderabad: Scientific Services, pp. 101–122

[35] Concerning Communism in Kerala, see, Nossiter, T. J. 1982. *Communism in Kerala—A Study in Political Adaptation*. Delhi: Oxford University Press.

[36] See, Hartmann, Horst. 1963. "Changing Political Behaviour in Kerala." *Economic and Political Weekly*, Annual Number, January.

[37] See, Isaac, T. M. Thomas and S. Mohana Kumar. 1991. "Kerala Election, 1991: Lessons and Non-Lessons." *Economic and Political Weekly*, 23 November.

[38] See, for example, Washbrook, D. A. 1989. "Caste, Class and Dominance in Modern Tamil Nadu." in Frankel, F. R. and M. S. A. Rao (ed.). *Dominance and State Power in Modern India—Decline of a Social Order: Volume I*. Delhi: Oxford University Press.

[39] The turnout of Lok Sabha elections are very low in the 1990s, while the turnout of the State Legislative Assembly elections are normal in the same period compared to other States. The reason might be related to the communalisation of the State politics. See, Patel, Priyavadan. 1999. "Sectarian Mobilisation, Factionalism and Voting in Gujarat." *Economic and Political Weekly*, 21–28 August.

[40] The variables whose statistical significances are found to be obvious in many elections on the basis of the analysis so far, are included in order to make the significance of the State factor clear by removing the variance explained by these covariates.

[41] The abolition of the two-member constituencies was the within-State process. It is not, therefore, considered to affect the between-State turnout deviation.

[42] The era of Prime Minister Indira Gandhi was often characterized as one of political centralisation. Her frequent interventions in State politics may have been an important factor in promoting the intermingling. However, at the same time, it became apparent later that these frequent interventions and the resultant erosion of Congress organisation in the States would lead to severe repercussions from the electorate in the States. See for example, Brass, P. R. 1982. "Pluralism, Regionalism, And Decentralizing Tendencies in Contemporary Indian Politics." in Wilson, A. Jeyaratnam and Dennis Dalton (eds.). *The States of South Asia— Problems of National Integration*. London: C. Hurst & Co.

[43] Another factor which contributed to the political diversification was that there had been no longer any truly national character, such as Indira Gandhi, who could act as a centripetal political force after 1984. See for example, Hardgrave, R. L. Jr.

1993. "Alliance Politics and Minority Government: India at the Polls, 1989 and 1991." in Gould, Harold A. and Sumit Ganguly (eds.). *India Votes—Alliance Politics and Minority Governments in the Ninth and Tenth General Elections.* Boulder: Westview.

[44] In the case of the correlation between the 1957 and 1962 elections, it is difficult to evaluate the value because of the institutional change of the abolition of the two-member constituencies.

[45] See, for example, Singh, V. B. 1997. *Elections and Social Change in India: Results of National Election Study, 1996.* New Delhi: Centre for the Study of Developing Societies, p. 63.

[46] The regression was made only for Uttar Pradesh samples, with the increase in candidates serving as the dependent variable. The independent variables are SC difference, ST difference, Agricultural yield, and Urbanisation. There are no independent variables whose regression coefficient show statistical significance (N=47).

[47] Its support base is basically SCs, including Chamar (or Jatav) and Pasis. See, for example, Kumar, Pradeep. 1999. "Dalits and the BSP in Uttar Pradesh—Issues and Challenges." *Economic and Political Weekly*, 3 April.

[48] See, for example, Sharma, Alakh N. 1995. "Political Economy of Poverty in Bihar." *Economic and Political Weekly*, 14–21 October; Sinha, Arvind. 1996. "Social Mobilisation in Bihar—Bureaucratic Feudalism and Distributive Justice." *Economic and Political Weekly*, 21 December; Prasad, Binoy S. 1997. "General Elections, 1996—Major Role of Caste and Social Factions in Bihar." *Economic and Political Weekly*, 22 November; Kumar, Sanjay. 1999. "New Phase in Backward Caste Politics in Bihar—Janata Dal on the Decline." *Economic and Political Weekly*, 21–28 August.

[49] In the 12 preliminary regressions, "Urbanisation" is selected ten times, while "Female-Male Literacy Equality," "Agricultural Yield," and "Fertiliser Consumption" are chosen thrice, twice and only once respectively. The importance of "Urbanisation" and unimportance of the other socio-economic variables is obvious.