
**AN INVESTIGATION INTO THE
DETERMINANTS OF THE SIZE OF INDIAN
PARTY SYSTEM**

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ABSTRACT

Research on the Indian party system has been dominated by descriptive approaches, wherein case studies of a specific party, election or geographic region have been analysed. Cross-country studies that include the Indian data tend to focus only on the national level, paying little attention to the party systems at the sub-national level. My thesis compiles a comprehensive database covering the period 1951 to 2004, and undertakes an empirical investigation into the determinants of the size of Indian party system at the sub-national level. The main focus of my thesis is the state level, but I also undertake analysis at the district level to evaluate Duverger's Law, and the effects of District Magnitude and Electoral reservation on the size of the Indian party system.

I investigate the effects of institutional, sociological and contextual variables on the size of the party systems in the Indian states. I find that Assembly Size and Effective Threshold are important institutional variables affecting the size of party system. States with larger Assembly Size tend to have higher number of parties, while higher Effective Thresholds are associated with lower number of parties. Further, higher social and religious heterogeneity increases the number of parties in the Indian states. Federal centralisation and dependence of the states' on the national government emerge as important contextual variables affecting the size of the Indian party system. I find that these two factors reduce the number of parties at the state level. My unified regression analysis shows the importance of institutional, sociological and contextual factors in determining the size of the party systems in the Indian states.

Finally, I discuss the implications of my findings on the electoral and political system and democracy in India, and identify some important areas of future research.

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LIST OF IMPORTANT ABBREVIATIONS

BSP	Bahujan Samaj Party
BJP	Bharatiya Janata Party
NCP	Number of Contesting parties
EC	Election Commission of India
ENP	Effective number of electoral (vote-getting) parties
ELP	Effective number of legislative (seat-getting) parties
FEM	Fixed Effects Model
FPTP	First Past The Post
INC	Indian National Congress
JMM	Jharkhand Mukti Morcha
LC	Least Component Index
LSDV	Least Squares Dummy Variable
NDA	National Democratic Alliance
PCSE	Panel corrected standard errors
PR	Proportional representation
REM	Random Effects Model
SC	Scheduled Castes
SMPS	Single member plurality system
ST	Scheduled Tribes
TSCS	Time series cross sectional
UPA	United Progressive Alliance

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1 INTRODUCTION, GOALS AND METHODS

Study of party systems is one of the most important and well-researched areas of political science. The size of the party system (number of political parties), variance in parties' policy positions, nature of electoral competition, and the fragmentation of the party system are all important determinants of whether voters get meaningful choice at the time of elections.¹ This choice in turn, is important to sustain democratic functioning of the political system. How are the party systems shaped and what determines the number of parties in the political system? In this thesis, I answer these questions in the context of the Indian party system. Specifically, I investigate the effects of institutional, sociological and contextual factors on the size of party systems in the Indian states.² By doing so, my research contributes towards furthering our understanding of the determinants of party systems in general.

Previous research on the Indian party system concentrates either on the national level, or on few states often focussing only on specific political parties. My research differs from the existing research by focusing on the state level, taking an empirical approach, and adopting a comparative methodology within a single country case study. Although my focus is to understand the determinants of the size of Indian party system at the state level, I also study trends in the party system at the district, state and the national level to examine phenomenon such as 'Duverger's Law' (Duverger, 1954) and 'Party Aggregation' (Chhibber and Kollman, 1998; 2004). My

¹Literature provides different formulae for calculating the number of parties. These formulae, their merits and limitations are discussed in detail in Chapter 2.

²According to Cox (1999), the difference between the effective number of parties at the national party level and the effective number of parties in the local party system can be used as an inverse measure of linkage between the two levels. A clearer idea of what explains the variation in the size of the effective parties at the local (for example state) level is thus necessary first step for a complete understanding of the national party system.

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research contributes to the current scholarship on the Indian party systems in many ways. I identify and measure important institutional, sociological and contextual factors affecting Indian party system. I compile a comprehensive data set of these variables covering the period 1951 – 2004, and undertake detailed empirical analysis of the data compiled using alternative methods and models.³ My research constitutes a systematic attempt to study the Indian party system across the Indian states using empirical data, and enables a clearer understanding of the factors affecting the party systems especially at the state level.

In the next section, I discuss why study of party systems constitutes an important area of both academic research and practical importance.

1.1 Do party systems matter?

Parties are the key building blocks of the political system, and provide for a coordinating mechanism between voters, candidates, legislators, ministers and other key actors in a political system. The party system consists of competitive interaction patterns among parties (Eckstein, 1968), or as Duverger (1954) puts it, the forms and modes of their (parties') co-existence. The party system can produce legislative majorities, leading to one party or a block of parties dominating the political scene, or alternatively leading to coalitions. Studying the factors that explain the nature and size of party system can help decipher the configuration and evolution of party system over time. Party systems vary across countries, and sometimes, within countries, and the theories to explain them often need to be combined or

³This period covers all the general elections held in India since its independence. The first elections were held in 1951 and the latest ones in 2004.

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reformulated. Parties help in sustaining democratic politics, and they prepare candidates to contest and win elections under the party name. Parties organise their members around their policies, work to gain support for these policies from the voters. They also exert pressure on governments to secure their policy objectives. Different political parties engage continuously in electoral competition, and together constitute a party system.

Some scholars have argued that basic features of a government, such as whether it is parliamentary or presidential have a higher degree of influence on political and economic outcomes, and that the effects of party systems are relatively unimportant (see Powell, 2000 for a summary of this argument). This argument is based on the view that party systems are shaped primarily by electoral systems and other institutional variables, and therefore, variations in party systems do not have real and direct political consequences. A counter view, with which I agree, argues that the size and the nature of party systems have independent and real political, social and economic consequences (for example, Chhibber and Kollman, 2004; Alesina et al., 1999; Persson and Tabellini, 1999). Party systems can affect government formation and durability (King et al., 1990), political violence (Powell, 1982), macroeconomic outcomes (Roubini and Sachs, 1989), and party system extremism (Cox, 1990). Chhibber and Kollman (2004) point out parties' role as solutions to collective dilemmas.

Understanding the determinants of the number of parties is an area of research in which there has been a steady and substantial accumulation of empirical and theoretical knowledge (Riker, 1982). The size and the competitiveness of the party

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systems are important determinants of voters getting meaningful electoral choices, and a country getting a stable government. In the Indian context, one has seen that fragmented legislatures and coalition governments have found it more difficult to pass laws, frame and implement government policies. Party systems determine the degree of bargaining complexity that may affect government formation and maintenance (Warwick, 1994; Van Roozendaal, 1997; Lijphart, 1999; Müller and Strom, 2000; De Winter and Dumont, 2001). Chhibber and Noorudin (2004) find that Indian states with two-party competition provide more public goods than ones with multiparty competition. This happens because in two-party systems parties draw support from many social groups and therefore need to provide more public goods to win elections. In multiparty systems on the other hand, parties need only a plurality to win an election, and therefore are more likely to use private goods rather than public goods to mobilise electoral support.

My view is that party systems matter, and research into the determinants of the size of party system can provide insights into the nature of party competition, and the likely political and economic outcomes arising from it. In the next section, I discuss the importance of the Indian case in furthering our understanding of the factors affecting the size of party system.

1.2 Why is the Indian case important?

Understanding the Indian case is important because the political system here functions within a heterogeneous population consisting of many religious and social groups. Indian democracy has been an important area of research, and existing

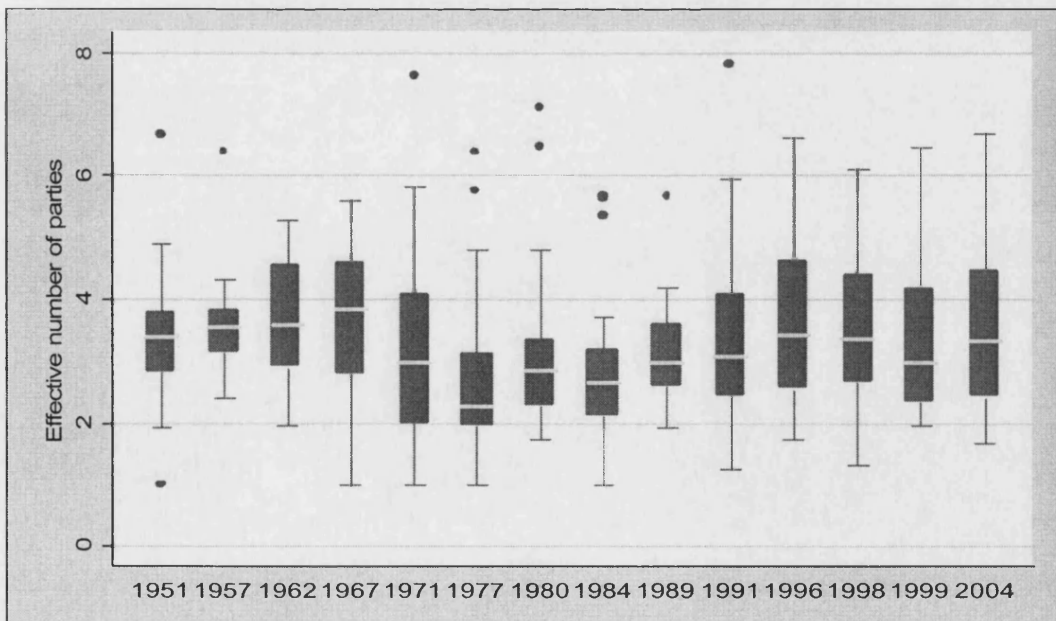
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scholarship either considers India as a deviant case, or cannot fully explain the sustenance of Indian democracy despite odds such as poverty and illiteracy. India is also an important emerging economy, with a strong party system, and a record of regular elections. Research into the determinants of the size of Indian party system can help to further our insights into the nature of electoral competition, and extend our knowledge in this area of research.

Furthermore, with multiple social cleavages, Single member plurality system (SMPS), significant intra-country differences, and an evolving party system, India is an interesting case to study the determinants of the size of the party system. Figure 1-1 depicts a box chart showing the range of the effective number of electoral parties (by votes) as measured by the method proposed by Laakso and Taagepera (1979) in the Indian states for elections between 1951 and 2004.⁴

Figure 1-1 Effective Electoral parties in India at the state level



Source: Author's calculations using Election Commission of India data

⁴The formula given by Laakso and Taagepera weighs the number of parties winning votes, by their respective votes. It is discussed in detail, in Chapter 2.

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In Figure 1-1, each box represents the effective number of electoral parties in a particular year at the state level, and also shows the range of inter-state variation in that particular year.⁵ The boxes are drawn so that their lower and the upper bounds represent 25th and 75th percentile values of the distribution within a particular year. Similarly, the upper and the lower bounds of the two whiskers represent almost the whole distribution, while the points outside the whiskers show the outliers. The line drawn inside each box shows the median number of effective electoral parties in a particular election. As can be seen, the size of Indian party system varies across states, and also over time, thus providing an interesting area of research.

Most of the comparative studies on the determinants of the size of the party systems are based on western democracies. The studies that include India do so as a single data point at the national level in a cross-country analysis. This approach, while useful from a cross-country perspective, does not fully highlight the dynamics of the party system within a country such as India. Since Indian states vary in terms of social and religious cleavages, institutional effects, the determinants of the party system are better studied and understood at the sub-national level. Existing research on the Indian party system at the state and district level has largely been descriptive, and relatively less attention has been paid towards empirically validating existing theories, and developing new ones.⁶ Furthermore, the existing scholarship focuses on subjects such as the party system in one or few states (Wallace and Roy, 2003), the rise or fall of a particular party (Pai, 1997; Chandra, 2000; Kothari, 1964), election results (Butler et al, 1995; Aggarwal and Chowdhry, 1996), fragmentation

⁵General elections are held once in five years. After 1971, the next elections were held only in 1977 because of Emergency rule invoked in 1975.

⁶An Indian electoral district is called a constituency. Through out this thesis, I use the commonly used term 'district' to represent a constituency.

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of the party system (Sridharan, 2002), the effect of electoral reservation for backward classes (MacMillan, 2003). Chhibber and Kollman's (1998, 2004) contribution is on the party aggregation at the Indian national party system, while Chhibber and Petrocik (1989) examine support of social cleavages for a particular party. As mentioned earlier, cross-country analysis such as Amorim and Cox (1997) and Lijphart (1994) include India as a single data point at the national level, thus ignoring the inter-region and inter-state differences in Indian party system.

Thus, the existing research on the Indian party systems has four main weaknesses. One, it focuses on *specific* parties or states, rather than on the *general patterns* seen in all Indian states and regions. Second, conclusions drawn are often not based on *systematic* examination of empirical data for all states and election years. Third, inadequate attention has been paid to the sub-national party systems in the Indian states and districts. Fourth, most of the comparative work on India has been of the cross-country type, where India is taken as a single data point, thus missing out the heterogeneity of party systems across the Indian states. Overall, there is limited empirically verified body of knowledge for the determinants of party systems in the Indian states and districts. In this study, I make a contribution towards the existing scholarship on the Indian party system especially at the state level.

1.3 Indian party system or party systems in the Indian states?

An important question is whether a single country can have more than one type of party system? My view is that in India, the states are so diverse that it is difficult to envisage the Indian party system without considering state-level party systems.

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Further, the presence of many important regional parties implies that the nature of party competition also varies because of a range of policy platforms, personalities and ideologies of these parties. It seems appropriate therefore to refer to the Indian party system in the plural.

According to Sartori (1976), parties make a system only when they are in parts, and a party system is nothing but the *system of interactions* resulting from inter-party competition. Therefore, parties exist to compete with and respond to other parties, and the party system resulting from these interactions forms a part of the larger political system. Blondel (1978) stresses that the party system goes beyond individual leaders, societal and political groups, and this leads to parties relating to each other not only for voter mobilisation and electoral competition, but also in legislatures and other power situations. According to Blondel (1978: 76),

Basically, a party exists in order to win battles against other parties or groups. Parties which compete overtly necessarily come to resemble each other through this competition. Similarly, when a party stands alone, its characteristics are a function of the latent opposition which it might fight or repress. The nature of the competition thus influences the nature of the party system.

Thus, the different linkages between the parties result into a party system. In a heterogeneous society such as India, the links between parties and society are complex and varied, and this leads to multiplicity of party systems across the Indian states. According to Mehra et al. (2003), party system acquires special connotation in multi-cultural societies since they represent multiple groups and interests, and need to engage in coalition building at national, state and regional levels. This is true

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in the Indian case, where parties compete and engage at various levels, and as such give rise to many party systems across the Indian states and regions. This supports the view that the Indian party system consists of many distinct party systems operating in different states. Weiner (1989) argues that it is important to distinguish between the national and the state party system in the Indian context. This view is based on the argument that political activities operating at different levels in diverse states create political processes that lead to more than one party system within one country. Therefore, the research done at the national level does not reflect the diversity of party systems in the Indian states and districts, and this necessitates studying the party systems at the sub-national level.

Indian states are important political actors, and many important decisions about distribution of national revenues and resources are constitutionally entrusted with them. Indian states also mirror the national government in implementing many policies and schemes such as the privatisation of state-owned enterprises, negotiation for fiscal incentives for foreign investment, poverty alleviation programmes. Local governments on the other hand, possess limited financial and political powers. This division of powers between different levels of government has led to intense electoral competition at the state level. Also, the importance of state level has grown in Indian politics so that the national party system has become a sum of diverse state level party systems. From a research point of view, the number of the Indian states and the elections held constitute a large data set to carry out a comparative empirical study of the Indian party system.⁷

⁷Currently there are 28 states and 7 union territories (units directly administered by the National Government), and elections have regularly been held since 1951.

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The analysis at the district level on the other hand is useful to evaluate theories such as Duverger's Law, and the effects of certain electoral features such as District Magnitude and electoral reservations for particular social groups. My research mainly focuses on the determinants of the size of party systems at the state level, while also analysing the effect of important electoral features at the district-level.

Party systems function as a part of broader political system, and as such understanding of the political history and environment, and the electoral system is a starting point to analyse party systems. In the next section, I provide an overview of the Indian political system which includes an analysis of Indian democracy, its electoral system, and a background on the Indian party system.

1.4 Overview of the Indian political system

India attained Independence on 15th August 1947 and adopted its Constitution on 26th January 1950. According to the Indian Constitution, India is a sovereign, secular, democratic republic, and it is a union of states with a parliamentary form of government. With over a billion people, India is often referred to as the world's largest democracy, and one of the few stable ones in the developing world. The size of electorate is by far the world's largest, and in the 2004 elections stood at 672 million. Elections have been conducted successfully since 1951, and except for a brief period of emergency rule in 1975-77, India has sustained its democracy since its independence.⁸ Till date, there have been 14 parliamentary elections resulting in

⁸India became independent country in 1947, and the first elections were held in 1951.

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peaceful transfer of power to new governments. Table 1-1 summarises some key statistics about the Indian elections.

Table 1-1 Key statistics from Indian parliamentary elections 1951 – 2004

Year	No. of electoral districts	No. of Candidates	Electorate (Millions)	Voter turn Out (%)	No of recognised Parties
1951	489	1864	173.2	47.0	16
1957	494	1591	193.6	47.0	16
1962	494	1985	216.3	49.0	16
1967	520	2369	249.0	49.0	21
1971	518	2784	274.0	49.0	25
1977	542	2439	321.1	49.0	23
1980	542	4620	355.6	51.0	25
1984	542	5481	399.8	51.0	26
1989	543	6160	498.9	48.0	28
1991	543	8699	514.1	53.0	36
1996	543	13952	592.6	54.0	38
1998	543	4693	605.3	61.8	42
1999	543	4648	619.6	59.9	47
2004	543	5435	671.5	58.1	57

Source: Aggarwal and Choudhary (1998), Election Commission of India reports.

As can be seen in Table 1-1, the number of electors and candidates has registered a large increase since the first election. The number of recognised parties too, has gone up from 16 in 1951 to 57 in 2004.⁹ Election turnout has also generally kept rising, and has in general, exceeded the levels typical in several western democracies. Since 1977, many incumbent governments have been repeatedly defeated in elections. The press has remained relatively free to challenge the government. The judiciary, despite periodic pressure from the executive branch, has maintained

⁹The recognised parties as defined by the Election Commission of India are those which contest elections in more than one Indian state.

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institutional autonomy, and more recently taken an active role in ensuring that executive performs its role as per the constitutional provision.

1.4.1 Indian democracy

The emergence and success of Indian democracy defies many political science theories that stipulate preconditions for democracy. The main academic approaches have emphasised factors such as affluence, social homogeneity, education, and industrialisation as pre-requisites for democracy. However, India is not an industrialised, developed economy, it is anything but ethnically homogenous, and would probably rank low on a number of attributes of “civic culture” (Kohli, 2001). Dahl (1989) cites India as a leading contemporary exception to democratic theory, and points out that in India polyarchy was established when the population was largely illiterate, agricultural and highly traditional in their beliefs. Diamond et. al. (1995) arrive at the same conclusion in their survey of Third World democracies.

The world’s largest and the most heterogeneous democracy runs counter to Mill’s (1958) proposition that democracy is close to impossible in multi-ethnic societies and not possible in linguistically divided societies. It also confounds Harrison’s (1960) prediction, of India’s democratic failure and/or territorial disintegration, who thought that the odds were wholly against the survival of Indian democracy. Yadav (1996a) points out that India is perhaps the only large democracy in the world where the turn out of the lower orders of society is well above that of the more privileged groups.

The type of democracy that has been chosen is radical in many ways. There is no recognition of any ethnic, religious or caste basis of citizenship. There are no

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separate electorates, no religious qualification for holding office, nor a literacy test.

Women are given the vote on the same terms as men. The adoption of secularism is a guarantee that a religious minority had nothing to fear from majority rule.

Under the leadership of Nehru, the first prime minister, institutions that ensured a wide sharing of power and provided a place for dissent, were created. During this phase, India also benefited from the presence of a well-functioning civil service and a popular ruling party. Between 1975 and 1977, Indira Gandhi, the then Prime Minister, suspended civil rights, and imposed a national emergency. However, democracy was restored after the 1977 elections. Although some parts of India such as Jammu and Kashmir and Punjab have witnessed law and order problems, it has not disrupted the overall democratic stability. India in the 1990s has moved away from a single-party rule towards coalition politics, and this has led to difficulties in forming stable governments, and frequent elections. In general, Indian elections have been recognised as impartial, free and fair. Democracy seems so deeply rooted in India that it seems difficult to imagine any other form of governance.

Thus, India represents a rare example of a developing and socially heterogeneous country that has been able to sustain a stable democracy. Lijphart (1996) has attempted to explain the puzzle of Indian democracy by a consociational interpretation. According to Lijphart, India fulfils all the conditions of a consociational society, and therefore, India is a confirming and not a deviant case of democracy. He argues that

The consociational interpretation of India strengthens our understanding of the Indian case by providing a theoretically coherent explanation of the main patterns

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and trends in its political development. Furthermore, it strengthens consociational theory by removing the one allegedly deviant case and by showing that, instead, the crucial case of India is unmistakably a confirming case (Lijphart, 1996:266).

Lijphart's analysis however ignores that India does not have substantial mechanisms to ensure power sharing, even though in practice, people from different interest groups have succeeded in finding some level of representation. Similarly, there is no formal grand coalition of major linguistic and religious groups. Thus, although there is power sharing, it is not of the kind suggested by Lijphart, and definitely not of the kind seen in consociational societies such as Switzerland and Netherlands.

To explain India's democracy, one also needs to consider its pre-independence political history, including the effect of British rule, the freedom struggle, and the role of the Indian National Congress (INC). These factors coupled with threats to national security post independence, seem to have led to a political culture of accommodation and tolerance. Finally, the form of the government, the party system, the electoral rules, and the legal and the institutional framework (such as judiciary, the civil service and the Election Commission - EC) in which the political system operates have also contributed towards strengthening India's democratic traditions.

Political parties and party system are affected by the key features of the political system such as the form of government, the electoral rules, and its key institutions. Following, I discuss the key features of Indian political and electoral system.

1.4.2 *Parliamentary form of government*

The Indian constitution established a parliamentary system of government led by a Prime Minister who is assisted by a council of ministers. India's electoral system is based on single-member districts determined by a simple plurality of votes.¹⁰ Indian political system is broadly based on UK's Westminster model, with two houses of the parliament: the lower house, *Lok Sabha* and the upper house, *Rajya Sabha*. The *Lok Sabha* is the main legislative body currently comprising 543 members elected directly from single-member districts in different Indian states following the first-past-the-post (FPTP) system. Members of the *Lok Sabha* typically represent an average of 1.24 million electors (based on 2004 elections). The elections are held every five years (or earlier if the *Lok Sabha* is dissolved under certain circumstances specified in the Constitution). Currently, there are 233 elected members of the *Rajya Sabha*, and in addition 12 members can be nominated for their contribution towards literature, art, science and social services. The number of *Lok Sabha* and *Rajya Sabha* seats allotted to each state is fixed according to its population.

India also has a President, who is only the symbolic head of the state, and is elected indirectly by an Electoral College for a period of five years. Although the President is only the symbolic head of the state, he or she has some important powers like declaring an emergency in the country if the security of the country or of any part of its territory is threatened by war, external aggression or armed rebellion. The Constitution of India also provides for a Vice-President who is elected by the

¹⁰In the first two elections held in 1951 and 1957, some districts were multi-member. Thereafter, all districts have been single-member.

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members of an electoral college consisting of members of both Houses of Parliament as per proportional representation system by a single transferable vote.

1.4.3 *Single Member Plurality System (SMPS)*

Lijphart (1994) defines electoral systems as sets of essentially unchanged election rules under which one or more successive elections are conducted. He describes the basic characteristics of the electoral systems as – measures of disproportionality, measures of multipartism and the production of majority parties. According to Lijphart, the two most important dimensions of an electoral system which affect proportionality of election outcomes and for the party systems are the electoral formula and district magnitude. He later introduces a third factor: electoral threshold. Electoral formula relates to the conversion of votes into seats obtained in the legislatures. A closer or direct relationship between the votes and seats leads to a more proportional electoral system. District magnitude is the number of representatives elected per electoral district, and the electoral threshold is the minimum level of support a party needs to gain representation in the legislature.

India's choice of electoral rules at the time of independence was influenced by the twin pressures of continuing with the SMPS, with which it had some experience during British rule, as well as the pressure towards PR to ensure adequate representation of its heterogeneous population. Farrell (2001: 20) points out the three main themes of SMPS being simplicity, stability and constituency representation. India chose the SMPS system, but also introduced a system of reservation for the Scheduled Castes (SC) and Scheduled Tribes (ST), a system that continues till

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today.¹¹ In the first two elections post-independence, the electoral system also involved some multimember districts (McMillan, 2003).

For elections to the *Lok Sabha*, the main legislative body, the Indian states and the union territories are divided into single-member districts, and the winner elected on the basis of FPTP rule. An independent Delimitation Commission ensures that the electoral districts established contain roughly equal number of electors, keeping in mind the administrative and geographical considerations. The boundaries of these districts are to be therefore evaluated after every population census which is carried out every ten years. However, this exercise of examining the districts has been suspended since 1976, and the seats allotted to the states are currently based on 1971 Census.¹² This has led to some degree of mal-apportionment of seats with large discrepancies in the size of population in different districts. For example, the largest district in the 2004 was Outer Delhi with about 3.2 million electors, while the smallest district was Lakshadweep with just over 39000 electors. The number of parliamentary seats currently allocated to the Indian states and union territories are shown in table 1-2 below.

¹¹These represent two constitutionally defined social groups that have been provided special rights in terms of reservations in electoral representation, jobs, etc.

¹²The main controversy surrounding the changes in districts based on population is that the states that have been most successful in controlling their populations will be the ones that will lose out.

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Table 1-2 Number of electoral districts in the Indian states

States/union territories	Total districts	General districts	SC districts	ST districts
Andhra Pradesh	42	34	06	02
Arunachal Pradesh	02	02	-	-
Assam	14	11	01	02
Bihar	54	41	08	05
Goa	02	02	-	-
Gujarat	26	20	02	04
Haryana	10	08	02	-
Himachal Pradesh	04	03	01	-
Jammu & Kashmir	06	06	-	-
Karnataka	28	24	04	-
Kerala	20	18	02	-
Madhya Pradesh	40	25	06	09
Maharashtra	48	41	03	04
Manipur	02	01	-	01
Meghalaya	02	02	-	-
Mizoram	01	-	-	01
Nagaland	01	01	-	-
Orissa	21	13	03	05
Punjab	13	10	03	-
Rajasthan	25	18	04	03
Sikkim	01	01	-	-
Tamil Nadu	39	32	07	-
Tripura	02	01	-	01
Uttar Pradesh	85	67	18	-
West Bengal	42	32	08	02
Andaman & Nicobar Islands	01	01	-	-
Chandigarh	01	01	-	-
Dadra & Nagra Haveli	01	-	-	01
Daman & Diu	01	01	-	01
Delhi	07	06	01	-
Lakshadweep	01	-	-	01
Pondicherry	01	01	-	-
TOTAL	543	423	79	41

Source: Election Commission of India

1.4.4 Federal system with a written constitution

India has a federal structure, but unlike the United States of America it is only a loose federation with the national government having greater power in relation to its states and union territories. The federal structure is derived from a written constitution, which defines the distribution of powers between the national and state governments. The Indian national government has control over the states in terms of constitutional division of powers, and also through informal mechanisms such as

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funding of development programmes, deciding the basis of sharing of the national revenues with the states, assisting states to deal with emergencies such as natural calamities. Over the years, states have been trying to secure more fiscal and political decentralisation, and this has been supported by the economic reforms programme carried out in India since the early 1990s. According to Chhibber and Kollman (2004), fiscal and political centralisation in India has gone through various phases, and since 1991, India is going through a phase of decentralisation with more powers being transferred to the Indian states.

1.4.5 *Electoral reservation for weaker sections of the society*

After India's independence, some districts were reserved for SC and ST candidates so that socially weaker sections of the society were duly represented in the political process. Although this measure was initially supposed to be temporary, its operation has been extended and continues today. Currently, there are 79 reserved districts for SC and 41 reserved districts for ST in the Parliament. McMillan (2003) finds that the modal population proportion of SC in a reserved district is only 15-20%, while for ST, their modal population proportion is 50-60%. This indicates that SC are not concentrated geographically, and therefore they may not be able to have a decisive influence on the electoral outcome in the reserved districts.

1.4.6 *Role of the Judiciary and Election Commission*

The judiciary and EC play an important role in ensuring the stability of the Indian political system. The judiciary (particularly the High Courts and the Supreme Court) has been entrusted with the powers to interpret the Indian constitution and resolve disputes regarding distribution of powers between the national and the state

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governments. The EC is a constitutional institution that has been entrusted with the task of registering political parties, allotting party symbols, and planning and conducting elections. Indian general elections involve large administrative arrangements, and are often staggered over a period of weeks and even months. Although the members of the judiciary and the EC are appointed by the government, they are protected from arbitrary dismissal and interference from the government to ensure their impartiality in conduct of elections, and interpreting constitutional provisions.

With this overview of the political and the electoral system, I now turn to provide a background to the Indian party system.

1.5 Background to the Indian Party system

For many years following its independence, India was described as a one-party dominant system, in which the INC exercised considerable influence on the composition of the legislature. In the last decade or so, Bharatiya Janata Party (BJP) has emerged as the main challenger to the INC's historical prominence. Furthermore, the inability of the two main parties to win enough seats to form governments has contributed to the emergence of coalition politics as an important element of electoral competition.

1.5.1 *Parties and party-symbols*

EC categorises political parties as national, state and unrecognised parties. Parties that have received certain amount of votes or seats in a state might be recognised as a state party by the EC. Recognition as a state party gives the party the possibility to reserve a particular election symbol in the concerned state. A party might be recognised in more than one state. A national party is defined as one that wins seats in at least four states or Union Territories, and its symbol cannot be used by any other party anywhere in India. The state parties are allotted symbols, which some other party may also use in a different state. The symbol allotted to the party is its visual identity, and is an important element in its election campaign. In light of the high rate of illiteracy, election symbols are an essential means of identifying political parties on the ballot papers (and on electronic voting machines). Therefore, these symbols have value, and often EC has to decide upon the disputes on the use of party symbols in the event of party splits.

1.5.2 *The evolution of the national party system*

The Indian party system at the national level has been evolving, and has gone through a number of distinct phases. The first phase saw the dominance of the INC starting from the first elections in 1951 until 1970. The INC was founded in 1885 and is credited with leading India's independence struggle. According to Kothari (1964), the INC drew support from all sections of the electorate, mainly due to its association with the freedom struggle, and after the independence its commitment towards national integration.

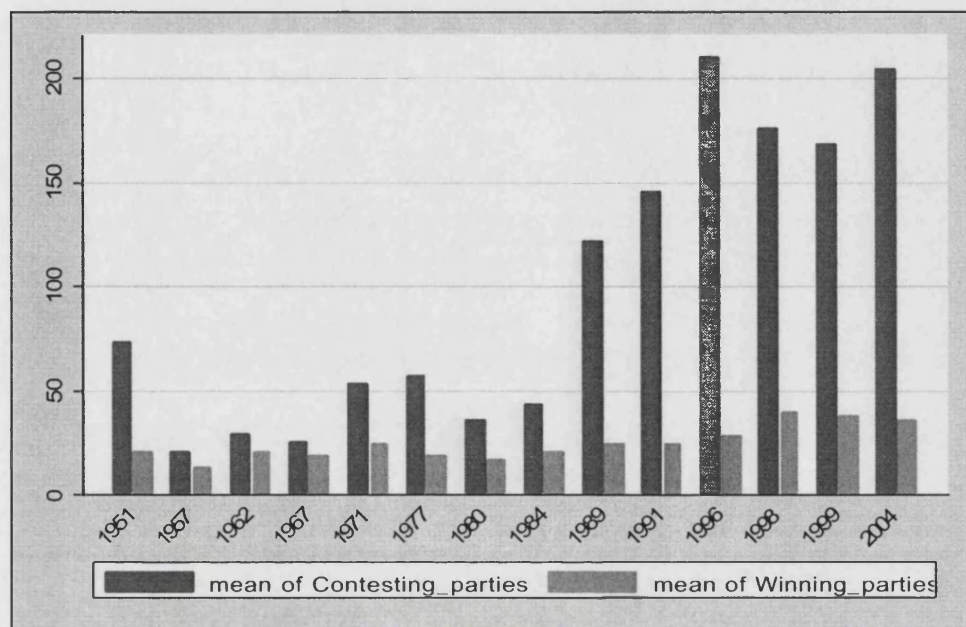
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The period between 1970 and 1993 has been termed as Congress-opposition system by Yadav (1996a), when its domination came under attack. INC fought the 1977 elections after the state of emergency, suffered a party-split, and was defeated by Janata Party, a united coalition of opposition parties. This coalition later split and the INC returned to power in 1980, to be defeated again by a new opposition coalition of the National Front/ Janata Dal in 1989. Overall, since 1977, the national party system has generally become more competitive. 1990s have seen the onset of coalition politics, and the national party system has moved towards a multi-party system with two dominant parties, the INC and the BJP. The BJP held the power since 1996 either as a minority government or heading a coalition government, has been the longest serving non-congress party to do so. However, in the 2004 elections, the BJP led coalition - the National Democratic Alliance (NDA) lost the elections to a Congress-led coalition, the United Progressive Alliance (UPA).

Figure 1-2 shows the number of contesting and winning parties in the Indian parliamentary elections. It shows that the number of contesting parties has been increasing over the years, even though the number of (seat) winning parties has not increased in the same proportion.

Figure 1-2 Number of Contesting & Winning parties at national level in India

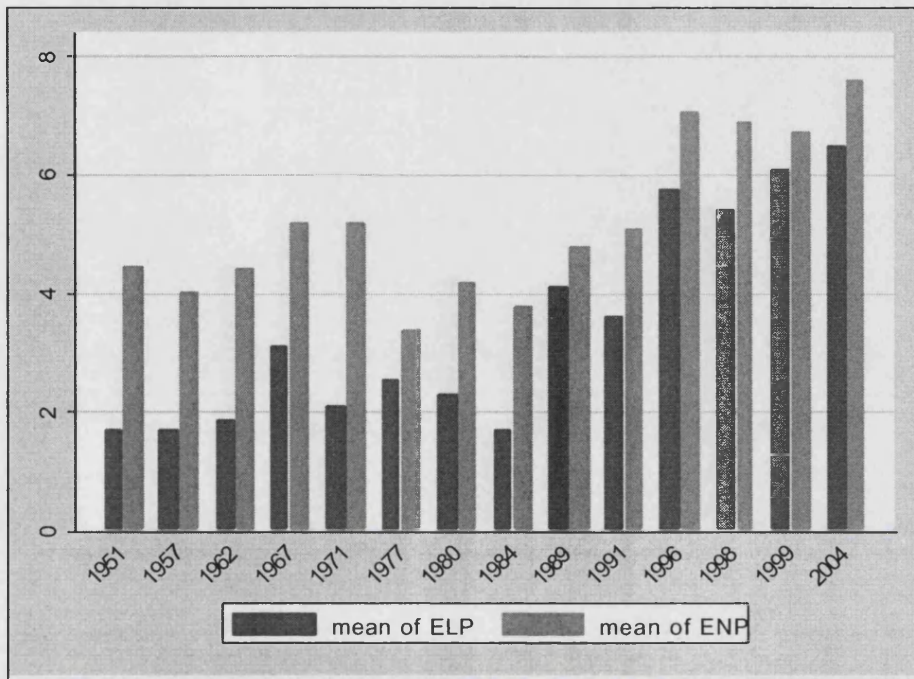


Source: Author's calculations from Election Commission of India's reports

One measure of the number of parties competing for elections is the Effective number of parties' defined by Laakso and Taagepera (1979), which weights the number of parties with the number of votes secured by them. According to their definition, the effective number of parties is calculated by the formula $(Sv_i^2)^{-1}$, where v_i is the vote share or the seat share of the i th party contesting elections.¹³ Figure 1-3 shows the effective number of parties by vote share – electoral parties (ENP) and seat share – legislative parties (ELP) at the national level in the India.

¹³Through out this thesis, I use this method to compute Effective number of parties. Reasons for choosing this method are discussed in detail in Chapter 2.

Figure 1-3 Effective number of electoral and legislative parties in India at the national level



Source: Author's calculations from Election Commission of India's reports

As shown in Figure 1-3, the number of effective parties has increased, even as the rate of increase has varied over the years. The biggest increase has taken in the last decade, driven by the growing importance of regional and state parties, and the emergence of coalition politics. A key feature of the Indian party system today is the presence of few national parties and a large number of regional parties. Further, the base of the national parties no longer spans the whole country, and they have to rely on alliances with regional parties to increase their chances of gaining power in the national parliament. These alliances often involve pre-poll agreements, as to the number of seats to be contested by the alliance partners. Alliances have also been post-poll, where faced with no single party winning majority, parties join together to form governments based on a common minimum programme. Heath and Yadav (1999) point out that the party systems and competition vary greatly across the Indian states, mirroring the social and geographical diversity of India.

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1.5.3 *Party systems in the Indian states*

At the time of first elections in 1951, India had a total of 26 states and union territories. In 1953, following the States Reorganization Commission, states were organised according to the languages spoken. Madras State was reorganised into Tamil Nadu, Andhra Pradesh, Karnataka, and Kerala. Further reorganisation took place along similar lines in 1960 and 1966, and more recently in 2002. In the last elections held in 2004, there were 28 states and 7 union territories. The reorganisation of states on the basis of languages, cultural identities have led to new parties being formed on the basis of region and language.

The importance of party systems at the state level has grown with the increased competitiveness of the electoral politics. The 'National Constituency' syndrome which emerged during the 1970s and 1980s saw nationwide electoral waves, with one party winning landslide electoral victories. However, the focus of Indian politics, especially in the last decade has shifted towards the state level. As Yadav (1996b: 44) puts it,

For an overwhelming majority of underprivileged voters, the Lok Sabha elections have become not more than countrywide state-level elections. What looks like an unclear verdict at the national level is an artificial summation of fairly clearly verdict at the state level.

Party systems in the Indian states have shown diverse trends: some states have moved towards being a two party system, while some have bipolar multiparty systems. In some states, a clear multiparty system has emerged. The structure of the party competition therefore varies across states, and in the last ten years, the focus of

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the large parties has shifted somewhat to form intra and inter-state alliances to win the maximum number of seats. In the 1996 elections, BJP emerged as the single largest party in the Lok Sabha and formed a minority government, which lasted however, only for thirteen days. In contrast, in 1998 elections, BJP focussed on forming on alliances in states where it did not have a strong presence (Sridharan, 2002). In all, it had thirteen pre-election alliances, with seat sharing in nine states, and this helped it to form the government.

Similarly, INC's success in the 2004 elections can be attributed largely to the large-scale pre-poll alliances that it formed for the first time in its history. The electoral alliances in the last two general elections have been made both on ideological and pragmatic grounds. According to Sridharan (2002), with the exception of the Left Front, alliances have been driven by the desire to win seats, and not by ideology or social cleavage. It is clear that in the future, the success of both the national and the state parties are dependent on the kinds of alliances they can forge with other parties. Another important development in the party system has been the growing importance of state parties, especially since the decision to make alliances is based on pragmatic rather than ideological considerations. In this context, the effect of individual charisma and leadership in forming alliances has gained importance, rather than the institutional strength of a particular party. The effect of this factor is also more difficult to evaluate and measure.

To summarise, following trends are now visible in the Indian party system. The INC is no longer the centre of the Indian politics scene (Yadav, 1996a). Further, two national parties – BJP and INC now contest to win a majority for their respective

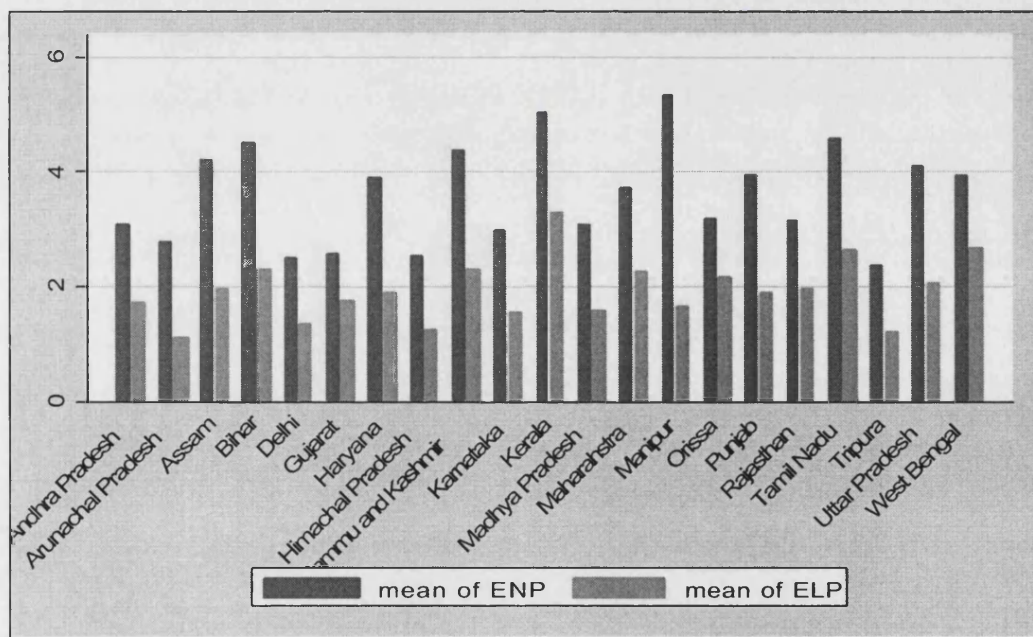
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alliances. INC which did not pursue the alliance strategy earlier, decided to do so in the 2004 elections, and this was a big factor in its winning these elections and gaining power. The rise of any third force or party to challenge the dominance of INC and BJP led alliances looks unlikely at the moment.

Figure 1-4 shows the trend of average number of effective parties in a cross-section of key Indian states during 1951- 2004. These are measured following Laakso and Taagepera (1979) using vote share (ENP) and seat share (ELP).

Figure 1-4 Effective Electoral & Legislative parties in Indian states 1951 – 2004

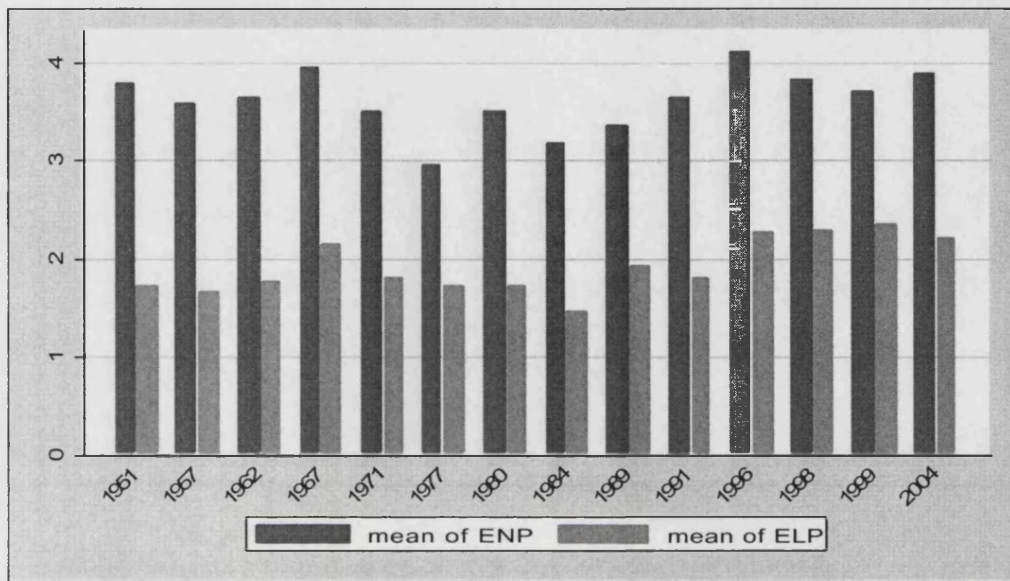


Source: Author's calculations from Election Commission of Indian reports

As can be seen in Figure 1-4, the average number of parties vary from 1 to over 5 in different states. Further, the size of party systems at the state level has also varied over time, as can be seen in Figure 1-5 below.

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Figure 1-5 Effective Electoral and Legislative parties at state level by election



Source: Author's calculations from Election Commission of India reports

Figures 1-4 and 1-5 also show that many states witness multi-party competition thus representing a deviation from Duverger's Law (Duverger, 1954). According to this law, polities following SMPS tend to have two dominant parties. Although India follows SMPS, the number of parties has varied in different states, and has not necessarily converged to two, as predicted by Duverger.¹⁴

Although there have been many attempts to study the party system in India (see Chapter 2 for a detailed discussion), these largely have been descriptive, often focussing on specific parties or elections. Furthermore, political scientists have rarely attempted to explore the size of sub-national party systems based on a systematic and empirical analysis. My thesis is an attempt to contribute to the scholarship in this important area of research.

¹⁴This is discussed in detail in Chapter 4.

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1.6 Research questions and hypotheses

My research addresses the following inter-related questions about the size of the Indian party system.

Do the number of parties vary across Indian districts, states and regions? What is happening to the size of the Indian party system over time? Does the Indian party system follow Duverger's Law? How 'disproportional' is the electoral system? What are the determinants of the size of the Indian party system? What is the importance of sociological, institutional and contextual factors in determining the size of the Indian party system at the state level?

From the above research questions and the underlying theory, I derive the following general hypotheses.

Institutional Hypothesis: Electoral institutions affect party systems in the following ways

- District magnitude is positively related to the number of parties
- High Electoral Thresholds reduce the number of parties
- Electoral reservation (for SC, ST) reduces the number of parties
- A positive relationship exists between the number of parties and the size of the electoral unit

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Sociological Hypothesis: Party systems reflect underlying social cleavages, such as religious and caste groupings. Thus, a positive relationship should exist between the number of religious and social groups and the number of parties in the Indian states.

Federal distribution of powers hypotheses: Periods of federal centralisation witness a decrease in the number of parties at the state level. This happens because of the party aggregation phenomenon whereby voters have higher incentives to vote for state or national parties in order to influence policy outcomes at these levels. Similarly, periods of federal decentralisation witness an increase in the number of parties at the state level.

Dependence hypothesis: Indian states that are more dependent on the national government have fewer number of parties and a higher level of party aggregation, because voters in these states have more incentives to vote for state or national parties to get adequate share of financial resources and grants from the national government.

My research fills the gap in the empirical research on the determinants of party systems in India. It combines case study approach (since it deals with one county), and comparative approach (since it compares units within a country) to analyse the size of the Indian party system. It is a systematic and comprehensive empirical study using data on electoral returns, social cleavages and other hypothesised variables to identify determinants of the size of party system in the Indian states. It also contributes towards developing a database of electoral returns, important

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institutional, sociological and contextual variables especially at the sub-national level.

1.7 Data and methodology

1.7.1 Variables

My dependent variables measure the size of the Indian party systems at various stages of the electoral process, and also the degree of disproportionality of the Indian party system. I focus on Effective number of electoral parties as my dependent variable, which is a widely used measure for studying the size of party systems. I also include other measures of the size of the party system (Contesting and Legislative parties) in my analysis.

I specify three categories of independent variables – institutional, sociological and contextual. Institutional variables include factors such as electoral rules, size of the assembly, electoral reforms, whereas the sociological category includes variables to measure religious and social heterogeneity across the Indian states. Finally, the contextual factors include variables representing federal centralisation or decentralisation, literacy levels, degree of urbanisation, and the expectation of a coalition government. The dependent and independent variables are used in alternative empirical models to test my research hypotheses.

1.7.2 Methodology

The research design includes in the first instance, developing a database of electoral returns, social cleavages and contextual factors. I collect data regarding votes and

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seats gained by *all* the parties in the Indian general elections which enables the computation of my dependent variables - measures of the size of the party system, and the degree of disproportionality. My data on social and religious cleavages data enables the construction of a measure of social heterogeneity.

My database is a comprehensive one covering all the Indian states and the period 1951-2004. In all, there are 401 data points at the state level, which is main focus of my research. In addition, I also compile and use data on electoral returns at the district level to study effect of certain district-level institutional factors, and applicability of Duverger's Law in India. The database at the district level includes 7178 data points. Overall, my data set covers all the 14 general elections held in India.

I prefer using the *aggregate* data described above, instead of information about an individual or group of voters, or a particular party. The reason for doing so is linked to the objective of the research: I am interested in understanding the general patterns about the determinants of the size of the party systems. Further, aggregate data have the advantage of being more objective and comparable, and are also easily accessible at the level of detail required for this research. The development of a comprehensive database of the above mentioned variables is also a contribution of this research. My empirical analysis is based on the data collected by me as part of my research. The data on electoral returns is sourced from Election Commission of India reports and the CSDS data unit, whereas the data on sociological and contextual factors has been collected from Census of India and Indiastat database.

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Based on a comprehensive literature review of the determinants of the size of party system in general and specifically of the Indian system together with my hypotheses and research questions, I identify the list of dependent and explanatory variables. These variables are studied both in qualitative and quantitative terms to test my research hypotheses. The empirical methodology includes carrying out statistical analysis of dependent and independent variables. An exploratory analysis is done by examining summary statistics on a cross-sectional and time-series basis, which is supplemented by undertaking cross-tabulation and correlation analysis of dependent and independent variables. This analysis provides insights into how the variables are related, and help specify testable statistical hypotheses. Finally, I use multivariate regression to study the determinants of the party systems in the Indian states. I use alternative models to study the robustness of my statistical results.

Since my data is time-series-cross-sectional (TSCS), there is a need to address potential problems caused by autocorrelation and heteroskedacity in the regression analysis (Greene, 2003).¹⁵ Literature also suggests using panel data methods such as the Fixed Effects Model (FEM) – also called dummy variable approach and the Random effects Model (REM) to model the unit level heterogeneity. While FEM assumes that each unit has its own intercept, the REM treats the intercept as a random constant term (Greene, 2003).

According to Hsiao (1986: 41-43), for TSCS data, FEM is appropriate if one wants to make inferences to the observed units, whereas the REM is appropriate if one

¹⁵Beck (2001) differentiates between TSCS and panel. Panel data are repeated cross-section data, but the units are sampled, and they are typically observed only a few times. TSCS units are fixed; there is no sampling scheme for the units. In panel data, the people observed are of no interest; all inferences of interest concern the underlying population that was sampled. TSCS data are exactly the opposite; all inferences of interest are conditional on the observed units.

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thinks of the observed units as a sample from a larger population. In my study, the units (states and districts) are fixed and extending inference from my analysis to a larger population does not apply, and therefore REM is not a preferred regression method.

Regarding the FEM, Beck (2001: 285) points out:

Fixed effects are clearly collinear with any independent variables that are unchanging attributes of the units, so they force us to drop such unchanging variables from the specification.... These variables (perhaps characteristics such as democracy) might be of interest..., the fixed effects will soak up most of the explanatory power of those slowly changing variables. Thus, if a variable such as type of bargaining system changes over time, but slowly, the fixed effects will make it hard for such variables to appear either substantively or statistically significant.

According to Greene (2003: 301), "From a purely practical standpoint, the dummy variable (FEM) approach is costly in terms of degrees of freedoms lost". Since my institutional and sociological independent variables either do not vary over time or tend to change very slowly, FEM is also not an appropriate model for my regression analysis.

Beck and Katz (1995) and Beck (2001) suggest using OLS regression coefficients, but with panel corrected standard errors (PCSE) and a lagged dependent variable to model TSCS data.¹⁶ I follow their suggested methodology, and use OLS with PCSE,

¹⁶This method has been widely used in the comparative politics literature for modelling of TSCS data.

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and include lagged dependent variable as one of the explanatory variables for my regression analysis.¹⁷

1.8 Conclusions and summary of remaining chapters

In this chapter, I introduce my research agenda, explain my research questions and objectives, and argue why these constitute an important area of scholarship.

To provide a background to my research, I provide an overview of Indian political system. This includes an analysis of the key features of India's polity such as the parliamentary form of government, an SMSP electoral system, a written constitution, and federal distribution of powers between the national and the state governments. I also discuss the role of other key institutions such as the judiciary and the EC in upholding India's Constitution and conducting free and fair elections. This overview helps in analysing how Indian democracy has functioned despite facing challenges in terms of social heterogeneity and economic underdevelopment, and highlights the role of key institutions and electoral rules in shaping the political system.

I then proceed to provide an analysis of the evolution of the Indian party system over the last five decades. Thus, I discuss the key changes in the Indian party system, starting from the domination of the INC in the first two decades or so in India's post-independence history, to the current situation where the party system has become more fragmented and competitive, with a more important role being played by the state level parties.

¹⁷I have also run regressions using OLS and REM, and find that their results are consistent with the method suggested by Beck and Katz (1995).

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I use electoral data for the period covering 1951-2004 to show that the number of parties at the state level vary across the Indian states, and also over time. Based on this analysis of the Indian political and party systems, I specify my research questions and objectives, which focus on researching the determinants of the size of party systems across the Indian states. I also develop my research methodology, and explain my data sources in this chapter.

Below I provide the summary of the remaining chapters of my thesis.

In Chapter 2, I provide a review of the existing research on party systems. I review general scholarship relating to party systems including the need for parties, typology of party systems, and the methods to measure the size of party systems. The main focus of the literature review is the scholarship on the determinants of the size of party systems. Accordingly, I examine the key propositions of the institutional and the sociological schools, and how institutions and social cleavages shape party systems. Important empirical studies on the determinants of the party systems are also analysed and reviewed in this chapter. The main conclusion from my review is that theoretical propositions support the arguments of both sociological and institutional schools. Furthermore, the proposition of the *third* school that party systems are shaped by an *interaction* of sociological and institutional factors is also supported by theoretical underpinnings¹⁸. The results of the empirical studies however, are not consistent in this regard, and there does not seem to be a consensus on the determinants of the party systems in the empirical literature. While some

¹⁸I define an interaction model where both sociological and institutional factors are used to explain the size of party system. In terms of the regression equation, the type of interaction can be additive or multiplicative.

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studies show the relative importance of sociological factors in shaping party systems, others have found that institutions have a dominant affect on party systems. Some empirical studies have used both sociological and institutional factors into their analysis, but the nature of the interaction between these factors is still debated. Some studies find that an additive interaction model is superior, i.e. that sociological and institutional factors have independent effects on party systems, while other studies report the superiority of the multiplicative model, where party systems are a result of an interaction of these factors. In my conclusion to Chapter 2, I also argue for recognising the importance of contextual factors in shaping party systems, and including these factors to improve the results from a comparative study of party systems.

In Chapter 3, I undertake a review of the existing research and scholarship on the Indian party system. In particular, I discuss explanations relating to domination of INC in the years immediately following India's independence, India's deviation from the Duvergerian norm of having a two-party system, the importance of social cleavages and issue dimensions, and the effect of distribution of powers between national and state governments. I also show how the national party system is increasingly being influenced by coalition politics and election alliances between national and state parties. The review of existing research on the Indian party system reveals that it has been in most part descriptive, focusing on specific parties, states or election-years. I also review the principal empirical work done on the Indian party systems and find that the empirical work has been mostly in the form of comparative cross-country studies, where India has been taken as a single data point. Thus, there is lack of a systematic empirical analysis that takes into account the different party

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systems, and social structures that exist in the Indian states. There has been some empirical work on the application of Duverger's Law to the Indian system but that too in most part either focuses on the national level or suffers from many methodological and data limitations. As such, there is still no systematic comparative study to investigate the reasons for variations in the party system across the Indian states. My research attempts to fill this gap in the literature, and find some general patterns and influences that affect the size of party systems in the Indian states. Chapters 4-6 contain my primary empirical analysis on the determinants of the party systems in the Indian states.

In Chapter 4, I identify important institutional factors that affect party systems in the Indian states, and analyse how these affect the number of parties and the nature of party systems. The institutional factors I discuss include Assembly size, reservation of districts for SC and ST, District Magnitude, Effective Threshold, the presence of districts with substantial unequal voting populations, electoral reforms, and geographical size. For my empirical analysis, I focus on the effect of Assembly Size, Effective Threshold and Electoral reforms index on the size and nature of party system in India. My empirical analysis reveals that Assembly Size has positive effect on the size of party systems in the Indian states, while Electoral Threshold has a negative effect on the size of party system in Indian states. The effect of Electoral Reforms is not as uniform: it is not a significant variable for Effective number of electoral parties, even though it has a significant effect on number of contesting parties. Overall, my findings show the importance of institutional factors in explaining the variation in the size of the party systems in the Indian states. While District Magnitude and system of electoral reservation for SC and ST are important

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institutional factors at the district level, Assembly Size and Effective Threshold are two key institutional variables affecting the state level party systems.

In Chapter 5, I examine social heterogeneity in the Indian states, and their relationship with the size of party systems. I discuss the nature of social cleavages in India based on caste, language, religion and constitutionally defined social groups – SC and ST. Given the overlapping nature of social cleavages in India, I note the difficulties of constructing an index of social heterogeneity, and the complexities associated with the effect of this heterogeneity on the party system. Keeping in mind these limitations, I construct and use two related measures of social heterogeneity for my empirical analysis: One is based on ‘Effective number of religious groups’ which is computed using the share of different religions in the population of the Indian states, while the other - ‘Effective number of social groups’, also takes into account the presence of two distinct social groups based on caste – SC and ST. My empirical results confirm that in general, social and religious heterogeneity increases the effective number of parties in Indian states. Thus, a state with higher social heterogeneity will also tend to have higher number of parties, a finding which is consistent with theoretical predictions. I also examine the effect of the presence of two constitutionally defined social groups - SC and ST and presence of Muslims in the population of the states, and find that their effects on the party system are not uniform. In general, the presence of large SC and Muslim population tends to increase the number of parties. The presence of a large ST population on the other hand, depresses the number of parties in a state. The reasons for these trends are discussed in Chapter 5.

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In Chapter 6, I show how the context in which elections take place can affect the party system. I argue that in addition to the traditional institutional and sociological factors, there are contextual factors which can affect the size of party systems. The objective of including these factors in my thesis is to improve our understanding of dynamics at play in shaping of party systems in the Indian states, and also move towards a unified empirical analysis that includes the effect of these factors. In particular, I discuss the effect of federal centralisation and decentralisation, literacy levels, the degree of urbanisation, and coalition politics on party systems in the Indian states. Thus, while federal centralisation is expected to decrease the number of parties, federal decentralisation can increase the prospects of smaller parties in the states, and should lead to an increase in the size of party system. I extend the work of Chhibber and Kollman (1998, 2004) about the effects of federal centralisation and decentralisation on the party systems at the state (rather than the national level). In particular, I discuss the importance of states' responses to the changes in federal centralisation, and how states' dependence on national government can affect the size of the party system.

I also discuss the effects of literacy rates and the degree of urbanisation on the party systems in the Indian states. Thus, in a state with higher literacy rate or higher degree of urbanisation, one should expect to see more sophisticated voter behaviour and strategic voting, and therefore, lower number of parties. Regarding the effect of coalition politics, I argue that the expectation of formation of a coalition government improves the chances of smaller parties to gain voters, the motivation of voters to vote for smaller and state level parties, and therefore should lead to increase in the number of parties. Since these factors only represent a specific environment in which

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elections take place, individual regression using only these factors serves little purpose. Instead, their effects need to be considered while interpreting overall empirical results using the primary – institutional and sociological factors that shape party systems. Results of my correlation analysis confirm the theoretical prediction that the degree of urbanisation tends to reduce the number of parties in the Indian states.

In general, my empirical results in chapters 4-6 are consistent with the theoretical predictions about the determinants of the size of the party system in that the variation in the size of party systems in the Indian states can be understood in terms of institutional and sociological effects. In addition, the context in which elections take place also is an important factor affecting the party systems in the Indian states.

Chapter 7 presents the unified model of the Indian party system, and also provides the key conclusions of my research. The results are consistent with the expected theoretical hypotheses for most of the variables. Thus, while Assembly Size and social and religious heterogeneity increases the number of parties, Effective Threshold and Federal Centralisation reduces it. States which are highly dependent on the national government tend to have fewer parties since voters are inclined to voter for large parties which can influence decision making at the national level. Federal decentralisation however is not a significant variable, and it does not have statistically significant effect on the size of party systems in the Indian states. Overall, results confirm the importance of institutional, sociological and contextual factors in shaping the size of party systems in the Indian states. Chapter 7 also discusses important implications of my findings on the Indian political system, and

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provides directions for future research on party systems in general and in particular, on the Indian party system.

2 WHAT DETERMINES PARTY SYSTEMS?

This chapter provides a review of the literature on the determinants of party systems in the context of my research questions and objectives.

Three main lines of research can be found in the literature on party systems. The first relates to the question relating to the emergence of and need for parties. The second line of research has studied the classification of party systems, while the third investigates the determinants of the number of parties expected in a polity. Below, I review these different strands of research on party systems.

2.1 Emergence of and need for parties

An important theme of research on party systems concerns the need for political parties (Moselle, 2002). Parties are seen by this branch of literature as a mechanism to improve the functioning of legislatures, and provide stability in coalition politics (Jackson and Moselle, 2002). A dominant view within this strand of research explains the need for parties in terms of the self-interested behaviours of voters, candidates and legislators (Aldrich, 1995; Cox and McCubbins, 1993). Politicians join parties in order to achieve their personal goals. Legislators also engage in opportunistic politics, defecting from a party, splitting it or joining another party, when their options serve their objectives. Political parties are thus needed to solve collective dilemmas faced by the legislators. Collective dilemmas such as cycling majorities and collective action problem are inherent in democratic politics,

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especially in legislatures, and therefore, entrepreneurial politicians have strong incentives to set up long-term commitment devices (Chhibber and Kollman, 2004).

Further, as Aldrich (1994: 186) comments,

there are more or less continual incentives for ambitious politicians to consider party organizations as means to achieve their goals. In the most general terms, these incentives flow from the very nature of liberal democracies in an extended republic, and in an immediate sense that means the ability to fashion and hold majorities.

However, to be useful, parties must offer equilibrium solutions to the collective dilemmas; otherwise theory would not be able to explain why some parties sustain themselves for long periods of time (Chhibber and Kollman, 2004). According to Lipset and Rokkan (1967), political parties emerge due to the presence of social cleavages. Taagepera and Shugart (1989) state that party formation and survival are closely linked not only to electoral rules, but also how parliamentary seats are distributed and decided. Some other reasons for emergence of new parties mentioned in the literature are economic factors or due to the emergence of a new issue dimensions (such as immigration or environmental issues). Kitschelt (1999) has found that parties emerge due to a combination of factors in a situation, but largely when voters are dissatisfied with existing parties. Cox (1997) indicates that like-minded voters will coordinate across districts, states and country.

2.2 Characterisation of party systems

Characterising party systems has been an important area of research in the comparative politics literature. Scholars have distinguished democratic polities on

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the basis of a typology of party systems. One feature of party systems that has been used in the literature is the ideological distance between the parliamentary parties. Sartori (1976) discusses the level of polarisation that correlates with the type of party competition – centripetal or centrifugal. The study of this feature requires extensive information about the ideological placement of different parties.

Another feature employed to categorise party systems is on the basis of the number of parties in a polity. Following Duverger's (1954) attempt to differentiate party systems on the basis of number of parties competing for votes and seats, the numerical measures of the party systems have become widely used in comparative politics research (Mair, 1992; Lijphart, 1994, 1999). A numerical measure of party systems is important since it may be a result of key determinants in a polity, and in turn also affect policy outcomes in that polity. Further, a numerical measure of a party system is particularly attractive in comparative politics research.

Existing scholarship on the determinants of the number of parties in a polity has been dominated by two approaches. One approach treats the number of party systems as a reflection of social cleavages (for example, Lipset and Rokkan, 1967; Taagepera and Grofman, 1985; Lijphart, 1999), while the other treats it as a reflection of institutional rules (for example, Duverger, 1954; Taagepera and Shugart, 1989; Lijphart, 1994 and 1999; Cox, 1997). An increase in the number of parties has also been related to democratisation, or in western democracies, to an electoral change such as party dealignment (Dalton et al., 2000). Recently, another approach – the 'strategic interaction' approach has emerged that stresses the interaction between sociological and institutional factors to explain the size of the party system in a

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polity. There is also a view which explains the change in the number of parties within a polity over time, in terms of the effect of fiscal and political centralisation by the national government.

In the next two sub-sections, I discuss and evaluate alternative explanations of the size of the party system in a polity. Before discussing the explanations to the size of the party systems, I first review the methods of counting the number of parties in a polity.

2.3 Methods of measuring the number of parties in a polity

Constructing a measure of the number of parties that contest elections, win votes and seats is fundamental to understand the dynamics of party systems in a polity. In particular, after the works of Duverger (1954) and Rae (1967), a quantitative measure of the number of parties has been used to describe party systems and their features. As the movement continues away from older typologies of party systems and towards a more empirically sensitive description of party systems, measuring the number of parties remains a very important issue (Ware, 1995). Counting the number of parties that contest elections (contesting parties) is important since it represents the first stage at which social cleavages get transformed into partisan preferences (Amorim and Cox, 1997). As Sartori points out,

it does matter how many are the parties. For one thing, the number of parties immediately indicates, albeit roughly, an important feature of the political system: the extent to which political power is fragmented or non-fragmented, dispersed or concentrated.....the indication clearly is that the greater the number of parties (that have a say), the greater the complexity and

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probably the intricacy of the system...in particular, the tactics of party competition and opposition appear related to the number of parties; and this has, in turn, an important bearing on how governmental coalitions are formed and are able to perform (Sartori, 1976:120)

Following, I review the various methods adopted in the literature to measure the size of party system in a polity.

2.3.1 Measures based on simple counting of the number of parties

Counting the number of parties has been debated, and various methods of counting have been put forward by scholars. At the very basic level, the number of parties can be counted by simply adding them. One can also fix a threshold level, under which a party is not counted, even though fixing this level may be problematic.¹⁹ For example, Ware (1995) only considers 'relevant' parties that receive at least three per cent of the seats in an assembly. However, once any party clears the fixed threshold level, it is treated equally, i.e. with the same weight, even though their share of seats or votes, or influence may vary considerably. Despite its weaknesses, simple counting of parties criterion was used by Duverger (1954) in differentiating two-party systems from multi-party systems. Blondel (1968) refined this classification by looking at the number of parties, and their sizes to identify two-party systems and multiparty systems. However, this refinement was also based on subjective threshold level of vote shares for defining 'half' and 'strong' and 'dominant' parties.

Counting the number of parties by simply adding the number of parties can give a misleading picture of the size of the party system. For example, is it really sensible

¹⁹For example, a threshold can specify that a party getting less votes or seats than a specified level will not be counted as a political party.

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to count equally a party getting 100 votes as one getting say 100,000 votes? As Lijphart (1994: 67) points out, “The assumption in the comparative politics literature has long been that some kind of weighting is necessary.” The solution proposed is to calculate the effective number of (electoral and legislative) parties by some sort of weighting mechanism. This recognises the view-point that since the universe of the size of party systems is continuous, a continuous measure is required instead of a measure based on subjective criteria to identify different categories of party systems.

2.3.2 *Measures based on index of fractionalisation*

Rae (1967) proposes a *fractionalisation index (F)*, which was in turn derived from the *concentration index (HH)* (Herfindahl, 1950; Hirschman, 1945). The *HH* index, as applied to the number of parties is given by the following formula:

Equation 2-1
$$HH = \sum_{i=1}^n P_i^2$$

where P_i is the proportion of votes or seats of the i th party. Thus, the *HH* represents the probability that two randomly selected voters will vote for the *same* party (Molinar, 1991). The *HH* returns a value of one, if there is only one party, and zero, if the number of parties tends to infinity. Rae’s (1971) *F* works on the same principle; it represents the probability that two randomly selected voters will vote for *different* parties. Thus, its value is given by $1 - HH$. The limits on the value of *F* are opposite of that of *HH*: it returns a value of zero, if there is one party, and a value of one, if the number of parties tends to infinity. The *HH* and the *F* represent two initial attempts to provide an objective way of counting parties, so that the larger parties are weighted more than the smaller ones.

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These indices suffer from two major weaknesses. First, Rae's index does not follow a linear pattern when the number of tied parties increases. In other words, doubling the number of parties of equal size does not lead to the doubling of the index. This weakness therefore creates a consistency problem for its use in a univariate or multivariate analysis. Secondly, the index is difficult to interpret since it does not describe a party system in terms of the number of parties, but provides the degree of fragmentation.

2.3.3 *Measures computing effective number of parties*

Laakso and Taagepera (1979) propose a measure of the level of concentration of votes or seats, which gives greater weight to the larger parties in its computation. They reformulate *HH* so that their measure of the Effective number of parties (*N*) makes more intuitive sense and is easier to interpret in terms of counting the number of parties. Their measure of number of effective parties can be calculated based on either the shares of the votes or the share of seats in the legislature, and is given by

Equation 2-2
$$N = 1/(\sum p_i^2) = 1/HH = 1/(1-F)$$

where p_i is the vote share or seat share of the *i*th party

This measure of the number of parties weighs the number of parties in a polity with their respective vote or seat share, to give the effective number of electoral or legislative parties. The *N* returns a value of one if there is only one party, and infinity if the number of parties tends to infinity. To understand the mechanics of this formula, assume that there are two parties each getting 50% of the vote and 50% of the seat share. The formula gives 2 as the effective number of both electoral and

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legislative parties. However, if the vote and the seat share becomes 60% and 40% for the two parties, the number of effective electoral parties is only 1.92. Thus, this index weighs the largest parties most, while the smaller parties (with support under around 10 percent) count for very little and tiny parties (under 1 percent) count hardly at all (Dunleavy and Boucek, 2003). Further, doubling the number of equal-sized parties doubles the index, something that is not achieved by Rae's F . In the comparative politics literature, the value of Laakso and Taagepera's (1979) index can be interpreted as the number of hypothetical equal-sized parties competing in a polity.

According to Taagepera and Shugart (1989: 80), N has become widely used because it 'usually tends to agree with our average intuition about the number of serious parties'. However, N is not particularly useful when a single party has more than the majority of seats available in an assembly (Taagepera, 1999: 497). In this situation, where one party is dominant, N may still show multi-party system, a counter-intuitive result. Taagepera (1999) suggest to 'supplement' the N in particular situations, through his Largest Component approach. The Largest Component index (LC) is the inverse of the share of the largest party. When this index is less than 2, this party dominates the party systems as its share is larger than 50 percent, a feature that one could see by looking at the share of the largest party. Taagepera (1999, 499) stresses that for most purposes, N will be an adequate measure for the number of parties, and we should not clutter our data set by including the supplementary index unless it serves a purpose.

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Another index mentioned in the literature is the *hyperfractionalisation* index (I), which was introduced in communication studies as a measure of entropy (Shannon, 1948; Shannon and Weaver, 1959; Theil, 1972). This index is also called as the Kesselman-Wildgen index in the political science literature (Kesselman, 1966; Wildgen, 1971). The I has same limits as N , and is given by

Equation 2-3
$$I = \text{anti log} \left[- \sum_{i=1}^n (P_i * \log P_i) \right],$$

where P_i is the share of votes or seats of the i th party.

Molinar (1991) argues that both N and I work well when parties are of similar size, but gives inconsistent results in other cases. Table 2-1 illustrates this point.

Table 2-1 Illustration of alternative measures of Effective number of parties

Case	Share of votes or seats among parties (%)							Indices	
								N	I
1	100%							1.00	1.00
2	50%	50%						2.00	2.00
3	33%	33%	34%					3.00	3.00
4	25%	25%	25%	25%				4.00	4.00
5	51%	40%	7%	1%	1%			2.35	2.69
6	51%	26%	12%	12%	1%			2.80	3.49
7	40%	35%	12%	12%	1%			3.21	3.63
8	40%	35%	9%	9%	5%			3.32	3.73
9	55%	45%						1.98	1.99
10	70%	5%	5%	5%	5%	5%	5%	1.98	3.15

When the parties are of the same strength (cases 1-4) both N and I return consistent values equal to the number of parties. Following Taagepera and Shugart (1989), cases 5-8 can be classified as two-party or at best two and a half-party systems. However, both N and I return higher values than the type of party systems they are representing. Further, in cases 9 and 10, N returns the same value for two-party system (case 9) and a one-party system (case 10). The value of I is higher for a

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single-party dominant system (case 10) than a two party system (case 9). This illustration shows that although the weighing mechanism of calculating effective number of parties provides an objective numerical measure of the number of parties, it has limitations, and in some situations, the value returned may not reveal the true character of the party system it represents. N counts the largest party as more than one in certain situations, while I is too sensitive to the presence of many small parties (Molinar, 1991).

Molinar (1991) proposed an alternative formula to calculate the number of parties (NP), by multiplying the N score by an additional term and then adding 1. This additional term is the sum of the opposition parties' squared vote shares expressed as a proportion of the sum of all the parties' squared vote shares. The formula for NP (represented in M here) is given by

Equation 2-4

$$M = 1 + \left(\frac{1}{\sum_1^x v_i^2} \times \frac{\sum_1^x v_i^2 - V_i^2}{\sum_1^x v_i^2} \right)$$

According to Molinar, NP avoids both problems of excess weight given to larger parties (as in N), as well as excessive sensitivity towards presence of smaller parties (as in I). It does so by counting the winning party as one, and weighing N by the contribution of the minority parties. Further, he claims that NP captures the number and relevance of parties in a better way, since it *decreases* if the gap between the two largest parties widens (while N tends to increase). Arguably, the increase in gap

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between the two largest parties means a reduction in the relevance of minority parties. Molinar concluded that

[M]y index outperforms [the effective number of parties] as an operationalization of the variable number and size of parties . . . [because it] behaves better in relation to the size of the largest party and the gap between the two largest parties. (1991: 1383, 1390)

However, a measure of the number of parties, and the competitiveness and relevance of parties, represent two different things, and as such it is difficult to agree whether NP is superior to N in all situations. The Molinar index has not been used much in the literature, because of the complexity of calculations and difficulty in interpreting its output (see Lijphart, 1994: 69–70).

Among the three main measures of number of parties (I , N and NP), Molinar's NP index gives special weight to the largest party, while the Wildgen's index of 'hyperfractionalisation' I accords special weight to small parties. In a situation, where all parties receive equal share of votes or seats, all three measures result into the same value of effective number of parties. In a situation, where parties have unequal shares, I has the largest value, followed by N , with NP being the lowest value.

Lijphart (1994:68) argues that a high degree of consensus has been reached on the question of how the number of parties should be measured. He has described N as the 'purest measure of the number of parties' (1994:1970). Lijphart has continued to express his confidence in N in his recent writing, "The problem of how to count

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parties of different sizes is solved by using the effective number measure” (Lijphart, 1999: 69).

Dunleavy and Boucek (2003:292) claim that N , the effective number of parties is a somewhat flawed index, whose use in quantitative analysis can create problems. Specifically, they show that N behaves oddly with changes in two key variables: (i) the level of support for the largest party (V_1); and (ii) the number of observable parties in competition. Dunleavy and Boucek (2003) also demonstrate that N , and its main rival - the Molinar index behaves in unpredictable and anomalous ways under some configurations of party support. Their solution is to average N scores with a simple measure of largest party predominance ($1/V_1$ to produce a highly correlated measure N_b , which is given by Equation 2-5.²⁰

$$N_b = \left(\frac{1}{\sum_1^x v_i^2} + \frac{1}{v_1} \right) \times \frac{1}{2}$$

Equation 2-5

Their conclusion is that the Laakso and Taagepera’s (1979) effective number of parties measure does not deliver a reliable relationship between changes in the largest party’s share of the vote and the index number shown. In particular, the N index may not be reliable when party fragmentation is low, and will often produce inappropriately high scores for party systems where the largest party is in a strong governing position. Similarly, they also conclude that NP also has major limitations, since it understates the numbers of parties in situations where one party has majority

²⁰ V_1 represents the share of the largest party.

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support. They claim that their own index, the *Nb* variant of the effective number of parties yields more consistent and readily interpretable results.

The above review reveals that each method has its strengths and weaknesses, and one needs to consider the objective of the research or analysis being done, to decide which measure would be the most appropriate to use. In my study, I use Laakso and Taagepera's (1979) method in computing the effective number of parties because of its simplicity and ease of interpretation, and also because it has been widely used in the comparative literature. Furthermore, the choice of the method of calculating Effective number of parties will make little or no difference to my results because these measures are highly correlated.²¹

There are two other minor, yet important matters concerning the measurement of the number of parties. One relates to the variables (whether voter share or seat share) to be used in measuring the size of the party system, while the other is about constructing the number of parties with incomplete data. These are discussed below.

2.3.4 *Measuring the number of electoral and legislative parties*

The effective number of parties can be calculated on the basis of share of votes or share of seats, giving two measures - the effective number of electoral and effective number of legislative parties respectively. Since one of the objectives of the electoral system is to reduce vote-getting parties into seat-getting parties, the number of legislative parties would tend to be lower than the number of electoral parties.

²¹For example, using a large data set of Indian elections between 1951-2004, I find that Laakso and Taagepera's (1979) and Dunleavy and Boucek's (2003) measures of Effective number of parties have correlation of 0.99.

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Although, the two measures would normally be positively and strongly correlated (especially in PR systems), it is important to distinguish between the two measures. These two measures are affected differently by the ‘mechanical’ and ‘psychological’ (Duverger, 1954), or the ‘proximal’ and ‘distal’ (Rae, 1971) effects of the electoral systems. The mechanical or proximal effects are visible in the translation of votes into seats in an election. Since, this translation tends to discriminate against smaller parties, voters, politicians, financial sponsors and political workers do not want to waste their vote, effort and money on these parties. This strategic behaviour forms the basis of the psychological or distal effects of electoral systems, which tend to favour larger parties. The distinction between effective number of electoral and legislative parties is theoretically important, because the effective number of electoral parties is affected only by psychological effects, while the effective number of legislative parties is affected by both the psychological effects and the mechanical effects. Thus, the number of effective electoral parties that get votes are reduced by the expectations of voters, politicians, sponsors and political workers in not backing smaller parties. However, any further reduction to the effective number of parliamentary parties is caused only by mechanical effects of electoral system.

2.3.5 *Computing the Effective number of parties with incomplete data*

Another important question about counting the number of parties relates to the treatment given to the vote share of independent candidates. Independent candidates are the ones who do not contest elections on a larger party label, but stand as a single candidate (party) themselves. If the vote share or the seat share of the independents is taken together as one party (which is the case in many studies in the literature), it can

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distort the calculations of the number of effective parties. Further, the data on independent candidates is sometimes not readily available. Taagepera (1997) suggests a method of bounds to calculate a more accurate effective number of parties, when complete data is not available on the number of votes and seats won by all competing parties. According to Taagepera (1997:145),

The problem is acute for India 1952 – 1984. A listing of 12-19 separate parties (Lijphart, 1994, pp. 169-172) still leaves 7-20 per cent of the votes and 2-9 per cent of the seats in the 'Others' category. Depending on the treatment of these residuals, the average N for votes 1962 – 1984 has been given as 4.31 (Lijphart, 1994, p. 161) and as about 3.5 (graph in Chhibber and Kollman, 1996).

If one treats the 'others' category as a single party, it leads to an overestimation the effective number of parties. On the other hand, ignoring this category altogether will lead to underestimation of results. Taagepera's method involves either deleting the residual category if the share of the residual category is less than the least non-zero share of a political party. Alternatively, if that is not the case, the method involves assuming that the residual category is composed of parties each having vote shares equal to the least non-zero share of a political party, and taking the average of possible ranges for effective number of parties (The method is illustrated in Appendix A).

I now turn to review the theoretical and empirical attempts to explain the size of the party system in a polity.

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2.4 Explanations of the size of the party systems

As is clear from the discussions in the preceding sections, the influence exercised by electoral laws and social cleavages on party systems has been an important topic of research during the latter half of the twentieth century. Many scholars have argued that electoral laws exercise an important and *independent* effect on party systems, while others have taken the view that it is sociological cleavages that are the primary determinants of party systems. A third approach has emerged, that advocates an interactive approach, where the influence of social cleavages on the party system is conditional on the degree of the permissiveness of the electoral system and rules.

Scholars who view electoral laws as exercising an independent effect on the party systems include Duverger (1954), Sartori (1968, 1976), Rae (1971), Lijphart (1990, 1994), Riker (1982), Taagepera and Shugart (1989), Palfrey (1989), Myerson and Weber (1993), and Cox (1994). On the other hand, some scholars argue that the effect of electoral systems on party systems is limited compared to the effect of sociological factors. This second group includes Bogdanor (1983), Grumm (1958), Eckstein (1963), Meisel (1963), Lipson (1964), Key (1964), Lipset (1960), Lipset and Rokkan (1967), Rose and Urwin (1970) and Nohlen (1996). This strand of literature argues that party systems are caused by social cleavages, and influence the selection of electoral laws that are designed to mirror the party system.

Cox (1997) observes that if the electoral system did not matter, why would political elites bother to adopt one that “fits” the extant party system. Similarly, many scholars from the institutional school have not ignored the importance of social

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cleavages altogether. For example, Lijphart (1984), Powell (1982), Taagepera and Grofman (1985), and Taagepera and Shugart (1989) have historically examined the issue of social cleavages in their work. Thus, although the two approaches appear distinct, they are not mutually exclusive. As Amorim and Cox (1997: 151) state

To assert that social structure matters to the formation and competition of parties – which no one denies, when the point is stated in such a broad fashion – does not imply that electoral structures do not matter. To make this latter point, one has to adopt a rather extreme monocausalist perspective according to which the underlying cleavage structure of a society is so much more important than the details of electoral law that basically the same party system would arise regardless of the electoral system employed...Similarly, to assert that electoral structure affects party competition in important and systematic way does not imply that social structure is irrelevant.

Some scholars have stressed the *interaction* effects of the social and the electoral structure. Papers such as Sartori (1968), Riker (1982), Rae (1971), and Kim and Ohn (1992) which consider the importance of the geographical location of party supporters recognise the possibility of such interaction effects.

Recently, another approach is emerging that stresses the ‘strategic interaction’ between social cleavages and electoral rules, while shaping the party systems. This approach has been used by Powell (1982), Ordeshook and Shvetsova (1994), Amorim and Cox (1997), Cox (1997), Filippov et al (1999), Mozaffar (2001), and Jones (1999, 2002). According to Ordeshook and Shvetsova (1994: 101), “Analysing the effects of electoral institutions separate from other things ignores the possibility that institutions are intervening structures and that they influence, say the

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number of political parties only to the extent that the ‘more basic’ characteristics of a society act through them to increase or decrease this number.” They conclude by saying that if district magnitude is one, the party system is relatively impervious to ethnic and linguistic heterogeneity.

Some scholars have explicitly incorporated measures of social cleavages and electoral features in their analysis (e.g. Amorim and Cox, 1997; Cox, 1997; Filippov et al., 1999; Jones, 1997; Moser, 2001; Ordeshook and Shvetsova, 1994; Taagepera, 1999; Powell, 1982). They propose an interactive model, including the effects of both political institutions and cleavages on party system. In their analysis of legislative elections at both the cross-national and sub-national level these authors find considerable support for the superiority of an interactive model vis-à-vis a pure institutional model.²²

Below, I discuss the institutional, sociological and interaction-based explanations of the party systems.

2.4.1 Institutional explanation of the size of party system

Bartolini and Mair (1990) find that party strength does not vary significantly over time, which emphasises the role of institutions in maintaining party systems’ stability. The institutional approach treats electoral laws as exogenous to the party system, while social cleavages and groupings are considered endogenous to it. Although this approach is based on the theory of the rational voter, its predictions,

²²The partial exception is Filippov et al. (1999) who found an interactive model to be superior for one population but equal to a pure institutional model for another.

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even after some valuable reformulations do not match with the prevailing situation in many countries. However, predictions of this approach do improve considerably when we add social cleavages to the analysis (Amorim and Cox, 1997).

According to the institutional approach, electoral rules and institutions have decisive influences on the size of the party system. Taagepera and Shugart (1989) stress features pertaining to ballot structure, district magnitude and electoral formula, while Lijphart (1994) emphasises effective threshold of representation and the size of assembly. Other important explanatory variables used in the literature to explain party systems include the demand for public goods (Desposato, 2000), electoral reforms (Mendez, 2000), and the number of issue dimensions (Taagepera, 1999).

I now turn to the institutional features of electoral and political system that affect party systems. Lijphart (1994) refers to an electoral system being a set of unchanged election rules under which one or more successive elections are conducted in a particular democracy. Farrell (2001:3) points out the importance of differentiating between electoral laws and systems. While “Electoral laws are the family of rules governing the process of elections...(electoral system is) the mechanism of determining victors and losers, which clicks into action once the campaign has ended.” Different dimensions and classifications of electoral systems have been discussed in the literature (for example see Massicotte and Blais, 1999, Farrell, 2001).

There are three main types of electoral systems: majoritarian, which includes plurality, two-ballot systems, and the alternative vote; PR which includes largest

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remainders, highest averages, and single transferable vote; semi-proportional, which includes cumulative vote and the limited vote. PR systems tend to produce greater proportionality, and minority representation as compared to majoritarian electoral systems.

In *majoritarian* system, a party needs to win majority of vote in districts, and this feature systematically favours large parties by making it difficult for small parties to gain representation. It also tends to produce disproportional election outcomes, and discourages multipartism. Countries can mitigate this effect to some extent by making special provisions so that interests of minority are not ignored altogether. For example, in India this is sought to be achieved by reserving a proportion of seats in the parliament for candidates belonging to socially and economically backward classes – the SC and ST (MacMillan, 2003).

Proportional representation (PR) includes all methods using mathematical methods for dividing multiple seats among multiple parties such that their seat shares are commensurate with their vote shares. *Plurality* rule totals votes for each party separately and award one or more seats to the top vote winners. This fundamental distinction between plurality and PR system provided the basis for Duverger's propositions (1954) and much subsequent research (Blais and Carty 1987, 1991; Rae 1967). While for proportional type formulas, it will be true that larger district sizes will yield more parties, this effect should be reversed when plurality rules decide the winners (Blais and Carty, 1987). This also suggests that the effects of district magnitude *interact* with the effects of electoral formula, in shaping party systems.

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A key feature of an electoral is the District Magnitude which refers to the number of representatives elected in a district. It can be calculated by dividing the number of seats in the legislature by the number of districts giving a figure of *average* district magnitude. As early as 1925, Horwill had pointed out that district magnitude was the ‘all-important factor’. Taking a similar view, Hogan (1945) proposed that “the greater the number of member it (constituency) elects, the more closely will the result approximate the proportionality.” Rae (1967, 1971) found that district magnitude had very strong affect on the degree of proportionality of political outcomes, and the size of party system. Taagepera and Shugart (1989) emphasise the importance of district magnitude, and call it the ‘the decisive factor’ in the conversion of votes into seats.

Clearly, party systems are shaped by the concept of *district magnitude* – the number of seats allocated in an electoral district (Ordeshook & Shvetsova 1994; Taagepera & Shugart 1993; Cox, 1997; Blais and Carty 1991; Palfrey 1989; Rae 1967). District magnitude is clearly an important determinant of the number of parties (Taagepera & Shugart 1989; Cox 1997; Lijphart 1994; Gallagher 1991; Rae 1967). This is expressed by Taagepera and Shugart (1993:455):

History, present issues, and institutions all intervene.
But if one had to give a single major factor [that]
determines the number of parties ...it would have to be
the district magnitude.

Another dimension of electoral system is the electoral threshold, or the minimum level of votes needed by a party to win an election. Some electoral systems provide for such a threshold, usually at a national level which is called a legal threshold.

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Even if no legal threshold is provided, an *effective* threshold can be implied by the dimensions of a particular electoral system, especially by the district magnitude (Taagepera and Shugart, 1989). As Lijphart (1994: 12) puts it

Low magnitudes have the same effect as high thresholds: both limit proportionality and the chances for small parties to win seats; as magnitudes increase and threshold decrease, proportionality and the chances for small parties improve.

Since majoritarian election systems favour larger parties, they do not generally provide for legal threshold levels. In practice however, parties do need to win a reasonable number of votes to win seats, and gain majority in the legislature. And therefore, normally there is an effective threshold of votes needed by parties, even in the absence of a legal one.

Assembly Size

The total number of seats in the legislature, or the assembly size is another dimension of the electoral system. Existing literature has not paid adequate attention to this dimension, especially in the empirical analysis (Lijphart, 1994 is the main exception). However, since the assembly size is a crucial determinant of the system of translation of votes into seats, its effect on the party system is direct and real. In particular, assembly size affects the degree of multipartism and the proportionality.

Some other minor features of an electoral system include the ballot structure, and the degree of malapportionment, and the difference between legislative elections in parliamentary and in presidential systems.

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Two types of ballot types are found: categorical, where voter can vote for one party only, or ordinal, where voter can divide the vote amongst different parties. Ordinal ballot by its very nature can be expected to favour multipartism. However Rae's (1967) analysis for twenty countries between 1945 and 1964 does not find the evidence to support this hypothesis.

Gallagher (1991) points out the effect of malapportionment on the degree of proportionality of election outcomes. Malapportionment refers to a situation, where district (in a single-district system) have substantially unequal voting populations. Malapportionment, in a multi-member district system, means district magnitudes that are not commensurate with their voting populations. This phenomenon can favour or work against particular parties, and also affect electoral disproportionality.

Further, as is shown by Shugart (1988), plurality-based Presidential elections can affect legislative elections held at the same time. Larger parties have better chances of having their presidential candidate elected, and its knock-on effect can also affect legislative elections. Therefore, presidential systems should normally discourage multipartism.

The mechanics of the institutional effect

The Institutional approach incorporates Duverger's Law which holds that the simple-majority single-ballot system favours the two-party system (Duverger, 1963: 217). This happens due to a 'mechanical' effect, whereby larger parties get disproportionately higher share of legislative seats, as compared to their share of votes, and a 'psychological effect', whereby both voters and elites avoid wasting

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their votes, time and money on candidates and parties less likely to succeed in elections. In a complementary message, Sartori (1968) distinguishes between strong and feeble electoral systems, and implies that this distinction can strongly or feebly constrain the voters' choice. A system of proportional representation on the other hand, leads to low effective threshold of representation, and presents better chances for the smaller parties to win votes and seats.

Riker (1982) argued that Duverger's Law operates because voters and politicians act in a sophisticated manner, resulting in a two party system under the plurality rule; politicians will leave losing parties, donors will not fund losing parties and voters will vote to minimise their regret by voting for their best choice among the candidates likely to win. However according to Abramowitz (1995), whether voters look at all range of electoral choices, is not explicitly clear from studies done. It seems that that they are operating under some kind of "bounded rationality". Cox (1997) finds that voters in Britain favour candidates who were involved in close contests in previous elections previously. It can be said that Duverger's Law forces or encourages voters to vote for candidates likely to win, but their actual vote is influenced by a variety of factors, including the party the candidate belongs to, the intensity of preferences on local versus national issues, and also what other friends and acquaintances are voting for. Chhibber and Kollman (1998) find strong evidence for Duverger's Law in district elections, but they argue that national party composition is a more complex affair, where federal system, social cleavages and electoral rules all play important role.

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The effect of the electoral formula and district magnitude on the size of the party system can take place by the way votes are translated into seats. Electoral rules can affect the number of parties in a 'mechanical' manner, irrespective of the way in which votes are determined. This effect will therefore influence how accurately the number of legislative parties corresponds with the number of vote-getting parties. In a purely PR system, the number of electoral parties will be same as the number of the electoral (vote-getting) parties. However, in practice even in PR systems, many parties winning a significant proportion of votes might not win a seat. Therefore, the number of legislative parties will invariably be smaller than the electoral parties.

Thus, the most important institutional features of the electoral system that can lead to mechanical effect include the district-magnitude and the method of selecting the winner. In some countries, a threshold of votes that must be overcome before a party can obtain a seat. While a 'natural' threshold that depends on the size of the legislative assembly and the district magnitude exists in all electoral systems and countries, some countries have also introduced higher legal thresholds that must be reached before winning a seat. In electoral systems with single-member districts, there can be only one winner, and therefore, even a party receiving a fairly large share of votes might end up losing the seat. Consequently, the number of parties winning seats will be far lower than the number of parties receiving votes. Electoral systems using multi-member districts and PR formula on the other hand, can be expected to yield a higher number of seats for parties that would not win in a single-member district. Thus, as the district magnitude increases, one can expect to see a larger number of parties win seats with the same share of votes, and the number of legislative parties will mirror the number of electoral parties.

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The presence of the ‘upper tier’ seats also leads to more representative legislature, since these seats are typically compensatory in nature. For example, 39 seats are distributed in a second tier among the parties and cartels in Sweden whose share of the seats is less than their share of the votes (Caramani, 2000). Similarly, in Venezuela, parties that are under-represented in the allocation of district level seats relative to their national vote share can receive some compensatory seats (Jones, 1995). The effect of upper tier seats however depends on the proportionality of the electoral system’s mechanical effects.

Reed (1990) stresses that the Duverger’s psychological effect, which decimates third parties, applies at both the voter level and at the politician level, a point also made by Riker (1982, 1986). Reed (1990) argues that elite-level coalition formation to secure the required percentage of votes at the district level occurs due to incentives under the system for factions inside parties with over half the vote to defect and seek cooperation with elements of the opposition. Thus, third parties get decimated by defections, splits and mergers, in addition to voters not “wasting” their votes. In the Indian context of weakly institutionalised parties, this could be a powerful factor.

Evidence for mechanical effect

Golder (2002) finds that number of electoral parties has an increasing, but less than proportional effect on the number of legislative parties when the district magnitude is one and there are no upper tier seats. Furthermore, an increase in district magnitude leads to a more proportional translation of votes into seats. On average, upper tier seats do not increase the proportionality of translation of votes into seats. Their model suggests that upper tier seats actually make the electoral system more

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disproportional. The small district magnitude has a mechanical reductive effect on the number of legislative parties. These effects encourage voters to vote strategically for larger parties, and for party elites to participate in strategic entry or withdrawal (for example in India, it leads to pre-poll-alliances, especially when coalition government is expected). Thus electoral institutions can have a mechanical reductive effect on the number of legislative parties even when the voter behaviour is exogenously determined (Golder, 2002, 2006). The second reductive effect of electoral laws takes place by their influence on the behaviour of voters and candidates.

Duverger (1954) discussed the behavioural effect of non-permissive electoral laws on voters and candidates as the 'psychological effect'. According to Riker (1982), electoral rules can encourage strategic voting on the part of voters, and the strategic entry on the part of candidates. Cox and Monroe (1995) discuss a situation where voters have some preferences over formation of national legislature and clear expectations of how parties will fare in national elections. Therefore, voters will usually avoid voting for nationally non-competitive parties, even though these are competitive at district level, and this will lead to two nationally competitive parties.

Deviations from Duverger's Law

Deviations from Duverger's Law have been explained by various hypotheses. Voters have different levels of information, do not have same expectation about how candidates' performance in elections; people are engaging in disillusioned or sincere voting – to parties closest to their ideal points, they have intense preferences; they look at next elections and not just the present one. Rohrschneider (1993) argues that

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more sincere voting for minor parties will take place when a new dimension is being openly debated and contested. Another possibility is that when one party is sure to win, people might vote sincerely, to express their preference. According to Riker (1976), deviations from Duverger's Law emerge because of 'sincere voting' and 'disillusioned voting' by voters. This happens because voters vote to express their preference, or when supporters of a large party leave it to the voter for their second preference. According to Riker, large parties have to withstand greater factionalism and tension within it due to ideological diversity and sharing of spoils. This can lead to party splits, formation of new parties.

Rae (1971:95) reformulated Duverger's Law to say that Plurality formulae are always associated with two-party competition except where strong local minority parties exist. According to Riker (1982: 762), "If the third party nationally is one of the two larger parties locally, then sophisticated voting by supporters of the weakest party (i.e., one of the two larger parties nationally) strengthens the third party. This latter effect is probably what has kept alive the Liberal party in Britain and some Canadian third parties."

Other reformulations of Duverger's Law incorporate the effects of number of issue dimensions and social cleavages. Taagepera and Grofman (1985) argue that Duverger's Law can work only if there is single issue dimension and once the number of issue dimensions increases, the equilibrium number of parties is the number of issue dimensions plus one. Taagepera and Shugart (1989) argue that Duverger's Law may not work where there are multiple issue dimensions. An

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important observation of theirs is that the effect on party system depends on whether issue dimensions remain salient, or they are absorbed by existing parties.

Lijphart (1994) accepts application of Duverger's Law, but stresses the importance of number and depth of social cleavages as a key element influencing the party system. According to him, India remained a multi-party system with a dominant party, and if measured by Laakso-Taagepera index for the number of effective parties, it approached a two-party system. However, it still represents a departure from the prediction of the Duverger's Law, especially if one considers the growing number of parties especially at the national level in the last decade.

Cox (1997) in a review of the institutionalist school, argues that bipartism in a simple-majority single-ballot electoral system is a result of resource concentration by two sets of instrumentally rational agents: strategic voting by voters and strategic entry by party elites. While voters will be strategic and prefer to cast their votes for candidates who have a high chance of winning, party elites (and contributors) will allocate resources such as money and endorsements to serious candidates only. Also, potential entrants into the electoral fray may drop out if they anticipate strategic voting on the part of the electorate. Cox (1999:149) states that "strategic refers to actions that are primarily instrumental as opposed to consummatory, that is, actions taken because of their perceived impact on the final outcome of the election, rather than because of any intrinsic value they may have." Under conditions of perfect strategic coordination by voters and parties, the equilibrium number of parties in a single-ballot simple-majority system is two.

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An important criticism of this school is that it neglects to take into account the impact of social cleavages on the party system. Scholars of the institutionalist school question the sociological explanation of the party systems by pointing out that socially defined groups are not *always* able to organise themselves as groups, especially in light of the collective action problem (Olson, 1965). Further, the social groups might not result into political parties since this may not necessarily be a better strategy as compared to forging coalitions. Schattschneider (1960) argued that politicians can combine or recombine social groups for political purposes, and therefore the presence of existing social cleavages may not lead to politically active parties or groups, and imply a unique party system.

Jesse (1990: 62) questions whether Duverger's generalisations serve "any useful function at all." Scholars such as Grumm (1958), Eckstein (1963), Lipson (1964), and Fukui (1988) argue that party systems determine electoral systems, rather than the other way around. This implies that the institutional school focus on electoral rules ignores the more important variable – the number and type of cleavages in the society.

The following sections analyses the literature stressing the importance of social cleavages in shaping party systems.

2.4.2 *Sociological explanations of the party systems*

According to the sociological school, social cleavages play a crucial role in determining the nature of party system (Lipset and Rokkan, 1967). The focus of this view is to ascertain the nature of social cleavages from which parties emerge and

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seek votes. More heterogeneous societies can expect to have more fragmented party systems. Thus, according to this view, the size of the party systems is determined by the number and type of cleavages in the society.

Amorim and Cox (1997:152) have defined social cleavages to mean enduring social differences that might become politicised, or might not: differences of ethnicity, religion, language, or occupation, for example. Similarly, Gallagher et al. (1992:90) define a social cleavage as a division in which the groups involved are conscious of their collective identity, partly because there is an organisation that gives expression to this identity. Cox (1997: 19) also presents the same idea as follows:

Although a bit fuzzy, the idea that social cleavages condition the party system has considerable force and has spawned an entire literature in opposition to, or at least in tension with, the institutionalist literature.

The major proponents of the social cleavage theory of party systems are Lipset and Rokkan (1967). According to their freezing hypothesis, the European party systems stabilised or “froze” in the 1920s, and continued with the same socially-defined patterns of political competition until at least the 1960s. In other words, the party systems were structured by social cleavages that appeared as a result of the political mobilisation and organisation of sections of society affected by the national and industrial revolutions of the 20th century. The logic behind this proposition is based on the effect of established social equilibrium on the party systems. Burnham (1970) points out only major events and changes such as wars, economic depression can change the established social structures. This leads to voters developing loyalty for parties and candidates, often based on social groupings, and therefore, the efforts of

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the parties to attract voters, and change their political orientation can be very difficult. Social cleavages and groups are therefore politicised by the interactions between voters, parties and candidates, and this interactions shapes the party systems. Mainwaring and Torcal (2003) have found that in Chile, parties and social cleavages are closely related, and this is facilitated by the role of political elites. Chhibber and Torcal (1997) find more generally that inter-elite politics is a key determinant of the effect of social cleavages on the party systems.

Taagepera and Grofman (1985) argue that Duverger's Law is based on the assumption of a single left-right issue dimension. However, there may be more than one issue dimension in a society, often resulting from social division and conflicts. In general, the sociological school assumes that social cleavages are exogenous to the political system while electoral laws are endogenous. Cleavages should have an incremental effect on the number of entrants at the pre-entry stage of politics.

According to Cox (1999:159),

At the local level, the story is simply that, as the number of distinct religious, ethnic, or linguistic groups in a district increases the chances of mal-coordination also increase.

Using this logic, cleavages should have an incremental effect on the number of vote getting parties. Powell (1980) uses election data from 27 countries to show that party fractionalisation has a positive association with both ethnic fractionalisation as well as the strength of the electoral system as measured by the average district magnitude.

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Social cleavages can directly affect the party systems, since candidates can appeal to voters, based on social affinity, rather than ideologies.²³ Jones (1997) examines the effect of social heterogeneity on the number of effective candidates in majority runoff elections to the Louisiana House of Representatives between 1975 and 1995 and finds a positive and significant relationship between racial heterogeneity and party fractionalisation. According to Mainwaring and Torcal (2003), inter-elite politics is the main instrument through which party systems get based on social cleavages. State bureaucracies also tend to influence party systems, in combination with other social factors (such as literacy levels, societal heterogeneity, power and structure of state bureaucracy, economic development etc) to create social cleavages.

The working and the policies of the government and its bureaucracy also play an important role in shaping the partisan alliances and loyalty (Kitschelt, 1999; Maravall, 1997). Further, social factors can interact with government policies to result into politically stable social cleavages. Bartolini (2000), in the context of European electoral politics in the 20th century, argues that politicisation of the class cleavages was a consequence of many social and political features prevalent at that time in Europe. These included factors such as bureaucratisation, centralisation of the state power, the consolidation of external boundaries, the degree of cultural heterogeneity, the educational level of the population and the extent of intra-state communication. Thus, the

economic-functional conflicts tended to prevail over other divisions with the formation and consolidation of the economic and administrative center. It was only

²³Ideologies, once formed can be difficult to change, and consequently party loyalties tend to remain stable and difficult to change.

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with the development of the modern state and with the integration of different groups ...[were] conflicts between these groups...centralized. (Bartolini, 2000: 18-19).

The empirical analysis of the party systems in many countries has relied heavily on sociological explanations. Chhibber and Kollman (2004) point out that British electoral politics are typically described in terms of the class and regional cleavages. In Britain, social class forms an important basis of the party systems, whereby the working class traditionally associated itself with the Labour party, and the regional factors explain the performance of the Scottish and Welsh parties (Butler and Stokes 1970; Mughan 1986; Rose 1974). In Canada too, region and language have been the dominant factors shaping the number of parties (Schwartz 1974, Martin 1974). Research on American party politics also emphasizes social cleavages as an important determinant of party systems. Many studies relate the American partisan coalitions to the crises that disrupt formerly stable alliances among social groups (Key 1950, Schattschneider 1960, Burnham 1970, Petrocik 1981). The American two-party system is also explained in terms of the weakness of the third parties, because of the cultural dualism in the society, and the lack of a strong labour movement in the late 19th and early 20th Century (Lipset et al., 1956, Hartz, 1955). Thus, according to this view, social cleavages in America are stable and shape the American party system.

Explanation of party systems in India has been studied in terms of social and cultural divisions based on language, religion, and caste. The research has mostly focused on the effect of caste on the number of parties and partisan politics (For example, Brass

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1965, 1981; Yadav 1996a, Chhibber and Petrocik, 1989). According to Jaffrelot (1995), religion is a major social cleavage in Indian politics, especially from the point of view of the rise of parties such as the BJP. Further, the evolution of Indian party systems has also been strongly influenced by regional factors, rather than lines based on ideologies or different preferences over national policies (Wallace, 2000).

An important criticism of the sociological school is that it does not address the question of how cleavages are politicised and come to structure the party system. It ignores the possibility that strategies adopted by parties may actively create new cleavages rather than passively adapting to pre-existing cleavages. In short, there is an absence of agency in the social cleavage theory of party formation.

2.4.3 *Strategic interaction*

Recently, another approach is emerging that stresses the 'strategic interaction' between social cleavages and electoral rules, while shaping the party systems. This approach has been used by Powell (1982), Moser (2001), Ordeshook and Shvetsova (1994), Amorim and Cox (1997), Cox (1997), Filippov et al. (1999), Mozaffar (2001), and Jones (1999, 2002). According to Ordeshook and Shvetsova (1994: 101),

Analysing the effects of electoral institutions separate from other things ignores the possibility that institutions are intervening structures and that they influence, say the number of political parties only to the extent that the 'more basic' characteristics of a society act through them to increase or decrease this number.

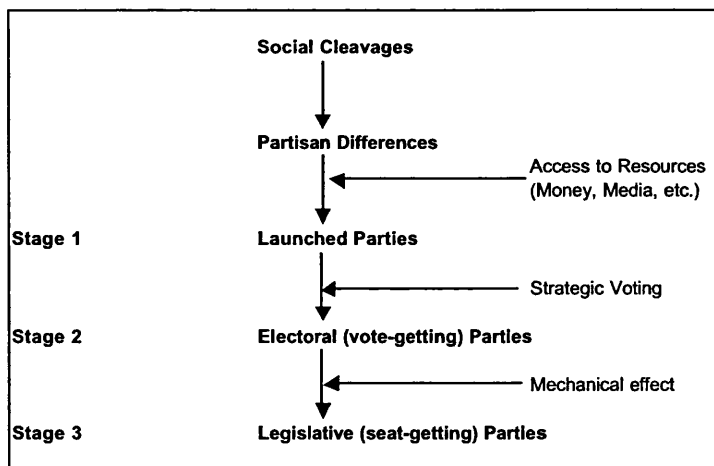
They conclude by saying that if district magnitude is one, the party system is relatively impervious to ethnic and linguistic heterogeneity.

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Amorim and Cox (1997) discuss a hypothetical series of stages by which social cleavages are translated into party-defining cleavages, noting that “some stages are sensitive to the particularities of social structure, some to the details of the electoral structure, and some to both.” According to their view, the number of parties are an end-product of a stages or series of decisions by various individuals and groups that lead to a reduction of a large number of social cleavages to a smaller number of political cleavages or parties. According to them, these stages are – the translation of social cleavages into partisan preferences, the translation of partisan preferences into votes, and the translation of votes into seats. This is shown in the Figure 2-1.

Figure 2-1 Effect of electoral institutions, social cleavages on number of parties



Source: Based on Amorim and Cox (1997)

As shown in Figure 2-1, different forces or factors affect these stages to varying degrees. In purely institutional models, the translation of social cleavages into partisan preferences is not explicitly studied, and the number of parties with their respective ideologies and policies are exogenously determined. Further, it assumes that parties' inability to advertise does not affect its votes, and all potential parties

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have the necessary resources to eventually come into existence. According to Amorim and Cox (1997), the creation of parties and the advertisement of their policy positions are key stages at which the reduction of political players takes place. Accordingly, the political groups or individuals are reduced to an actual number of *launched* parties, before the elections reduce these parties to an effective number of vote-getting parties.²⁴ Reduction of launched parties into vote-getting parties takes place through a mechanism of strategic voting. Thus, unless a party is perceived to have viable chances of winning the elections, voters may not *waste* their votes on that party, and will in turn vote *strategically* in favour of a party that has reasonable chances of winning. The strength of the electoral system (Sartori, 1968) affects the degree of the reduction of launched parties into vote-getting parties.²⁵ Finally, the reduction of vote-getting parties into the seat-getting parties takes place according to the features of electoral system.

The reasons for superiority of strategic interaction model have been discussed by Amorim and Cox (1997). They argue that a polity will have many parties *only* if it has many cleavages *and* a permissive enough electoral system that lets political agents to convert these cleavages into parties. Second, a polity can have few parties either because it has no need for many parties because of few cleavages, or there are limited opportunities for them because of a strong electoral system. Thus, according to interaction approach, both the social cleavages and the institutional features of

²⁴According to Amorim and Cox (1997), the reduction of launched parties depends on the level of preexisting non-political organisation that can be turned to political advantage, financial resources, access to media, etc.

²⁵The stronger the electoral system, the greater will be its efficiency to reduce launched parties into vote-getting parties.

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electoral and political system are important, they interact to produce the size of party systems in a polity.

Two most important dimensions of electoral systems which determine its permissiveness are the electoral formula and the district magnitude. All majoritarian systems make it difficult for small parties to gain representation, because they need to win pluralities in electoral districts. Smaller district magnitudes also grant considerable advantage to larger parties, since they usually get a larger share of seats than the share of votes they receive. If the assumptions behind the interaction model are correct, it will rule out additive models, whereby the number of parties depend only on cleavage or only on electoral system, or only on additive combination of these two (Amorim and Cox, 1997).²⁶

The Indian case seems to defy the strict interpretation of the strategic interaction model. India follows the plurality formula, whereby voters cast votes in single-member districts, and the candidate with most votes win. Thus, it is not a permissive electoral system. Yet India has 'many' and not 'few' parties, in contrast to the argument made in Ordeshook and Shvetsova (1994).

A few scholars have attempted to reconcile the propositions of the institutional and the sociological schools by empirically testing for the effect that the interaction between electoral structure and social cleavages has on the size of the party system. Powell (1982) uses election data from 27 countries to show that party

²⁶An additive model assumes that number of parties can be large either because of many cleavages (irrespective of the permissiveness of the electoral system), or because the electoral system is very permissive (irrespective of the number of cleavages).

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fractionalisation has a positive association with both ethnic fractionalisation as well as the strength of the electoral system as measured by the average district magnitude. Powell's (1982) findings support the superiority of additive model over an interactive one. Ordeshook and Shvetsova (1994) show that the interactive effect between strength of electoral structure and ethnic fractionalisation is a stronger predictor of the effective number of parties than their individual additive effects. They conclude that

...if the effective number of ethnic groups is large, political systems become especially sensitive to district magnitude. But if ethnic fractionalisation is low, then only especially large average district magnitudes result in any "wholesale" increase in formally organized parties. Finally, if district magnitude equals one, then the party system is relatively "impervious" to ethnic and linguistic heterogeneity... (pp. 122)

Using slightly different measures of district magnitude, Amorim and Cox (1997) extend the analysis to include developing countries. They find that the number of parties depend on the product of social heterogeneity and electoral permissiveness, rather than being an additive function of these two. Thus, multipartism results as the joint product of many social cleavages and a permissive electoral system. Amorim and Cox (1997) caution in deriving conclusions about the superiority of either of the two (additive or interactive) specification, because of lack of enough empirical evidence, and because these studies are largely based on European countries.

Findings of the interaction based studies are important because they differ from the pure sociological formulations of the party systems. Further, it also argues against the purely institutional approaches. However, as Amorim and Cox (1997) point out

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that the further investigations of the interaction between social and electoral structure is required, particularly by using a more micro-level data.

2.4.4 *Other factors*

Finally, the size of the party systems is also influenced by some other factors, which I call 'contextual factors'. These include factors such as the role of presidential elections (Cox 1997), the relative timing of presidential and parliamentary elections (Mainwaring and Shugart 1997), and the degree of political fiscal centralisation (Chhibber and Kollman 1998).

Chhibber and Kollman (1998, 2004) argue that electoral system effects are most prominent in district elections, and that the number of national parties depends on the policies and role of the national government in relation to sub-national governments. They argue that since both social cleavages and electoral rules tend to be stable, the change in number of parties over time can be explained by the degree of fiscal and political centralisation exercised by the central government. According to them, in the periods of centralisation of power in the hands of central government, the voters tend to vote for larger party labels, and this leads to party aggregation at the national level. Similarly, in the periods of decentralisation, the sub-national governments get more powers, and voters need not vote for a national party label, in order to get his or her views heard. Hence, decentralisation phases see party disaggregation at the national level. Chhibber and Kollman (2004: 80) summarise their findings as thus

In general, ...centralizing authority at the national level will reduce the number of parties because voters will be less inclined to vote for regional, state or province-

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level, or local parties. The opposite trend, decentralisation or provincialisation, ought to make it more likely to see an increase the number of parties, though this does not necessarily occur. Regardless, provincialisation should increase the preponderance of regional voting.

It could be argued that political parties, which control the state, are actually the instruments of centralisation and decentralisation and that it is the party system that has a bearing on which level of government has more influence than the other way around. However, Chhibber and Kollman note that the trend towards centralisation and decentralisation (or the level of government at which most decisions are made - central or provincial/state) is actually the consequence of economic change that works somewhat independently of the party system.

2.5 Conclusions

As is discussed in this chapter, theory supports the arguments of both the sociological and the institutional schools. Interaction-based models too have been adequately supported by theoretical underpinnings. The results of empirical studies however, have varied and there does not seem to be a consensus on the empirical determinants of the size of the party system in the existing literature. Some studies show the superiority of sociological school, while others stress institutional factors. Some recent empirical models have supported the view both sociological and institutional factors interact to shape the size of the party system of a polity. However, the type and nature of the interaction is still being debated. Some empirical studies find that the additive model is superior, i.e. that sociological and institutional factors have independent effects on the party systems, while some studies have found that an interaction-based models are better meaning thereby that

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the effects of the sociological and institutional factors are multiplicative rather than additive in nature.

I argue that the variation in empirical findings can also arise because the political situation and context differs across countries and regions. Theory postulates both sociological and institutions factors are important, but their relative importance depends on the social and political context in a particular polity, at a particular time. This places some limitations on comparative studies of the size of the party systems. To be more meaningful and consistent, these studies need to also consider the contextual factors. The importance of contextual factors for new and emerging democracies, with heterogeneous populations is much greater than for the western democracies.

3 EXISTING RESEARCH ON INDIAN PARTY SYSTEM

In this chapter, I review the existing research on the Indian party system. I focus on the explanations relating to the domination of one party – INC, in the years immediately following India’s independence, India’s deviation from the Duvergerian norm of having a two-party system, the importance of social cleavages and issue dimensions, and the effect of distribution of powers between the national and the state governments. I also review empirical studies that have been carried out to explain the size of the party system in India. I start with a brief introduction about key features of Indian politics and party system, as it stands today.

3.1 The current Indian political scene

Indian politics in the 1990s has been characterised by the politicisation of increasing number of social cleavages and identities. The two main national parties – INC and BJP remain relatively broad-based and ‘catch-all’ parties, but have to contend with the increasing number of groups and parties based on ethnic, caste, religion, language and geography. The 2004 election results reinforce the trends of the 1990s, especially at the national level. It also marks the return to power of INC, which saw its electoral fortunes decline dramatically during the last 4 general elections. Some commentators had interpreted the rise of BJP to its exploitation of religious extremism, even though the party claims its policies and ideology represent the true ‘nationalism’ and dismisses the ‘pseudo-secularism’ practiced by more ‘catch-all’ parties such as the INC. The rise of the BJP was also witnessed with interest in the academic community because some commentators saw its rise as an anomaly where

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a 'catch-all' party – the INC, was losing ground to a party which has 'intense-views', unlike the trend witnessed in most other polities. The BJP on the other hand has denied being an extremist party, and has referred to the 'catch-all' policies of INC as being 'pseudo-secular'. There is also one school of thought which believes that BJP has increasingly become a centrist or a catch-all party, and this helped it to win elections in the majority of the elections in the last decade. BJP headed a coalition government at the national level between 1998-2004 based on a 'Common Minimum Programme' of governance with its alliance partners. To do so, it had to abandon some of the policies that were considered by some to be controversial.²⁷

In the 2004 elections, a coalition government led by the INC came to power. INC's unexpected success is largely a result of its alliance with state or regional parties, which enabled it and its allies to win a majority of the seats in the parliament. As the situation stands now, political parties in India are increasingly incapable of winning parliamentary majority on their own, and have to engage in coalition politics to win seats and form governments. These trends have in turn led to the proliferation of groups based on caste, religious, language, and regional affiliations, both within and outside organised political parties. These trends have increased the importance of the state level politics and party systems, and their effects on the national politics.

The coalition governments being formed at the national level elections represent a new form of 'catch-all' political party, representing different interests and groups, in

²⁷These included adoption of a uniform civil code, scrapping special status to the state of Jammu & Kashmir

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this era of pre-poll alliances and seat adjustments.²⁸ Similar trends are also visible at the state level, where national and regional parties often form pre-poll alliances or seat-adjustment arrangements, where they jointly decide their common candidates for the elections, and run their campaigns. In some states, although there are no joint candidates, the alliance partners agree to contest a pre-decided number of seats, and do not contest seats where their alliance partner is contesting. The coalitions being formed in India might also resemble Lijphart's (1996) characterisation of India as a consociational democratic system. As Wallace (2003: 1) points out,

the catch-all and consociational designations are both appropriate for India's political party system as it enters the 21st century.

Although the number of parties does not seem to have reached equilibrium, and varies across states and elections, the coalition form of government seems to be here to stay, for sometime to come. Thus, the Indian party system at the national level has moved from a single-party dominance till the 1980s, to a two-party dominated system where two alliances compete for electoral supremacy. At the state level too, the days of single party dominance are over, but the trend has varied across the states. Some states have moved to a multi-party system, where national parties, regional parties, and other smaller parties are engaged in electoral competition either alone, or with their alliance partners. Some states have followed the national model, where two large national parties and their alliance partners constitute a two-party dominated party system.

²⁸Kirchheimer (1966) first used the term "Catch-All Party", while referring to changes in post-Second World War political parties in Europe. These changes, according to him transformed "the old bourgeois party of individual representation" and the "mass integration" party into a "catch-all 'people's' party".

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The analysis of the election results for 1998, 1999 and 2004 clearly shows the effect of alliances and coalitions on the government formation.²⁹ The INC which did not adopt a broad coalition strategy in 1998 and 1999, did so in 2004, and this was an important reason that it could return to power. This is illustrated by Table 3-1.

Table 3-1 Seats won by, share of votes of national parties 1998 - 2004

Party	Seats contested			Seats won			Share of votes %		
	1998	1999	2004	1998	1999	2004	1998	1999	2004
BJP	388	339	364	182	182	138	25.59	23.75	22.16
INC	477	453	417	141	114	145	25.82	28.30	26.53
BSP	251	225	435	5	14	19	4.67	4.16	5.33
CPI	58	54	34	9	4	10	1.75	1.48	1.40
CPM	71	72	69	32	33	43	5.16	5.40	5.69
JD	191	0	0	6	0	0	3.24	0.00	0.00
JD(S)	0	96	43	0	1	3	0.00	0.91	1.47
JD(U)	0	60	73	0	21	8	0.00	3.10	2.35

Source: Election Commission of India reports

As shown by Table 3-1 the national vote shares of the INC and the BJP in the last three elections show marginal changes, but the number of seats won by each has changed substantially. BJP's share of votes declined from 25.6% in 1998 to 23.8% in 1999, but it won the same number of seats at 182. In contrast, INC increased its vote share from 25.8% to 28.3%, but won fewer seats in 1999 (114) as compared to 1998 (141). In 2004, both BJP and INC's vote share declined by about 1.5%, but the number of seats won by INC increased by 31, while BJP got 44 fewer seats. In 1998 and 1999 elections BJP followed a coalition strategy, contested fewer number of seats on its own, and left many seats for its allies. This strategy helped it to increase its seats, and helped it to form the government at the centre. In 2004, INC too, followed an active coalition strategy and contested fewer seats, leaving a large

²⁹Early election took place in 1999, since the BJP led coalition government lost a vote in the parliament by a very narrow margin.

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number of seats for its alliance partners. Not only did it win larger number of seats, but it also regained power at the centre, and is now leading a coalition government at the national level.

The formation of alliances between parties has an effect of reducing the effective number of parties, which get votes and seats. This factor is also very difficult to predict in the Indian situation, since party loyalties and support have changed rather easily between alliance partners. However, the same forces that encourage alliances also increase the number of parties. Since India is witnessing a phase of coalition politics, there is an incentive for smaller groups and parties to contest elections on their own. This happens because larger parties often need support from smaller parties in order to form national governments, and that is why these parties get a much higher influence on national government formation than is warranted by the number of seats won by them. Thus, coalition politics can increase or decrease the number of parties contesting elections and influencing the formation of government.

Wallace (2003:8) presents the following points on the reformulation of the party system existing at the end of the 20th century. First, the Congress Party is no longer the centre of the system. The elections in 1996, 1998 and 1999 show that it is one of the major players, but not the main player. The recent 2004 national election results have confirmed that Congress on its own is unable to dictate the direction of Indian politics and the party system. Second, two alliances led by the two major national parties, instead of parties themselves, contest for electoral supremacy. Third, a single third political force, as an alternative to the two alliances led by the INC and the BJP, no longer exists, and the possibility of such a third force looks unlikely.

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Fourth, regional parties now hold the balance of power for the construction of a ruling coalition. Further, alliances between parties are increasingly based on power politics, rather than ideology. Consequently, there are frequent switches of loyalty by regional and smaller parties. Fifth, Niche parties representing narrow segments of society (such as a particular caste or region) continue to emerge from existing parties and social groups. Lastly, political leadership rather than the institutionalisation of parties, is affecting the formulation of party system, alliances and electoral outcomes.

However, these recent trends which are visible now emerged only in the 1980s, and got strengthened in the 1990s. The earlier periods in the Indian political history after its independence saw INC dominating the political scene. I discuss the reasons for this dominance below.

3.2 Explanation of INC's dominance between 1952 and 1967

The Indian party system between 1952 and 1967 both at the national level and the state level was dominated by the INC. This domination of INC as the “catch-all” political party has often been explained in terms of it being an ideal type broad-based party. The INC party was credited for leading the Indian independence movement, and providing it with its first post-independent government. Its leaders, particularly Mahatma Gandhi, Jawaharlal Nehru provided INC's its character of aggregating India's diversity of castes, religions, regions and ideologies. The Indian party system in this period has been described as of a *one party dominance* (Kothari, 1964), but one which was nevertheless competitive. This system consisted of a *party of consensus* and *parties of pressure*. While the factions within the *party of consensus* (the INC) exerted pressure from within, the *parties of pressure* included various

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opposition parties, dissident groups from ruling party and other interest groups. These outside groups and parties did not form an alternative to the ruling party, but constantly criticised, pressurised and influenced it. This effect and influence was to ensure that the ruling party did not stray too far from the popular public opinion, and if the factions within the ruling party were not mobilised to restore the balance, it could be displaced by the opposition groups. As Kothari (1964: 1162) points out,

both the ideas of an in-built corrective (action) through fractionalisation within the ruling party, and the idea of a latent threat from outside the margin of pressure are necessary parts of the one-party dominance system.

The INC which functioned as a broad-based nationalist movement leading up the Indian independence in 1947 became a *party of consensus* due to unique set of historical factors and circumstances. It developed a system of factions, which were built around a network consisting of various social groups and leader-client relationships. In the process, traditional institutions of kin and caste were drawn upon, and mediated by a political organisation structure. Over a period to time, this system led to a new cadre of leadership drawn from a diffuse social base, and structure of struggle, conflict, and factionalism within the framework of INC. Such a party system displayed plurality within the dominant party, which made it representative, provided flexibility, and sustained internal competition. It also absorbed groups outside the party, and prevented other parties from gaining strength.

Thus, INC's unique position in the history of India, the character of its leaders then provided a basis for its dominance in a large heterogeneous country, at the time of its independence. Kothari (1964:1167) delineates how the congress led single-party

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dominated system was strengthened after independence. On assuming power, it gave an important role to the government and politics, in the building of the nation. It also made the central authority a key feature of national politics. Further, it gave to the government and the ruling party a great symbolic value, so that the political system got legitimised through identification with a particular leadership, and its agents and heirs. To ensure its continued dominance, INC concentrated economic power and patronage in its hands. The system could sustain itself because a 'conciliatory machinery' was developed within the INC over many years, which mediated in factional disputes, influenced political decisions, and backed up one group against the other, confirming its position of patronage and power. Further, such a position of the INC was strengthened by the policy of neutralising the effects of cleavages and disaffection. The specific steps taken by INC in this regard included organisation of states along linguistic lines, removal of feudalism, protective labour legislation, granting special privileges to the weaker sections of society, and firm suppression of violent conflicts, and acts encouraging secession and disaffection. According to Kothari, this system, despite INC having total control of parliament and party system, did not become an authoritarian one, because of the electoral process, the influence exerted by its factions, and the opposition, and the ideals of its founding fathers, and their faith in democratic principles.

Thus, the INC 'system' in India was a model representing political transition, where a new nation was trying to rediscover itself. It also represented a model of relationship between politics and society in India through mediation in a heterogeneous society. Kothari (1970: 1036) explains that the model

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sought to relate the operative *mechanics* of the system – e.g., intra-party competition, inter-party competition, and the intimate relation between the two – with its historical *dynamics* which included the nation-building ethos of the system, the changing role of the government, control of economic power and patronage, and mobilization of new social groups into the political mainstream through both the openness of the participatory structure and the use of government power and public policies.

This type of party system was a unique one, and an ‘ideal-type’ representation of a one-party dominated system, along with democratic functioning of parliament. While it lasted, it was a new addition to the typology of party systems. After the death of Jawaharlal Nehru, first Prime Minister of India in 1967, the congress ‘system’ underwent some changes; it suffered electoral setbacks, leading to political instability in many states; the economic situation also became worse. Overall the system had to work under more complex circumstances and environment; the structure of opposition underwent a change, many new states were formed, and the international environment underwent many changes. Despite these changes, the congress system by and large remained intact till 1977.

Morris-Jones (1966) points out that the INC can be conceived as a circle whose mid-point is at the intersection of all the principal axes of polarization. The opposition parties are on various axes, but outside the Congress circle, that is, diametrically opposed to each other along various axes and actually closer to Congress factions adjacent to them on their axes than to other opposition parties on their axes or outside the circumference of the Congress circle on some other axes. This model seeks to explain why the Congress has been, in Riker’s terms, a *Condorcet* winner most of the time. The opposition was thus fragmented in terms of votes and on ideological-

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programmatically, while the Congress was very much like the consociationalists' grand coalition in composition and internal functioning. In Kothari's analysis the success of this grand coalition brought about effective power-sharing in a heterogeneous society, facilitated Condorcet winning and was linked to the internal democracy practised in the Congress.

Thus, the above strand of research on the Indian party systems has focused on explaining how a single party could dominate in a large and heterogeneous country for almost two decades, due to unique set of historical circumstances, coupled with the personalities of the leaders of the INC.

Overall, the explanation of the India's party system in terms of INC's dominance is a stylised analysis which rests on the importance of historical and *unique* circumstances in explaining the party system in the first two decades of India's post-independence history. However, as Lijphart (1994) points out that even during this phase, India's party system was competitive, and a focus only on one party does not fully describe or explain the Indian party system fully. Focussing on only one party also obscures the effects of various institutional and sociological factors that shaped the Indian party system in the Congress years.

3.3 India's exceptionalism to Duverger's Law

One branch of literature has attempted to explain India's departure from Duverger's Law, since the number of parties at the national level has never quite been two. One of the propositions put forward by Duverger states that "the simple-majority single-

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ballot system favours the two-party system” (Duverger 1963: 217). Riker (1982:755)

found that Duverger’s Law held with minor modifications, stating that

If winning is defined as.....plurality, then one might reasonably expect a two-party system...Alternatively, if winning is defined as more than half the votes at a runoff election, candidates do not necessarily have to maximise votes at the initial election - the second most votes initially may be enough to win in the end. And if winning is defined as the achievement of some number of votes less than half (as is necessarily the case under proportional representation), then the necessity of maximising disappears entirely.

Riker (1982: 762-4) argues that both the mechanical and psychological effects that underlie Duverger Law, derive from the rational behaviour of politicians, donors, and voters. Riker (1976) explains the exceptions to the law saying that some voters vote not to influence selection, but to express an ideological preference. He also argues that voters engage in ‘disillusioned” voting, which helps the emergence and sustenance of these parties. Large parties also tend to generate greater internal tensions over policy, which can lead to fractionalisation, and emergence of new and smaller parties. Rae (1971: 95) reformulated Duverger’s Law to “plurality formulae are always associated with two-party competition except where strong local minority parties exist”. Based on this, Riker (1982: 762) states

If the third party nationally is one of the two larger parties locally, then sophisticated voting by supporters of the weakest party (i.e., one of the two larger parties nationally) strengthens the third party. This latter effect is probably what has kept alive the Liberal party in Britain and some Canadian third parties.

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Regarding the Indian case, Riker (1976, 1982) argues that the Congress Party, as the largest single party, included the ideological median of voters and has been the second choice of many voters on both its right and left. Thus, the Congress Party has been a *Condorcet* winner most of the time, though never achieving an absolute majority of votes.

In the Indian example, Congress has probably been a Condorcet winner: that is, it probably would have been able to defeat rightists in a pairwise contest because leftists would vote for Congress rather than rightists, and similarly it would have been able to defeat leftists in a pairwise contest because rightists would vote for Congress rather than leftists (Riker, 1982: 761).

The implication of this is that Duverger's Law will lead to a two-party system, unless the pattern of ideological cleavages and party fractionation makes the emergence of a Condorcet winner possible. Riker reformulates Duverger's Law, taking into account Rae's reformulation to explain the Canadian counter example:

Plurality election rules bring about and maintain two-party competition except in countries where (1) third parties nationally are continually one of two parties locally, and (2) one party in several is almost always the Condorcet winner in elections (Riker, 1982: 761).

Sartori (1986:47) however does not agree with this reformulation and says that a party positioned in the centre of an ideological axis need not necessarily be a Condorcet winner. Instead, it could lose votes to parties at the two ends of the electoral spectrum, and become a Condorcet loser, as is the case of Liberal party in England. Lijphart (1994) suggests that Riker may have overestimated Congress' dominance as even during this phase, Congress did face strong electoral competition.

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However, due to its unique position in India's independence movement, it continued to be a dominant party until the 1980s. Riker's model resembles that of Kothari's (1964) model of the Congress system in its classic or ideal-type period of 1947-67. While Riker's analysis is based on one issue dimension, Kothari's model incorporates multiple issue dimensions. It is also close to Lijphart's (1996) grand coalition model of power-sharing in the sense that one political party (instead of a government) is itself internally a grand coalition representing the various interest and pressure groups in the society. In the Indian context, it is important to note that Duverger's psychological effect, applies at both the mass (voter) level and at the elite (politicians) level (Reed, 1990; Riker, 1982, 1986; Lijphart, 1990). Reed (1990) argues that elite-level coalition at the district level occurs due to incentives under the system for factions inside parties. Thus, as Sridharan (1997:10) points out that

third parties get decimated by defections, splits and mergers, in addition to voters not "wasting" their votes. In the Indian context of weakly institutionalised parties, this could be a powerful factor.

Sridharan checks the applicability of India to Duverger's Law, using the classification proposed by Sartori (1986:57):

A two-party system may be characterized by three traits: (1) over time two parties recurrently and largely outdistance all others, in such a way that (2) each of them is in a position to compete for the absolute majority of seats and may thus reasonably expect to alternate in power; and (3) each of them governs, when in government, alone...a two-party format denotes two relevant parties, each of which governs alone regardless of third parties.

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Sridharan (1997) also uses the criteria of bipolar multipartism which means electoral competition between two alliances each consisting of at least two distinct parties. According to Sridharan, the national party system was “roughly” a one-party dominated multi-party system between 1952 and 1971, a thought also echoed earlier by Kothari. Since 1977, the party system became more competitive, and the vote margin between the first and the second party narrowed.³⁰ In the 1990s, the party system has moved towards a multi-party system, where two alliances led by two national party, INC and BJP compete for electoral supremacy. Regarding the state level party systems, Sridharan finds that the party systems at the Indian state level are *tending* toward either two-party systems or bipolar multiparty systems, measured by Sartori’s government formation criteria.

With the exception of three in flux and in some minor states, the party system seems to have evolved towards either a two-party system or bipolar multipartism, leaving no single predominant party systems that were prevalent from 1952-1967. (Sridharan, 1997: 10)

He concludes (1997: 11)

Duverger’s law certainly seems to hold true in state-level party systems for both state assembly and national elections. However, at the national party system level there is no visible tendency towards a two-party system. Rather, a multi-party system without a clearly dominant party has emerged...The national party system is not becoming a two-party system but a multi-party system without a clearly dominant party. Thus Duverger’s law does not appear to apply at the national party system level.

³⁰The 1984 elections were the only exception, where Congress won a landslide victory following the assassination of its leader Indira Gandhi.

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Sridharan attempts to answer this 'apparent contradiction' by referring to disillusioned voters that have stopped voting for Congress at state level, which has eroded its grand-coalitional character. He argues that the rational choice insight about sophisticated and disillusioned voting by both voters and politicians would appear to be the best explanation of erosion of Congress support. This process is hastened also by the growth of sophisticated voting and sophisticated alliance formation by political leaders. Sophisticated voting is expected to grow due to factors such as the growth of literacy, the expansion of the electronic media, and the growth of election forecasting. Sophisticated behaviour by political leaders and, implicitly, by donors, is clearly in evidence in terms of pre-poll alliances, seat adjustments, etc.

Sridharan's (1997) notes that (pp 1) "What remains unresolved is the question of whether multiple social (religious, caste, class, ideological, etc.) cleavages in society will remain cross-cutting...". However Sridharan does not discuss the circumstances when the cleavages will remain cross-cutting or otherwise. Further, he does not answer why the number of parties varies across the Indian states. He goes on to say

The result of Duverger's law in the Indian party system is a multi-party system in which coalition or minority governments at the Centre *may* become the norm rather than the exception. Further, it implies that even when the Central government is a one-party majority government, politics *will* be coalitional since several major states at any given time will be governed by other state-level political parties (pp 1).

While evaluating India's adherence to Duverger's Law, Sridharan uses Sartori's (1986) criteria of *relevant parties*. I believe that since Sartori's criteria do not provide us an objective measure of the number of parties, its usefulness for evaluating Duverger's Law is limited.

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From the above analysis I can conclude that although Duverger's (1954) conclusion even after its amendments and reformulations is theoretically robust, the empirical findings are more complex. India has been generally considered as an exception to the Duverger's law; the number of parties in India at national level has never quite been 2 (Lijphart, 1994). However, attempts to explain its exceptionalism have been sketchy, and not based on the analysis of comprehensive empirical data and alternative methods.

An important element of research on the determinants of Indian party system concerns the effect of social cleavages and issue dimension. Below, I discuss how these affect the party system in India.

3.4 Explanations based on social cleavages and issue dimensions

The basic difference between Riker's Condorcet winner and Kothari's and Lijphart's models is that the latter two incorporate a much broader multi-dimensional concept of ideological spectrum. Indian situation is full of many social cleavages based on religion, caste, language, region, etc, and a large body of research on India focuses on the effects of these divisions on the party politics and system (Yadav, 1996a). Chhibber and Petrocik (1989) demonstrate that during the 1950s and the 1960s, INC is not a Condorcet winner at the state level but reflects particular social (caste, class, religious community) constituencies. It has been a Condorcet winner at the national level after the first three or four general elections because

each state has peculiar social cleavages that provide the basis of political support for the Congress and its

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opponents. Since these cleavages do not translate across states, the opposition parties do not have a consistent social basis for support across states (emphasis added); they are from constituencies that are limited by regional boundaries (Chhibber and Petrocik, 1989: 120).

Thus, although the INC has been a Condorcet winner at the national level, it has not been so at constituency or state levels, due to a combination of historical reasons, elite-level coalition formation for winning elections, multiple cleavages and federalism. Recent research on the Indian party system has focussed on the effects of religious and ethnic divisions on party politics and political system (Yadav, 1996a; Jaffrelot, 1995; Chandra 2000). Macmillan (2003) focuses on the effect of implementation and operation of special electoral arrangements designed to enhance the representation of specific social groups in India.³¹ Further, the Indian party system has also evolved along regional lines, rather than being based on any ideology. The rise of the BJP has been traced by some, to its exploitation of the religious cleavages (Jaffrelot, 1995). Similarly the Bahujan Samaj Party (BSP) claims to represent the interests of a particular section of the society – the SC. In the Indian context, it is clear however, that cleavages alone do not create a political party, as is also indicated by Kitschelt (1989), and that there are other enabling or hindering factors that will ultimately be decisive for cleavages resulting into a political party.

Taagepera and Grofman (1985) argue that the institutional approach focusing on the electoral rules, assumes a single issue dimension: a left right ideological axis only. They demonstrate that if one increases the number of issue dimensions (implicitly,

³¹ Scheduled Castes (SC) and Scheduled Tribes (ST)

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non-coinciding social cleavages), the equilibrium number of parties tends to be the number of issue dimensions plus one. In the presence of more than one issue dimension, there is no median voter ideal point. Taagepera and Shugart (1989) suggest that Duverger's Law may not work in the presence of multiple issue dimensions, thus implying importance of social cleavages. They also mention however, that the relationship between the number of issues and the effective number of parties remains two-directional, as does the relationship between the number of parties and district magnitude. Taagepera and Shugart (1989: 152) emphasise that much depends on whether issue dimensions remain salient, and whether they are absorbed by existing parties.

Lijphart (1984, 1990, 1994), while accepting the application of Duverger's Law to plurality-rule systems, agrees with Taagepera and Shugart on the number and depth of societal cleavages, as a key variable in influencing the effective number of parties (Lijphart, 1990: 488), even as emphasising the greater role of the mechanical effect to reduce the number of legislative parties compared to the number of elective parties.

Thus, the sociological explanation of the Indian party system is a powerful one, and a one which fits into the heterogeneity of the Indian state. The proliferation of the number of parties based on social cleavages, geography is explained successfully by the presence and politicisation of sociological differences in India. However, one still misses a systematic comparative study that links these differences to the size of the party system in the Indian states.

Finally, literature has explained the party system change in India by the party aggregation phenomenon.

3.5 Party Aggregation at the national level

Chhibber and Kollman (1998) find that the effective number of parties in India at the district level is around 2.5, thus close to the Duvergerian norm. However, this number at the national level has been much larger. They argue that this happens because of the independent effects of the federal distribution of powers. They rely on data from Indian parliamentary elections to argue that the degree of economic and political centralisation can influence the number of national parties. According to them, party systems are formed on the basis of voters' and candidates' incentive to coordinate on common party labels. And, as national governments exert more political and economic control over local areas, candidates will have greater incentives to join national parties, and voters have greater incentives to abandon locally competitive parties in favour of nationally competitive parties. As a result, there will be "greater similarities in party systems across different levels of vote aggregation (national, state, national)" (Chhibber and Kollman, 1998: 329). If this logic holds, greater federal centralisation will lead to number parties at national level to decrease, and tend to the number of parties at the local level – 2. They explain that since both institutional rules, and social cleavages do not tend to change much in a polity, changes in number of parties within a polity overtime, can be better understood by the federal distribution of powers.

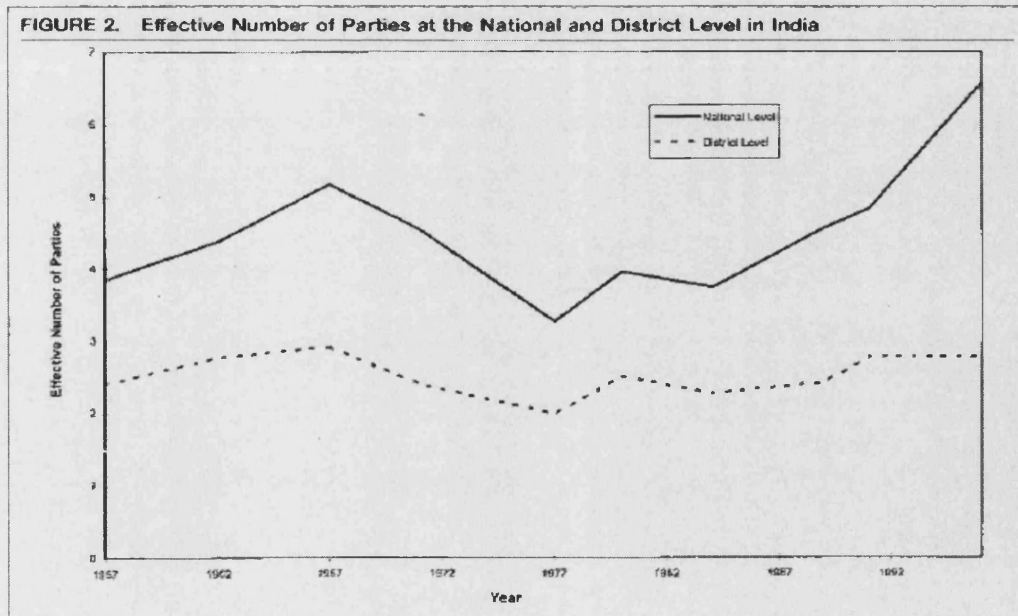
Chhibber and Kollman (1998) point out that most empirical work on the size of the party system considers number of parties at national level as a simple aggregation of

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the number of parties at the district level (Rae, 1971 and Lijphart, 1994). The conclusions drawn from the national level are then used to state whether Duverger's Law is followed or not (Palfrey, 1989:69). However, the situation is more complex, since Duverger's Law deals with a district level phenomenon (Cox, 1997; Cox and Monroe, 1995; Gaines, 1999; Sartori, 1986; Wildavsky, 1959). And therefore, as Chhibber and Kollman (1998: 330), point out that "the focus of attention for national party systems therefore should be on what we term *party aggregation*, or the coordination of voters across electoral districts into national political parties." Their theoretical analysis is supplemented by an empirical analysis involving a visual (graphical) comparison of the average number of effective parties at national level and at the district level. This is reproduced as Figure 3-1 below.

Figure 3-1 Effective number of parties at the national and district level



Source: Chhibber and Kollman (1998: 332)

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Using the above graph, they conclude that that on *an average*, the number of national parties is higher than the number of parties in the districts. Further, the *average* number of parties in the districts is around 2.5, and they conclude that even though the number of candidates has not exactly been 2, it has been nevertheless much smaller than the number of social cleavages in Indian society. Finally they relate the changes in the number of parties at the national level to the degree of political and economic centralisation by the national government.

Chhibber and Kollman (1998, 2004) do not tell us if the degree of national aggregation is same for all states, i.e. whether all states and regions respond to the degree of federal centralisation similarly or not. Studying the differences in states' response is important since the federal centralisation and decentralisation should theoretically affect all states equally. And therefore, going by their argument, the trend in the number of parties at the district level in different states should follow the degree of federal centralisation.

Their work is based on using a single *average* number of parties in India at a district level, and then comparing it to the *average* number of parties at the national level. It is however important to investigate whether number of parties at district level in all Indian states exhibit similar trends. It could be that the average number of parties at district level, for India as a whole, actually hides a large range of variation across the Indian states. If that is the case, the simple conclusion drawn by Chhibber and Kollman, that party aggregation at the national level is affected by federal centralisation or decentralisation will need further examination. Further, it is important to find if the effects of centralisation and decentralisation are uniform, i.e.

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whether they have equally strong effect on the level of aggregation. Finally, it can be useful to find ways of empirical and quantitative validation of their findings.

I argue that the effects of centralisation and decentralisation are far more complex than is implied by Chhibber and Kollman (1998, 2004). My results (Chapter 6) reveal that Indian states do not show the same level of aggregation and do not respond uniformly to the forces of federal centralisation. I also argue that the response of each state to federal centralisation is conditioned, among other things by its dependence on the national government. I show (Chapter 6, 7) that the states that are highly dependent on the national government respond more strongly to federal centralisation.

Having analysed the main focus of research on Indian party systems, I now summarise important empirical studies that have either included Indian data, or have exclusively studied the size of the Indian party systems.

3.6 Empirical studies

Many earlier studies in the comparative research literature on party systems focus on Western democracies, exclude India from the empirical analysis (for example, Rae, 1971; King and Janda, 1985; Taagepera and Shugart, 1993), treating it as an outlier to the established determinants of the party systems. Subsequent studies have included India in their empirical analysis, taking it as a single data point at the national level (for example, Lijphart, 1994, Ordeshook and Shvetsova, 1994, Amorim and Cox, 1997, Golder, 2002, Anckar, 1999 2000). Chhibber and Kollman's (1998, 2004) empirical work includes analysis of aggregation of parties

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between district and national level, while Chhibber and Noorudin (2004) study the effect of the party systems in the Indian states on the provision of public goods.

Parnerkar (2002) is the only study which investigates the effects of both the institutional and the sociological factors, but this pertains only to 1999 elections. Parnerkar divides the electoral process into pre-entry and post-entry phase and her results indicate that both institutions and society play an important role in explaining the variation in the effective number of parties.

In the pre-entry phase, India's 'first past the post' electoral structure tends to depresses the number of entrants into the electoral fray by encouraging party alliances, while certain types of cleavages tend to encourage the number of entrants. In the post-entry phase, the evidence indicates that the electoral structure encourages local bipartism by setting up incentives for voter strategizing while some social cleavages discourage such calculations by voters. (Parnerkar, 2002:3)

She finds evidence for the mechanical effect and the psychological effect in the 1999 parliamentary elections. Regarding the effects of social cleavages on the number of entrants, Parnerkar (2002) finds that a percentage increase in the proportion of SC in a district is associated with a 13.4 % increase in the number of competing candidates while a percentage increase in the proportion of Muslims results in a 3.4% increase in the number of entrants. Further, in the post-entry phase, the electoral structure encourages local bipartism by setting up incentives for voter strategising while some social cleavages discourage such calculations by voters. Thus, both the pre-entry and post-entry stage of politics is important although as Cox (1997) argues "The question of the relative importance of strategic reallocation of votes in the mass electorate as

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opposed to the strategic reallocation of other resources in the elite strata remains open.”

In general, there has not been a systematic comparative examination of the determinants of the party system in India. I find extensive work that looks at a single or few parties, single or few states; there is no study that detects the general patterns that are common to party systems in the Indian states. My research is a contribution towards the examination of variation of party systems across India, using institutional, sociological and contextual explanations.

3.7 Conclusions

Analysing Indian party system has often proved problematic for political scientists. The institutionalist approach has focused on the application of Duverger's Law to the Indian case, and India has often been considered a deviant case law at the national level. However, there has not been any comprehensive examination of this especially at the state and district level. Scholars have also used the number of issue dimensions, and social heterogeneity to study the size of Indian party system, but here again, one notices a lack of an empirical analysis that relates the size of the Indian party system to the degree of social heterogeneity. Furthermore, no systematic study to evaluate the effects of both social heterogeneity, as well as institutional factors on the size of Indian party system has been attempted.

Finally, the attempts to study the Indian party system are dominated by studies that focus on the national level, and no comparative work has been done to investigate the

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reasons for variations in the party systems across Indian states. In particular, there is lack of empirical work based on data from *all* Indian states and elections, so that the results can be applied to study the party systems in India, as a whole. Specifically, existing research does not clearly explain – what causes the number of parties to differ across Indian states.

In the next three chapters of my research, I undertake a systematic and comprehensive investigation into the determinants of the size of the India party systems at the sub-national level. I use theory to identify the likely determinants in the Indian context, formulate them in working hypotheses, and test those using statistical techniques. The findings from state and district level analysis also provide fresh insights into the aggregation effects in the formation of national party system in India.

4 INSTITUTIONAL FACTORS

In this chapter, I identify and evaluate the effects of important institutional factors affecting the size of the Indian party system. I first provide precise measures of the size of the Indian party system at the national, state and the district level. These are computed on time-series (by election-years) and cross-sectional (by districts and state) basis. I compile and use a comprehensive data set covering the period from 1951 to 2004, and resolve analytical difficulties of the treatment of independent candidates.³² Based on the determination of the size of the Indian party system, I evaluate the often-made claim that India does not follow Duverger's Law at the national level, but does so at the state and the district level. I then move to the main focus of this chapter which is to conduct a comparative analysis of the institutional determinants of the party systems in the Indian states. For doing so, I formulate my dependent and independent variables, investigate their individual trends, and the general patterns in the relationship between them. These relationships are then tested through statistical analysis to obtain the measures of the direction and the strength of the relationship, and the overall explanatory power of the institutional model in the Indian context.

The existing scholarship tells us that institutions have an important effect on party system in a polity. Empirical research too, has confirmed this result. The effect of institutional variables however, varies across countries, and different institutional

³²This period covers all the general elections held in India. For my computations of the effective number of parties, I include vote-share of each independent candidate separately, rather than clubbing them together as one category.

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variables affect the different stages of the electoral process. Below I discuss the important institutional factors that affect the Indian party system.

4.1 Institutional variables and the Indian party system

I argue that institutional variables have an independent effect on the Indian party system. Although India currently follows a plurality based electoral system with single-member districts, there are and have been some institutional variations across the Indian states. For example, the Assembly Size, defined as the number of seats allotted to each state, varies across them. Further, the Indian Constitution provides for reservation of seats in the Legislature for certain sections of the society – SC and ST, and the number of these reserved seats varies across the states depending on the population percentage of these groups in different states. Furthermore, although India currently has single-member districts, many of its districts in the 1951 and 1957 elections were multi-member.

The importance of institutional factors in explaining the size of the Indian party system, and its variation across Indian states and districts becomes clear from analysing the mechanism through which institutions affect party systems. Duverger (1954) identified *mechanical* and *psychological* effects that underlie the tendency of the number of parties to converge to two under plurality rule. The *mechanical effect* deals with the squeeze that a plurality based system puts on small parties leading to disproportionality between the share of votes and seats won by political parties. Lijphart (1994) finds that the degree of disproportionality (between votes secured and seats won by a party) depends on institutional variables such as the Assembly Size and the Effective Threshold. Thus, it can be argued that the mechanical effect

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can vary within a plurality based electoral system, if the institutional variables such as the Assembly Size and Effective Threshold vary within a country. Through my empirical analysis, I show that the degree of disproportionality does vary across the Indian states. I also show that Effective Threshold varies across the Indian states and negatively affects the size of the party systems in the Indians states.

Coming to the *psychological* effect, it is argued that voters, party-workers, political donors *desert* parties that have little or no chances of winning the elections. Voters therefore, will not *waste* their vote on their most preferred candidate if that candidate is unlikely to win, and will choose out of those candidates that are likely to have a chance of winning the elections. This then will lead to two parties getting all or most of the votes. In this sense, a voter, a political worker, and political donors behave *rationally* and *strategically*. For this assumption to hold, voters need to have the same expectations about how the candidates will finish. In reality however, the presence and the level of strategic voting depends on the information gathering capacity of voters, political workers and donors, as well as the efforts of the political parties in communicating their strengths and likelihood of winning the elections. Therefore, the final consequence of the *psychological effect* can vary depending on factors such as the mobilisation and communication strategies of candidates, the availability of information on the chances of different parties, as well as the *rational* behaviour of the voters in using the information available in determining the chances of winning. Therefore, *within* a plurality-based system, the effect of *psychological* factors can vary depending on various factors, some of which have been outlined above. Further, contexts vary between countries, and within the same country. Factors such as the degree of urbanisation, literacy rates, and the degree of federal

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centralisation can influence institutional variables to affect the size of the party systems, causing intra-country variations in party systems.

Based on the above arguments, I infer that the effect of institutional factors to explain intra-country variations in party systems needs to be examined empirically. I start my empirical analysis by examining the size of the Indian party systems at different levels, and testing whether India follows Duverger's Law.

4.2 The size of the Indian party system and Duverger's Law

Duverger's Law is one of the most well-known generalisations in the comparative politics literature. It has facilitated and stimulated research into an appropriate measure of the size of party systems, and has motivated empirical studies on the relationship between electoral rules and party systems (for example, Lijphart, 1994). However, the Law is not sufficiently clear on certain issues, including the level at which it should apply. In other words, is two-party competition, as predicted by the Law, supposed to occur at the national, regional, district or all levels? The empirical studies investigating the existence of Duverger's Law most often focus on the national level, ignoring the fact that national party systems are aggregations of the state and the district level party systems. Due to the aggregation effects, we may actually expect Duverger's effect to be more visible at the state and the district level, particularly in large and heterogeneous countries. Existing scholarship claims that India violates Duverger's Law at the national level, but follows it at the state and the district level (for example, Sridharan, 1997; Chhibber and Kollman, 1998, 2004). However, my analysis of a comprehensive data set of Indian elections reveals that

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even at the state and the district level, there is no unequivocal support to the predictions of Duverger's Law, and a non-trivial number of Indian elections involve many rather than just two parties.

4.2.1 *Theoretical and empirical issues*

Duverger (1963) argued that the simple-majority single-ballot system favours the two-party system and also that both the simple-majority system with second ballot and proportional representation favour multi-partism. However, the debate over the application of the law has often overlooked examination of electoral data, and even where this has been done, it has mostly been done at the national level. This focus at the national level assumes that the mechanical and psychological effects that operate at the regional and district levels in causing two-party competition, also work in the same manner as at the national level. This is a debatable assumption, especially in the case of heterogeneous and large countries. Furthermore, we have to consider the fact that this law came into existence not in the form of a formal model, but more as an empirical observation.³³

Many models of voter-behaviour take into account the Duvergerian logic in predicting two-party system at the national level. However, these models in most part pay little attention to the issues of aggregation of votes from district to region to national level. Riker (1976: 94) views Duverger's Law as a prediction about district-level competition, and he disregards cases, where the country has more than two parties because the pair of parties offering candidates varies from constituency to constituency as minor exceptions. His empirical analysis is based on a single national

³³Riker (1982) points out some examples anticipating Duverger's Law, from 19th Century onwards.

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constituency, and his conclusions are based on generalisations rather than on data analysis. Palfrey's (1989: 71) model of Duverger's Law describes competition in a single district, and he does not say how it relates to national party systems. Feddersen, et al. (1990) and Fey (1997) too, disregard the distinction between competition in multiple districts and competition in a single political unit. Cox (1994) models rational voter behaviour for elections using the single, non-transferable vote system (of which plurality elections are a special case). However, his analysis does not include aggregation issues while examining national rather than district data when evaluating the accuracy of Duverger's Law. His empirical analysis relies on the SF ratio – the ratio of second-loser to first-loser vote totals. He expects values of SF near 0 to signify Duvergerian equilibrium, and its value of 1 to show non-Duvergerian equilibrium, where voters were unable to coordinate, leaving the two losers nearly tied. However, as Gaines (1999) points out in the context of Canadian elections, this interpretation of Duverger's Law is however, not *exactly* what the law postulates. Further, the SF values too, do not unequivocally indicate whether the party systems they refer to, is a multi-party or a two-party system.

Consider the illustration using the results of Indian district level elections taken from different years shown in Table 4-1.

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Table 4-1 SF ratio illustration

S.No.	Year	District	Vote share of parties (%)					SF Ratio	
			1	2	3	4	5		Balance
1.	1984	Rae Brailey	70	13	11	2	1	3	0.91
2.	1991	Khed	61	19	17	1	1	1	0.90
3.	2004	Mamupuri	64	17	15	1	1	2.	0.91
4.	1967	Tenali	35	25	23	9	7	1	0.93
5.	1999	Lakhimpur	34	27	25	2	1	11	0.92
6.	2004	Aonla	29	27	27	9	3	5	0.97

It can be seen that *SF* ratio for all the districts are close to 1, and should therefore represent non-Duvergerian party competition. However, contrary to this expected result, *SF* ratios which are close to 1 represent both multi-party (Tenali, Lakhimpur and Aonla), as well as a two or less party (Rae Brailey, Khed and Mamupuri) competition. For example, in Rae Brailey, the winning party received 70% of votes, while the first and the second runner up together received 24%, while the balance 6% was shared by the remaining parties. The *SF* ratio is 0.91, which according to Cox's formulation should show a situation closer to a non-Duvergerian equilibrium, or a multi-party system. However, as is clear from the distribution of votes, this is not the case, and this case is an example of a two or less-than two party competition. Therefore interpreting the nature of party competition solely from the *SF* ratio has its limitations.

In my analysis, I rely on Laakso-Taagepera's (1979) index of effective number of parties (*ENP*), computed on the basis of vote-shares, to study the application of Duverger's Law in India. I also use Nagayama diagram (1997) as well as statistical

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analysis to provide further insights into this phenomenon as applied to the Indian situation.

As pointed out earlier in this section, most of the empirical literature making use of *ENP* applies it to the national totals (e.g. Lijphart, 1994; Taagepera and Grofman, 1985; Taagepera and Shugart 1989). Examples where district level analysis has been attempted are Chhibber and Kollman (1998, 2004) for India, and Gaines (1999) for Canada. However, Chhibber and Kollman only use *mean* measure of *ENP* at district level, which hides the range of values it takes in Indian regions and districts. Further, their analysis does not include trends at the individual district level.

Another limitation of the analyses using the national elections data is the treatment of the vote share of small parties including independents, which is usually clubbed as 'others'. If this share is treated as the share of a party, then the value of *ENP* calculated will not be a correct representative of the number of parties and their vote shares. Taagepera (1997) suggests methods to improve the accuracy of this measure in the absence of full data on the vote share of smaller parties. In my analysis, I use the vote share of *all* the parties getting votes, and hence take care of this ambiguity comprehensively. I now determine the size of the Indian party system and investigate whether Indian party system confirms to Duverger's Law.

4.2.2 Does India confirm to Duverger's Law?

For all parliamentary elections in India, I compute the *ENP* at the national, state, and the district level. This is calculated by using the vote share of each party at these levels, and applying Laakso and Taagepera's (1979) method for calculating *ENP*.

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The state level and the district level measures are the averages of *ENP* calculated for individual states and districts respectively, for each election year. Table 4-2 provides measures of *ENP* at national, state and district level in India averaged for each election-year.

Table 4-2 Effective electoral parties in India by election

Year	National level	State level	District level
1951	4.5	3.4	3.3
1957	4.0	3.6	3.0
1962	4.4	3.7	2.8
1967	5.2	3.6	2.9
1971	5.2	3.2	2.4
1977	3.4	2.8	2.1
1980	4.2	3.2	2.7
1984	3.8	2.9	2.4
1989	4.8	3.1	2.5
1991	5.1	3.3	2.9
1996	7.1	3.6	3.0
1998	6.9	3.6	2.7
1999	6.7	3.5	2.6
2004	7.6	3.6	2.8
Average	5.2	3.3	2.7
Minimum	3.4	1.0	1.0
Maximum	7.6	10.0	9.3
Std. Dev.	1.3	1.3	0.9
N	14	401	7174

As can be seen in the Table 4-2, *ENP* at the national level is consistently higher than 2. The minimum *ENP* at this level is 3.4 in 1977, while the average is 5.2. In the last elections in 2004, the national measure has risen to its maximum level at 7.6. Even in the period 1952-1967 when INC dominated the Indian political scene, the party system at the national level comprised many parties. Furthermore, the size of the party system has seen a sharp rise since the 1991 elections. It is clear that the Indian party system at the national level does not confirm to the Duvergerian logic by a large margin. It is clearly a multi-party system, despite following a SMPS. The *ENP* at the state level represents the average of size of party systems in all Indian states in an election. Unlike the national measure, it has not increased sharply in the

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recent elections. The state level measure of *ENP* is also however, consistently above 2. The minimum it falls to is 2.8 in 1977, while its average value is 3.3.

Table 4-3 shows the frequency distribution of *ENP* at the state level. As can be seen, only 12.7% of cases have *ENP* of 2 or less, and 53.1% of the cases have *ENP* of 2.5 and above. Thus, even at the state level, Indian party system does not clearly conform to the two-party norm.

**Table 4-3 Frequency distribution of Effective number of parties at the State level
(1951 – 2004)**

Categories	Frequency	Percent	Cumulative Percent
1 0 – 2	51	12.7%	12.7%
2 2 – 2.5	137	34.2%	46.9%
3 2.5 – 4	114	28.4%	75.3%
4 4 – 5	60	15.0%	90.3%
5 > 5	39	9.7%	100%
Total	401	100%	

Further, I use language and geography as two criteria to divide India into six regions. Hindi is the most-widely spoken language in India, and all Hindi-speaking states are included in one region which includes some of the largest states in India both by population and size. The four regions defined in terms of geography are South, West and East and North East regions. Finally, non-Hindi speaking regions of North India are categorised into a North region. My categorisation of Indian regions is consistent with that of Rudolph and Rudolph (1987).³⁴ When I sub-divide the state level *ENP*

³⁴The states contained in the six regions are as follows – **Hindi belt:** Uttar Pradesh, Bihar, Rajasthan, Uttaranchal, Haryana, Madhya Pradesh, Chhatisgarh, Delhi, Himachal Pradesh. **North:** Punjab, Chandigarh, Jammu and Kashmir; **West:** Maharashtra, Gujarat, Goa, Dadra and Nagar Haveli. **East:** Andaman and Nicobar Island, West Bengal, Assam, Orissa, Jharkhand; **South:** Andhra Pradesh,

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into these 6 regions in Table 4-4, it is seen that in none of the regions, the average *ENP* in any election falls below 2.

Table 4-4 Effective number of parties at state level by region by year

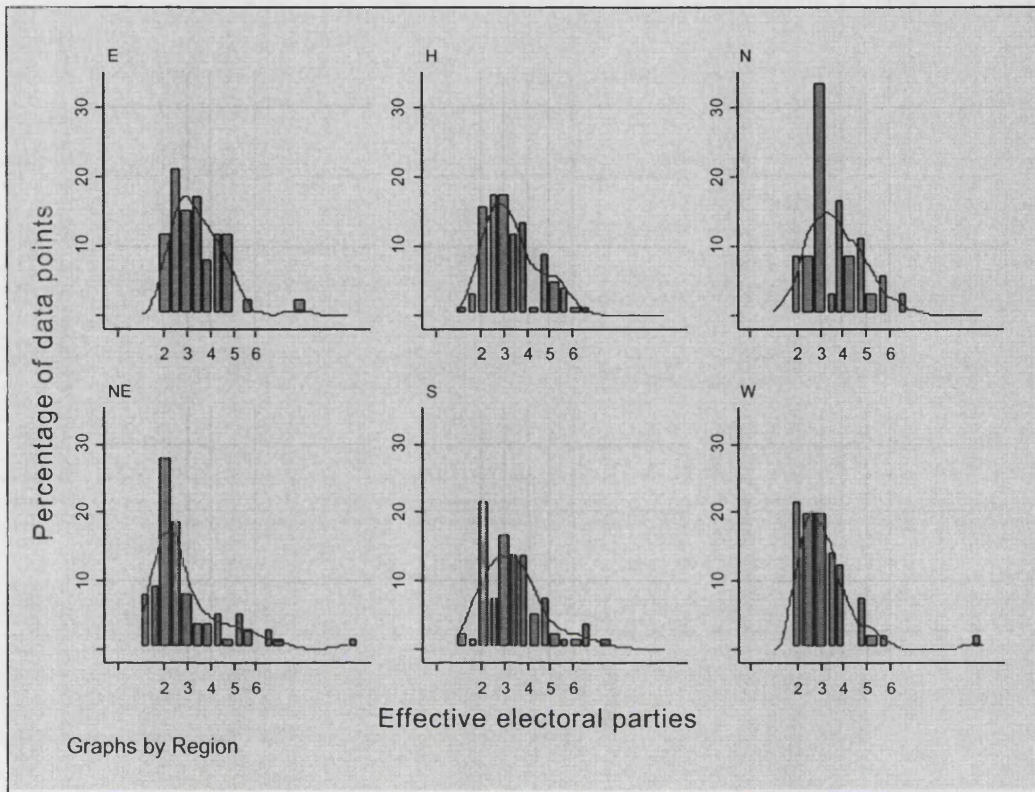
Year	India Total	East	Hindi belt	North	North East	South	West
1951	3.4	4.1	3.2	3.9	4.5	3.4	2.5
1957	3.6	3.4	3.5	3.1	4.4	3.6	3.8
1962	3.7	3.3	3.9	4.6	3.7	3.6	3.1
1967	3.6	4.0	4.3	3.5	2.5	3.2	3.5
1971	3.2	3.5	3.1	2.7	3.6	3.2	3.2
1977	2.8	2.9	2.0	3.6	2.6	3.3	2.7
1980	3.2	2.8	3.3	3.6	3.0	3.4	2.9
1984	2.9	3.3	2.6	2.8	2.5	3.1	3.0
1989	3.1	2.8	3.4	4.1	2.5	3.0	3.2
1991	3.3	4.2	3.8	4.0	2.4	3.2	2.9
1996	3.6	3.4	4.0	4.9	2.9	3.8	3.2
1998	3.6	3.9	3.5	3.9	3.1	3.8	3.5
1999	3.5	3.4	3.3	3.6	3.1	3.7	4.2
2004	3.6	3.7	3.5	3.9	3.6	3.6	3.3
Average	3.3	3.5	3.4	3.7	3.0	3.4	3.2
Minimum	1.0	1.9	1.0	1.9	1.0	1.0	1.9
Maximum	10.0	7.8	6.4	6.6	10.0	7.6	9.7
Std. Dev.	1.3	1.1	1.1	1.1	1.0	1.3	1.3
N	401	52	103	36	75	79	56

The same result is seen in Figure 4-1 which plots histogram of *ENP* at the state level in the six regions with the distribution being well-spread and with a substantial part falling beyond 2 and even 3.

Kerala, Tamil Nadu, Karnataka, Lakshadweep, Pondicherry; **North East**: Arunachal Pradesh, Manipur, Mizoram, Nagaland, Meghalaya, Sikkim, Tripura. My categorisation is consistent with that of Rudolph and Rudolph (1987).

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Figure 4-1 Histogram of ENP at state level in the Indian regions 1951 -2004



E = East, H = Hindi belt, N = North, NE = North East, S = South, W = West

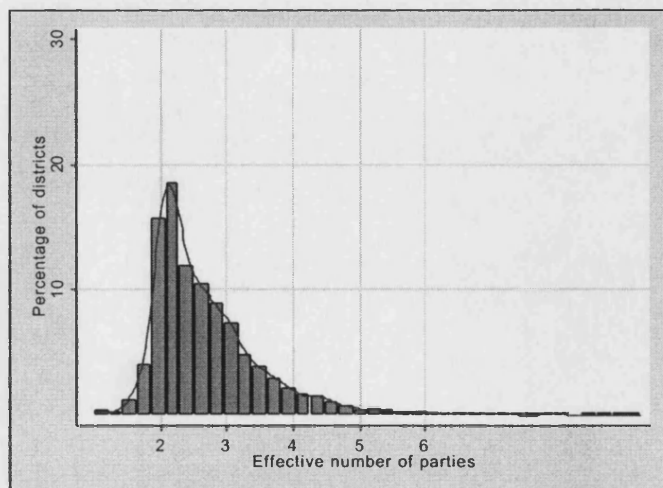
The results at national and state level have prompted some to conclude that Indian party system does not conform to Duverger's Law (for example Sridharan, 1997). However, the sub-national politics in India also includes electoral competition at the district level. Taagepera and Grofman (1985) refer to the importance of *local* politics in shaping the size of the party systems. Since district is the basic electoral unit where voters vote and parties contest elections, the effect of Duverger's Law should most clearly be seen at this level, a view that is supported by Chhibber and Kollman (2004:32), who argue that "Properly understood its modern form, the Law predicts (and explains why) two parties will capture all the votes in district-level elections in countries with single-member, simple-plurality rules". In the Indian context, it could

mean that the real effect of the plurality system is felt at the district level, because it is here that candidates get elected, and voters exercise their votes. I examine this hypothesis by a detailed empirical analysis using alternative methods.

Party competition in the Indian districts

Table 4-2 shows that the average *ENP* at the district level for all the elections taken together is 2.7. However, this average measure hides the distribution, inter-temporal and inter-state variations in *ENP*. Figure 4-2 plots the histogram of *ENP* in the Indian *single-member* districts for all the elections taken together. The histogram bars are drawn on the basis of the percentage of districts falling in a given frequency interval, while the curve shown represents the Kernel density estimates.³⁵ The *x*-axis represents *N*, while the *y*-axis represents the percentage of districts with a particular level of *ENP* and the density.

Figure 4-2 Histogram of *ENP* at district level 1951 - 2004



³⁵The kernel density curve represents a 'smoothed histogram', calculates the density at each point as it moves along the *x*-axis.

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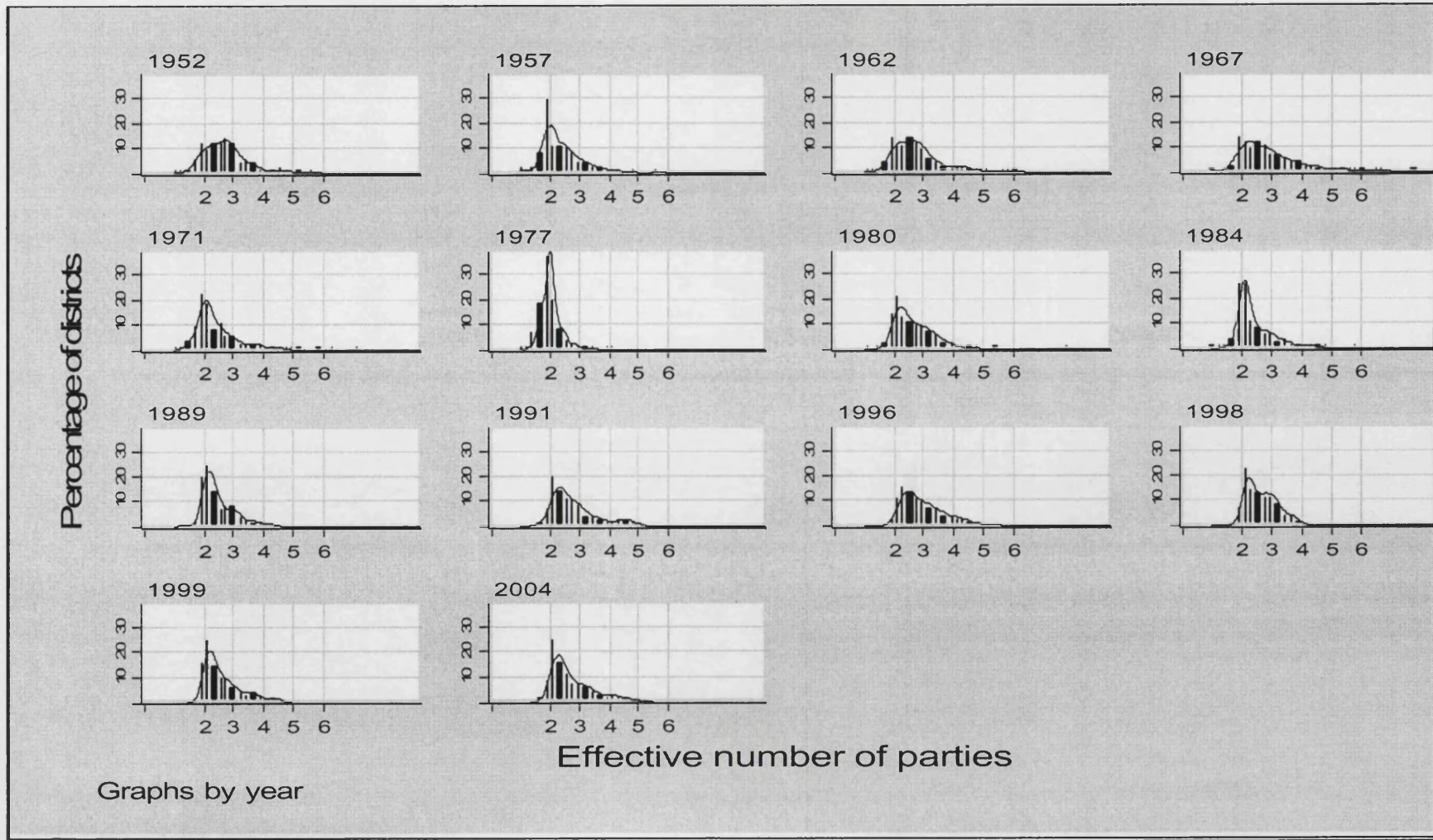
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Figure 4-2 shows that although there is a concentration of data points around 2, there is also a large percentage of the elections in the Indian districts which witness competition between more than two parties.³⁶ The highest concentration of *ENP* is between 2 and 3, and the density curve is relatively a low one, which peaks at around 18%. Furthermore, there are many districts that have more than 3 parties. However, as Reed (2001:314) points out “...equilibrium generalizations, such as Duverger’s law, posit tendencies, not certainties...Clearly, there is no reason to expect an electoral system to reach equilibrium in the first election. Rather, I should expect trends over time to reflect pressures toward two-party competition.” Figure 4-3 shows the histogram and kernel density curve for *ENP* in each of the 14 parliamentary elections in India.

³⁶Literature uses different cut-offs for effective number of parties to evaluate Duvergerian equilibrium. I do not use a specific cut-off but study the distribution of *ENP* to evaluate the Duverger’s Law especially at the district level.

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Figure 4-3 Histogram of Effective number of parties by election



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Although the shape of the distribution for different elections shown in Figure 4-3 varies from year to year, the general result is that many districts in India witness competition between more than just two parties.

The distribution for 1952 elections is low and relatively flat, and it can be seen that there is a large percentage of districts where the competition is between more than just two parties.³⁷ However, since 1952 elections were the first elections in India after independence, it is difficult to draw firm conclusions about the nature of party competition from these results alone. The distribution in 1957 elections is higher and peaks around 2, indicating that a higher percentage of districts witness two-party competition compared to the 1952 elections. This might indicate a movement towards Duvergerian equilibrium. However, the shape of the 1957 distribution also shows a long right tail indicating the districts with more than 2 parties in competition. The 1962 elections show a distribution with a lower peak than in 1957, and one which skews more sharply towards the right signifying multipartism in a larger number of districts. The distribution for 1967 elections is remarkably similar to that of 1962, which is low and with a long right tail. The 1971 elections show a reversal of trend, where the distribution becomes narrower, peaks around 2 and most of the districts fall into the range of 2-3. The 1977 elections seems to represent a move towards a Duvergerian equilibrium, where a much larger percentage of the districts witness competition between 2 parties, and the distribution is narrow and relatively high. The next three elections in 1980, 1984 and 1989 however do not produce such extreme results, even though the distribution is generally narrow with heavy concentration of data points around 2.5. The question is whether elections in

³⁷Here, 1952 data refers to elections held in 1951/52.

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1970s and to some extent in the 1980s reflect a consistent movement towards a two-party norm. The subsequent elections in the 1990s and in 2004 however, disprove this hypothesis, and the distributions of *ENP* during this period are more well-spread with a long right tail. From this discussion, it is clear that Indian elections have not consistently produced a two-party system at the district level.

To provide further evidence, Table 4-5 provides precise distribution of *ENP* in the Indian districts by election, dividing them in four categories: those with *ENP* of 2 or less, between 2 and 2.5, between 2.5 and 3, and *ENP* greater than 3. It also provides mean *ENP* and the number of districts for each election-year

Table 4-5 Distribution of Effective Number of Parties at district level by election

Election year	Less than or equal to 2	2-2.5	2.5-3	> 3	Mean	Number of Districts
1952	19%	22%	30%	29%	2.73	310
1957	41%	23%	20%	15%	2.39	312
1962	18%	23%	30%	29%	2.77	494
1967	15%	24%	25%	36%	2.92	520
1971	28%	36%	19%	17%	2.45	518
1977	51%	40%	8%	2%	2.05	542
1980	9%	40%	23%	28%	2.67	529
1984	18%	50%	17%	15%	2.43	542
1989	13%	50%	18%	19%	2.52	529
1991	7%	37%	25%	31%	2.86	537
1996	1%	29%	27%	43%	3.05	543
1998	3%	40%	29%	27%	2.69	543
1999	6%	48%	22%	40%	2.64	543
2004	4%	45%	21%	30%	2.76	543
All elections	16%	37%	22%	25%	2.64	7005

It is seen from Table 4-5 that for all the elections taken together, only 16 percent of the districts have two or less than 2 Effective number of parties, and even after taking a cut-off of 2.5, 47 percent of the districts do not follow the Duverger's Law. Further,

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a sizeable 25 percent of districts have more than 3 parties in competition. Only in 1977, Indian party system is close to following Duverger's Law, where 51 percent of the districts have 2 or less than 2, and 91% of districts have less than 2.5 Effective number of parties. For all the other elections, majority of the districts have more than 2, and a non-trivial percentage of districts have more than 2.5 and even 3 effective number of parties. In particular, elections held in the 1990s and 2004 have witnessed the percentage of districts with less than 2 to fall well below 10 percent, while the percentage of more competitive districts has increased manifold. For example, the percentage of districts having more than 3 parties is 31%, 43%, 27%, 40% and 30% in 1991, 1996, 1998, 1999 and 2004 respectively (average of 34% during this period).

Thus, the analysis of the distribution of *ENP* in the various Indian elections shows that a two-party system is not the rule in the Indian districts, and a large number of districts witness competition between many parties. Further, movements towards the Duvergerian equilibrium have been frequently interrupted, with elections in the 1990s witnessing an increase in the *ENP* in the Indian districts.

Inter-region and inter-state variations at the district level

Studying inter-region variation in the size of the party system in the Indian districts is especially important for a country of India's size and heterogeneity. Table 4-6 shows distribution and mean values of *ENP* at the district level in the Indian regions as defined above, for all elections taken together.

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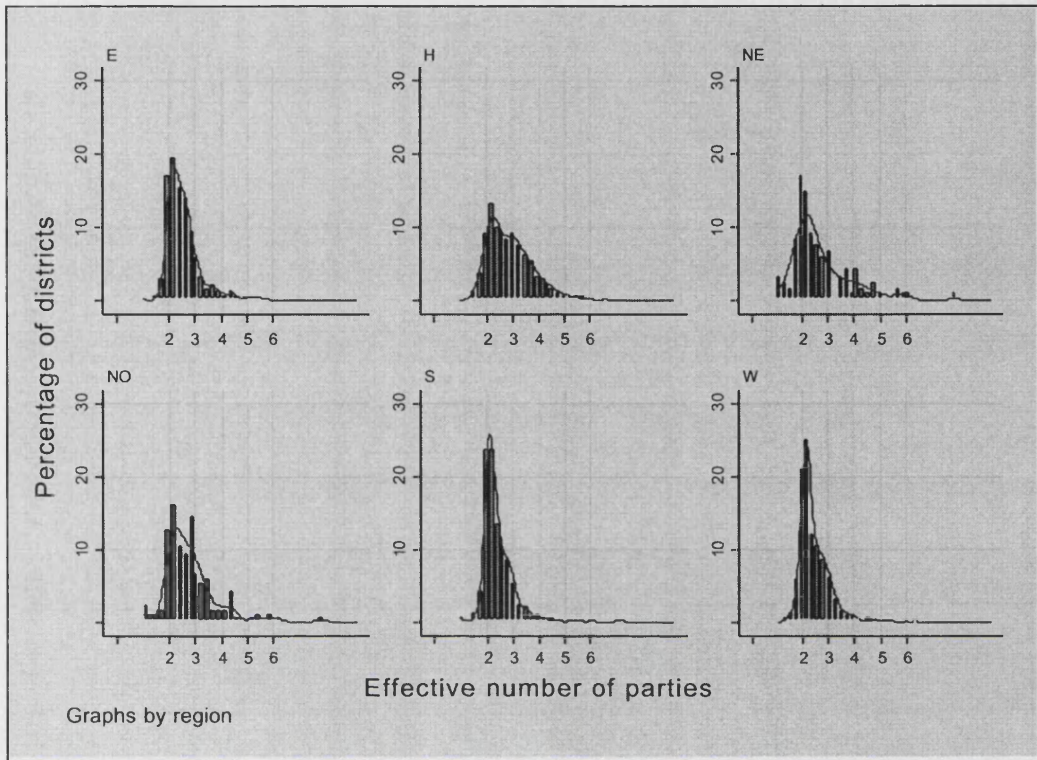
Table 4-6 Distribution of Effective number of parties at district level by region 1951 – 2004)

Regions	Less than or equal to 2	2-2.5	2.5-3	> 3	Mean	Number of Districts	% of Total
Hindi Belt	12%	27%	21%	40%	2.90	2943	42%
South	21%	47%	22%	10%	2.38	1736	25%
West	20%	46%	22%	12%	2.40	999	14%
East	14%	41%	28%	16%	2.55	968	14%
North	12%	34%	27%	27%	2.71	241	3%
North East	28%	29%	15%	28%	2.70	118	2%
Total	16%	37%	22%	25%	2.64	7005	100%

Table 4-6 reveals regional patterns in the distribution of *ENP*. The Hindi belt is a clear exception to Duverger’s Law with 61% of districts having more than 2.5 parties, and as many as 40% of the districts having 3 parties in competition. In particular, the Hindi belt region includes a high proportion of districts which do not exhibit a two-party competition envisaged in Duverger’s Law, and since this region includes the maximum (42% during 1951-2004) number of electoral districts in India, its deviation from the two-party norm can not be dismissed just as an aberration. The North region and the North East regions also have relatively large percentage of districts with more than 2.5 and 3 parties. The situation in the balance three regions i.e., West, East and South too shows that a sizeable percentage of districts have more than 2.5 parties, although the exception to Duverger’s Law for these regions is not as clear as for example in the Hindi belt. Table 4-6 also shows that average *ENP* in all Indian regions except the West and South regions is above 2.5, and for the largest region – Hindi belt, it is 2.9, signalling a deviation from the prediction of Duverger’s Law. These trends can be seen visually in Figure 4-4 which plots histogram of *ENP* at the district level for the Indian regions.

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Figure 4-4 Histogram of *ENP* in the Indian regions at district level 1951 – 2004



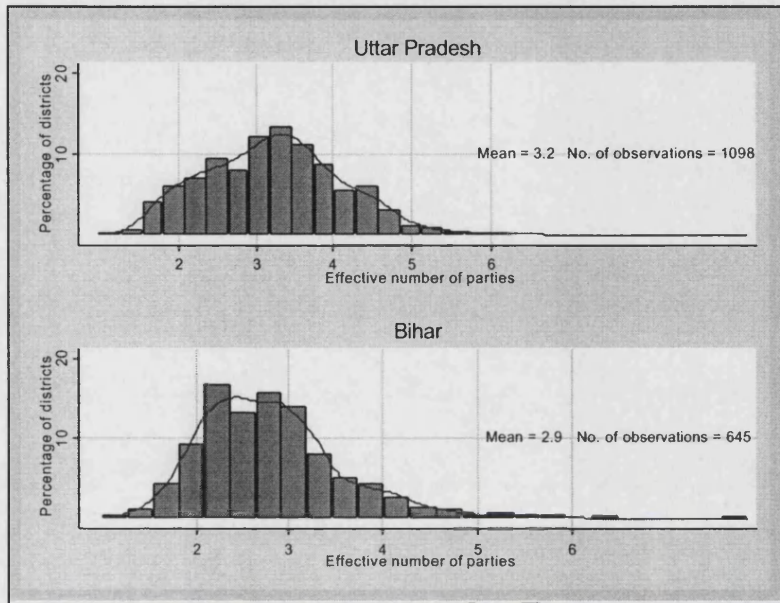
E = East Region, H = Hindi belt region, NE = North East region, NO = North region
S = South region, W = West region

In particular, one can see that Hindi belt region has many parties in competition in contradiction with Duverger's Law. Figure 4-5 shows the histogram of *ENP* in two large states in the Hindi belt: Uttar Pradesh and Bihar.

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Figure 4-5 *ENP* in the states of Uttar Pradesh and Bihar at district level
1951 – 2004



In the state of Uttar Pradesh which has the highest number of electoral districts in India (15% in the most recent elections), most of the distribution of *ENP* falls beyond 3, with the average during 1951-2004 being 3.2, and during the last 5 elections (1991-2004) being as high as 3.7. Similarly, in Bihar a substantial proportion of observations lie beyond 2.5 and a sizeable beyond 3 parties, with the average being 2.9.

Nagayama diagram

Nagayama diagram represents an alternative method to analyse Duverger's Law. While analysing the pre-war Japanese elections, Nagayama (1997) plotted the percentage of the vote received by the winning candidate ($V1$) against the percentage received by the runner-up candidate ($V2$). He noticed that all the plots took the form of a triangle, bound between two lines representing $V1 - V2 = 0$ and $V1 + V2 = 1$.

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The former line segment represents data points where the winner and the runner-up party have equal vote shares; the latter line segment includes data points where no third party receives any votes. Thus, the left corner area of the triangle corresponds to the presence of multiple contestants (since the combined vote-share of the top two parties is less than 100%), while the right corner represents single or two-party dominance. The peak of the triangle reflects two-party competition with limited third party-strength. Thus, the Nagayama diagram enables a comparison of the electoral outcomes for different elections in terms of the degree of competition between the top two vote-getting parties, and the extent to which smaller parties are getting a substantial share of votes.

Reed (2001) uses Nagayama diagrams to study the working of Duverger's Law in the Italian elections of 1994 and 1996, while Taagepera (2004) illustrates the use of the Nagayama diagram for assessing party strength. Figure 4-6 plots the Nagayama diagrams for elections in the Indian districts. It can be seen that different periods show different types of party-competition and the distribution of votes amongst parties. The 1950s diagram shows a large concentration towards the middle and left of the triangle, signifying competition between many parties. However, there also is significant number of data-points towards the right side of the triangle, depicting competition between two parties. The concentration of the data points shifts towards the left in the 1960s, showing a move towards competition between many parties. The 1970s show a reversal, where most of the data points stack up on the right hand side, signifying dominance of one or two parties. In the 1980s, the data points seem to be equally divided between the left and right sides, while the 1990s and 2004 see a majority of data points moving towards the top left corner, thereby signalling multi-

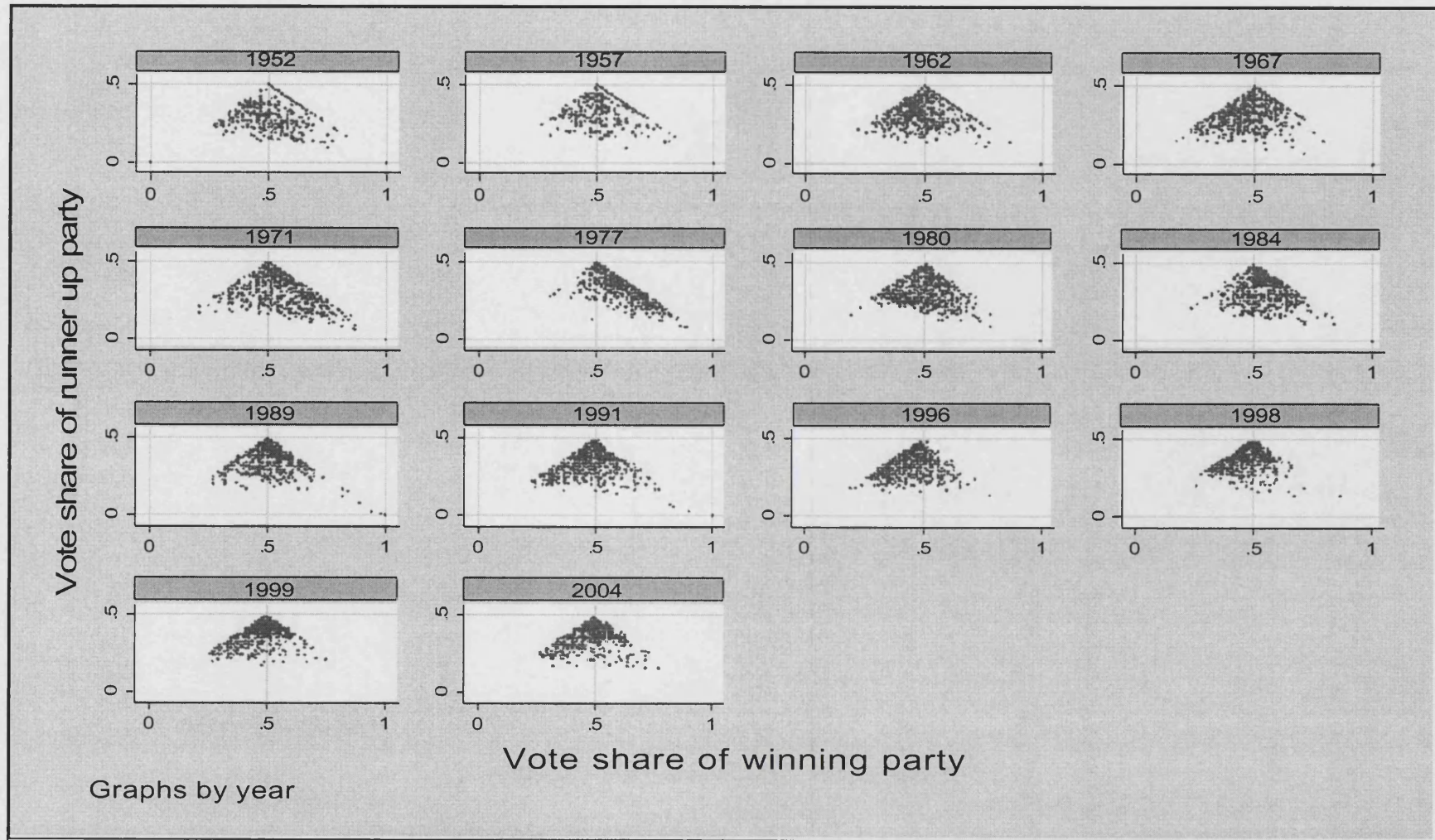
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party competition. The analysis of Nagayama diagrams also shows the wide variation in the size of party systems in the India districts.

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Figure 4-6 Nagayama diagram for Indian elections at the district level



Trends at the individual district level

The previous analysis at the district level has focussed on the aggregate measures of district-level effective number of parties. It does not undertake an analysis of changes for an individual district. Such an analysis is important because it will reveal whether the individual districts conform to the Duvergerian equilibrium between different elections or not, irrespective of the trends at an aggregate level. To determine the inter-election trends, a paired *t*-test is done on the difference in effective number of parties for each district between two successive elections.³⁸ To check the robustness of the results, a regression model is also specified, taking effective number of parties at the district level as the dependent variable, and the time (election-year) as the independent variable. Following Gaines (1999) and Baltagi (1995), the following fixed-effects model is specified.

Equation 4-1
$$ENP_{it} = \alpha_i + \eta_t + \varepsilon_{it},$$

In Equation 4-1, *i* represents an individual district, *t* the time variable, representing a particular election year. The intercept α_i represents the normal number of effective parties for an individual district, while η_t represents the time trend, for a particular election year. Thus, if the data set includes two successive election years, the coefficient of η_t will reflect the inter-election movement in *ENP*, controlling for the differences in the individual districts (through a district-level intercept). Thus, while a negative coefficient of η_t reflects a movement towards Duvergerian equilibrium, a

³⁸Paired comparison is done for those districts where clear successors/predecessors are available. This is done to take into account reorganization of districts in the 1950s, 1960s and 1970s, and situations where elections were not held (for example, Assam in 1989).

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positive coefficient represents no such trend between successive elections. The results of both the paired *t*-test and the regression are shown in Table 4-7. For the paired-comparison, results include mean difference in effective number of parties between two successive elections and the *t* statistics for this mean difference. For the regression, the *t* statistic for the time-trend (variable η_t) is also shown.

Table 4-7 Inter-election trends at the district level

Election-period	Paired comparison		Fixed Effects Regression
	Mean Difference in <i>N</i>	<i>t</i> -statistics of mean difference	<i>t</i> -statistics of time trend
1952 - 1957	-0.7	-8.1	-6.9
1957 - 1962	-0.3	-3.9	8.8
1962 - 1967	0.2	4.0	4.2
1967 - 1971	-0.5	-10.3	-10.3
1971 - 1977	-0.4	-11.9	-11.8
1977 - 1980	0.6	19.7	19.8
1980 - 1984	-0.3	-11.4	-11.8
1984 - 1989	0.1	4.3	4.3
1989 - 1991	0.3	9.4	9.6
1991 - 1996	0.2	5.4	5.3
1996 - 1998	-0.4	-11.4	-11.5
1998 - 1999	-0.1	-1.9	-2.0
1999 - 2004	0.1	4.2	4.5

The results in Table 4-7 show that *t* statistics of both the mean difference in effective number of parties and the inter-election time-trend are statistically significant. However, their signs are not uniform across the elections. A spell of negative inter-election trend has not lasted for more than two election cycles, and as such there is no consistent movement towards Duvergerian equilibrium at an individual district level.

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The analysis at the individual district level can also identify how many districts consistently deviate from, and how many only show random blips over the Duvergerian norm. This analysis is undertaken by studying trend of effective number of parties over different elections for an individual district. I use two alternative cut-offs of 2.5 and 3.0 effective number of parties to measure how many districts are over or fluctuate around it and have not stabilised below the cut-off, and how many have just one or two random blips over it. The results from this analysis are shown in Table 4-8.³⁹

**Table 4-8 Effective number of parties – Trends at the individual district level
(1951 – 2004)**

	Cut-off $N = 2.5$		Cut-off $N = 3$	
	No. of districts	%	No. of districts	%
(1) Districts over/fluctuating around cut-off	261	49%	128	24%
(2) Districts below cut-off with occasional blips over cut-off	235	44%	305	57%
(3) Districts stabilised below cut-off	35	7%	98	18%
Total	531	100%	531	100%

Table 4-8 shows that for a substantial 49% of districts, effective number of parties has consistently been over or fluctuated around the cut-off of 2.5 signalling deviation from Duverger's Law. Even for a cut-off of 3, a non-trivial 24% of the districts consistently witness competition amongst many rather than just 2 parties. Furthermore, a large proportion of districts show occasional blips over both the cut-offs, and only a relatively small percentage (7% and 18% respectively) have stabilised around a Duvergerian equilibrium. Thus, even at a micro-level there is no

³⁹The number of electoral districts in India has varied across the elections, and currently stands at 543. This analysis includes 531 districts which have sufficient number of observations to identify the trends of effective number of parties over time.

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unequivocal evidence that district level party systems in India represent, or are moving towards bipartisan competition.

Overall, my analysis reveals that there are significant variations in the size of party systems within each region signifying inter-state differences. This is not unexpected because of heterogeneity of Indian states, and also because parties fight elections on a state-by-state basis. Thus, there are not only large inter-region, but also inter-state differences in the size of party systems, and many Indian states (for example Uttar Pradesh and Bihar) do not represent a typical two-party competition as predicted by Duverger's Law. This finding implies that it is difficult and possibly inappropriate to make generalisations about the applicability of Duverger's Law to the Indian case, and that conclusions based on average measures for the country as a whole, and not studying the trends at the individual district level, and for different states are misleading.

I now turn to provide explanations for the size of the party system in India. But before that, I need to clearly establish the appropriate unit of my analysis.

4.2.3 *Unit of empirical analysis*

I argue that the choice of the level depends on four factors: (1) The institutional factors one wants to study, (2) The degree of variation in the size of party systems at different levels, (3) The importance of a particular level to the formation of party system, (4) The organisation of parties at different levels. I discuss these factors in the context of the Indian party system.

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Key institutional factors affecting the size of party system include features of electoral system such as the District Magnitude, Electoral Threshold, as well as factors such as Assembly Size. The effect of District Magnitude is better studied at the district level since it is at this level this factor can vary in an intra-country analysis. Although currently all India elections are contested within single-member districts, many districts in the 1951 and 1957 elections were multi-member. Accordingly, I study the effect of this institutional factor on the Indian party system at the district level. Another factor which needs to be studied at the district level is the effect of the reservation of seats for SC and ST in the legislature, since this reservation is provided at this level.

Electoral Threshold is another key electoral feature, which means the minimum percentage of vote share required for a party to win a seat or gain representation in the legislature. In general, Electoral threshold can take the form of a legally prescribed minimum share of votes, or Effective or observed threshold which is the outcome of other features of an electoral system. In the Indian context, there is no legally prescribed electoral threshold, and any attempt to study it has to rely on a measure of observed Effective Threshold. Taagepera (1998) develops an analytical method of computing Effective threshold which can be used to measure this factor for the Indian states in different elections. Using this method, this factor in the Indian context can be studied at the state level. Assembly Size or the seats allotted to each state in the legislature is another institutional feature affecting the party system. In India, this varies across states, and this enables its inclusion in the empirical analysis. Since seats are allotted on a state-by-state basis, this factor can only be studied at this level.

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Next, it is important to note the extent of variation of party systems in the Indian states and districts. Using a self-computed database of Effective number of parties consisting of 401 data points at the state level and 7174 at the district level, I find that the variance at the state level is 1.7, while at the district level it is 0.8. Thus, one can conclude that there is much higher variation in the size of party systems across the Indian states than is found in the Indian districts. This point is also supported by my earlier analysis of Duverger's Law in India where I report that the district-level distribution for effective number of parties for many elections is narrowly distributed. Furthermore, the verdict on the application of Duverger's Law is a mixed one, and the South and West regions come close to observing the two-party norm, and not showing large inter-district variation. I also run a variance components model which sub-divides the variance in effective number of parties at the district level.⁴⁰ The results are shown in Table 4-9.

Table 4-9 Components of variance in Effective number of parties at district level

Variance components	Variance	%
Inter-district variation	0.03	4%
Inter-state variation	0.11	15%
Variances due to other factors	0.61	81%
Total variance at district level	0.75	100%

Table 4-9 confirms that the state level accounts for a much large variance than the district level for explaining the variation in the size of the Indian party system at the state level. The district level accounts only for 4%, while the state level explains 15% of total variance at the district level. Thus, 15% of the variance at the district

⁴⁰The variance component model is run taking *Effective number of parties* as the dependent variable, and the districts level and the state level as random factors representing source of variation in the size of the party system at the district level.

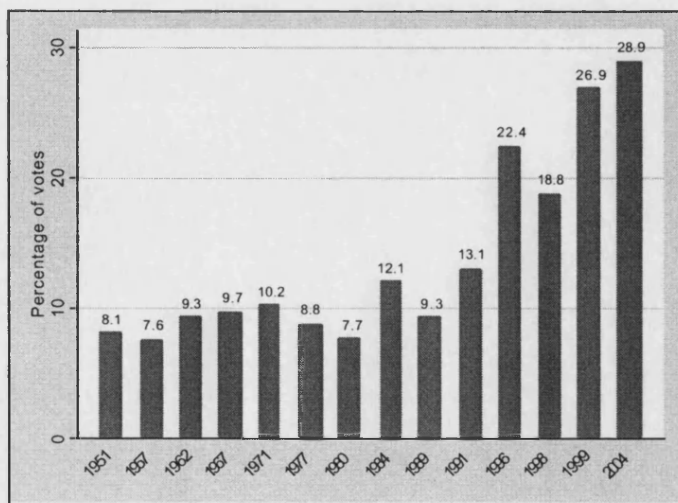
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level exists *only* because a district belongs to a particular state, while only 4% of the variance is explained by inter-district differences. The higher variance at the state level, as well as the variance components analysis at the district level thus indicates that state level is more appropriate level for conducting a comparative analysis to study the effect of various explanatory factors for the size of party system.

Finally, my choice of the unit of analysis is influenced by its importance in shaping Indian party system and politics, and on the way parties organise themselves to contest elections. In India, party system has developed along regional lines, and the parties tend to organise themselves and decide their electoral strategy on a state-by-state basis. The electoral alliances between parties have also been made at the state level, and as such state level politics has a decisive influence on shaping the Indian party system. The importance of the state level in the Indian political scene is also demonstrated by the vote share of the state parties, which increased from 8% in the 1951 elections to 29% in the last elections in 2004. The vote share of state parties by election-year is shown in Figure 4-7.

Figure 4-7 Vote share of state parties



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Based on the discussion in this section, it is clear that state level is an appropriate unit of analysis for carrying out a comparative study of the size of the Indian party system. District-level analysis on the other hand, should focus on studying the specific factors rather than to detect general patterns. Accordingly, my empirical analysis focuses on the state level, and uses aggregate measures of the dependent and independent variables at this level. District-level analysis is conducted to study specific factors such as District Magnitude and electoral reservation for SC and ST. The following analysis undertakes an empirical analysis of the size of the Indian system using the institutional determinants discussed earlier in this section.

4.3 Dependent variables

For my empirical analysis using institutional factors, I use five dependent variables. Three out of these are formulations of the number of parties, while the other two measure the degree of fragmentation and the disproportionality of the party system respectively. These are explained below.

4.3.1 *Effective number of electoral and legislative parties (ENP, ELP)*

These two variables have been used extensively in the existing literature to study the determinants of the size of party systems. The different ways of counting the effective number of parties, and their respective strengths and weaknesses have already been elaborated earlier (section 2.3) in this thesis. In my analysis, I use the Laakso and Taagepera's (1979) method of counting the effective number of parties using vote share (*ENP*) and seat share (*ELP*).

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4.3.2 *Number of contesting parties (NCP)*

This is a simple count of the number of parties that contest elections. All independent candidates are counted as separate contesting parties. Many existing empirical studies use both effective as well as a simple count of parties as a dependent variable. Studying this variable is important, because this is the basic level where social, political differences in the population manifest themselves in terms of the number of contesting parties in an election.

4.3.3 *Degree of support for the winning party*

This is defined by the vote share of the winning party in an election. The vote share received by the leading party indicates the degree of fragmentation and disproportionality in the system. As Anckar (1999:104) puts it, “The larger this degree of support, the more homogenous is the country in terms of political attitudes.” Dahl and Tufte (1973) point out the importance of this variable in one of their hypothesis: the larger the size of a political unit (in terms of population and area), the smaller the electoral support for the leading party operating within that unit. Anckar (2000) uses this variable in an empirical study of the determinants of party system of 70 countries. In addition to this measure of party system fragmentation, I also use a measure of the disproportionality of the electoral system.

4.3.4 *Degree of disproportionality*

Blais and Carty (1991) point out that mechanical and psychological effects are two distinctly different mechanisms. The mechanical effect is measured in terms of the

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disproportionately of the electoral system. Electoral system characteristics are thought to affect the effective number of parties through the degree of disproportionality. The more proportional the electoral system, the better the chances of smaller parties of gaining representation and the more fragmented the party system. It is however possible that both electoral system characteristics and disproportionality have an independent effect on party system fragmentation (Anckar, 2002). In plurality systems, the degree of disproportionality is affected by malapportionment, turnout differences and the geographic distribution of party vote shares (Grofman et al, 1997). Therefore, the extent to which different electoral systems produce disproportional results is an empirical matter.

Lijphart (1994, 75-77) finds that disproportionality was negatively linked to the effective number of parliamentary parties, but not to the effective number of electoral parties. However, the strengths of association were nevertheless rather weak and Lijphart suggested that this might be explained by fact that the relation was not monocausal.

Disproportionality *decreases* multipartism but, to at least some extent, multipartism *increases* disproportionality (Lijphart 1994: 76).

Lijphart (1994) uses Gallagher disproportionality index as a dependent variable, in his empirical analysis of political systems. Benoit (2002) uses the Gallagher disproportionately index as a measure of the mechanical effect of the electoral system in reducing the effective number of seat-getting parties. Anckar (2002) uses

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the Gallagher disproportionality index as independent variable to explain the effective number of parties in a study of effect of electoral systems in 80 countries.

In my analysis, I use a measure of disproportionality as a dependent variable. A number of measures of proportionality have been proposed (e.g. Rae 1971; Loosemore and Hanby 1971; Gallagher 1991, 38-40). High values of these indices denote a low correspondence between shares of votes and shares of seats and vice versa. The relative merits and demerits of the different methods of measuring disproportionately have been discussed in Lijphart (1994: 58-62) who uses Gallagher's index in his empirical analysis noting that it is "...the most sensitive and faithful reflection of the disproportionality of election results..." (pp 62).⁴¹ Gallagher index is computed using the following method: the vote-seat share differences for each party are squared and then added; this total is divided by two; and finally, the square root of this value is taken. This is shown in Equation 4-2.

Equation 4-2

$$\text{Gallagher disproportionality index} = \sqrt{\frac{1}{2} \sum (v_i - s_i)^2}$$

An important advantage of the Gallagher index is that it produces higher values for more disproportional situations, and therefore is a suitable measure of disproportionality for an empirical study. Furthermore, since it is a commonly used measure of disproportionality, I use this index in my study as a dependent variable (Disproportionality). I now depict trends and key statistics of my dependent variable.

⁴¹Lijphart (1994: 66-67) computes values of disproportionality indices using alternative methods in his empirical analysis, and reports that they are highly correlated. Thus, one can expect that using alternative measures will make little difference to an empirical analysis.

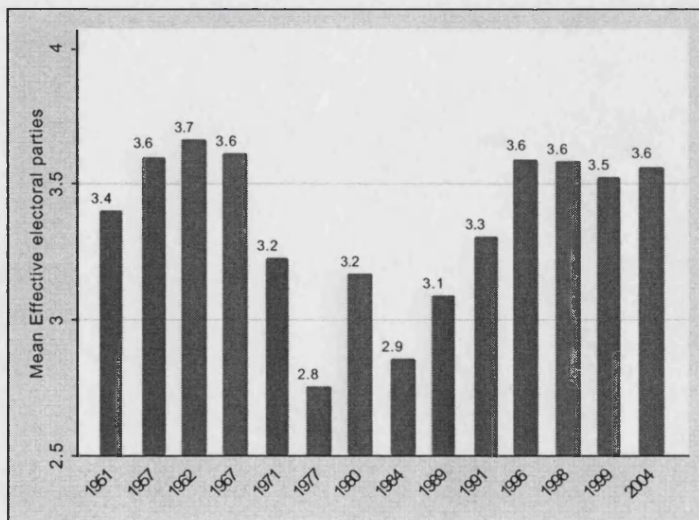
4.3.5 Trends of the dependent variables

For each dependent variable, I trace the trends of these variables over time, across the Indian states and regions, and their frequency distributions.

Effective number of electoral and legislative parties (*ENP*, *ELP*)

As can be seen in the time-series chart plotted in Figure 4-8, the average *ENP* at the state level has fluctuated over the years. In 9 out of 14 elections, it has been higher than the overall average of 3.3 during the period 1951 – 2004, while in the balance 5 years, it has been lower. In 1977 and 1984, the *ENP* was at its lowest at 2.8 and 2.9 respectively. The general trend of the *ENP* has been that between the first four elections, i.e. between 1951 and 1967, it shows an upward trend, and in the next 5 elections, i.e. between 1971 and 1989, the *ENP* saw a decline. Finally, in the five elections between 1990 and 2004, the *ENP* has in general, been increasing, although within a small range between 3.3 and 3.6.

Figure 4-8 Average *ENP* at state level over time

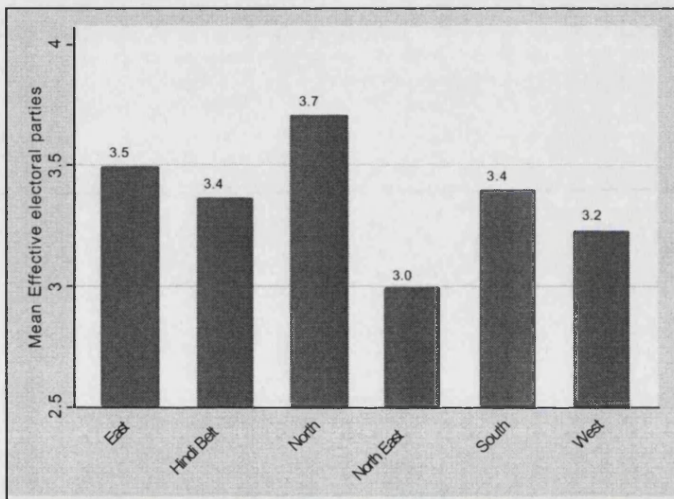


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Figure 4-9 plots *ENP* on a regional basis. From the examination of the chart, we can see that although *ENP* varies across the Indian regions, this variation is much less than is visible at the state level. North region has more parties compared to other regions at 3.7, while the North East region has the lowest *ENP* at 3.0. The *ENP* in the other three regions – Hindi belt, South and West regions are close to the average for all the states of 3.3.

Figure 4-9 Average *ENP* at the state level by region 1951 -2004



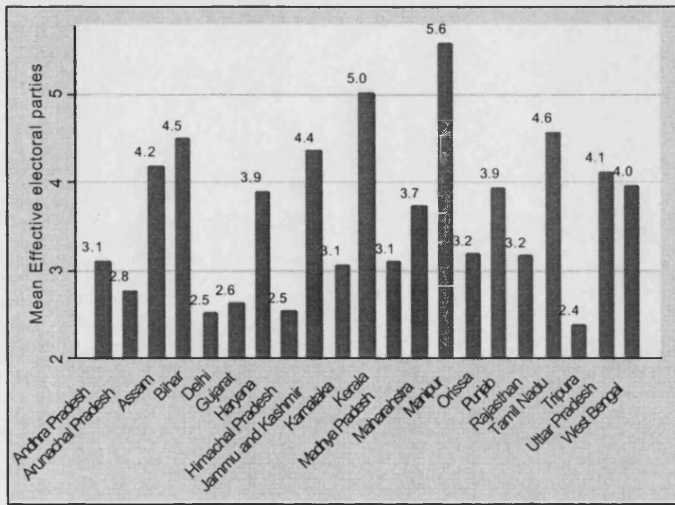
I now turn to the cross sectional depiction of *ENP* in the Indian states. Since Indian regions consist of different number of states which are heterogeneous, it is useful to analyse party systems for each state. Figure 4-10 shows average *ENP* in 21 Indian states from 1951 – 2004.⁴² As can be seen in the figure, *ENP* varies across the Indian states. Further, with the exception of few cases, all the states have more than 2 *ENP*, and many of them have more than 3 *ENP*. Many states have over four and even five parties in competition.

⁴²These states account for over 95% of electoral districts in India. I exclude smaller states to improve graphical presentation. My empirical analysis includes all states in India.

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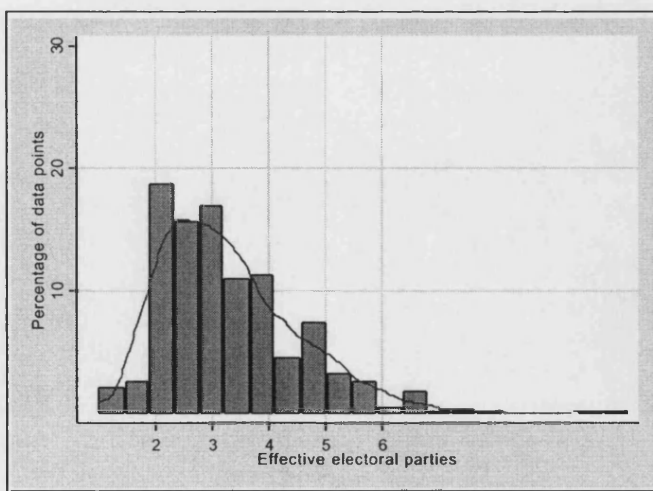
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Figure 4-10 Average ENP in the Indian states 1951 -2004



In addition to the average measures of ENP, it is important to study its distribution for appreciating the heterogeneity of party systems in the Indian states. Figure 4-11 shows the histogram and kernel density curve of ENP in the Indian states. It can be seen that the distribution is relatively low and well spread out, with a large percentage of data points falling between 2 and 4.

Figure 4-11 Histogram of ENP 1951 -2004



I now proceed with depiction of ELP. Figure 4-12 shows the time series bar chart of the ELP. The trend is broadly similar to that of ENP; this measure rises from 1.6 in

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the first elections to 1.9 in the 1967 elections. Between 1971 and 1989, *ELP* falls and is in the range of 1.3 – 1.6. Finally, the *ELP* rises again in the 1990's and has stabilised around 1.9 in the last four elections. The average *ELP* for all the states through this period is 1.7.

Figure 4-12 Average *ELP* at state level over time

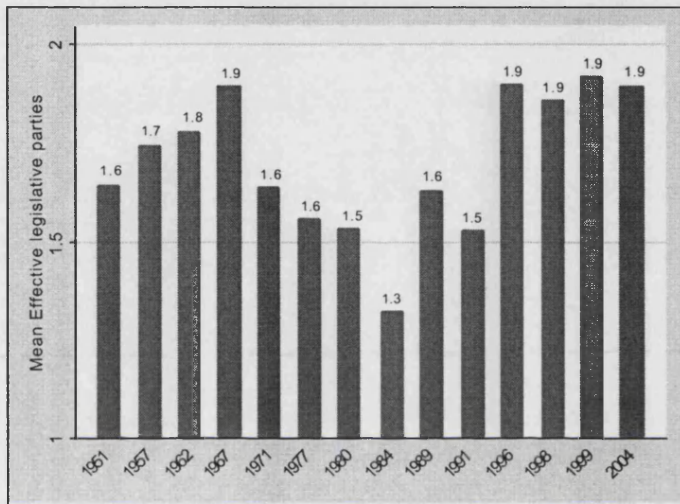
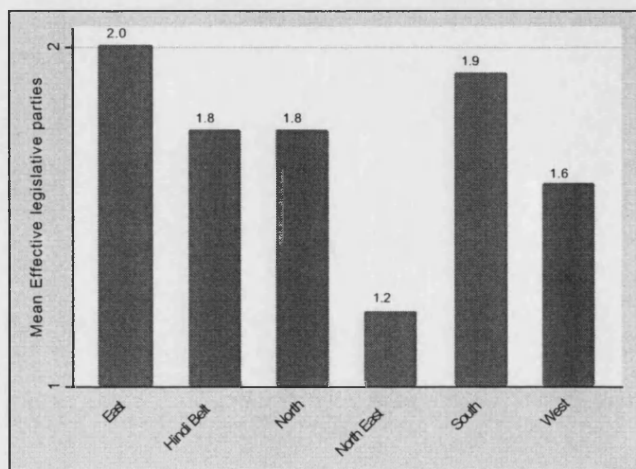


Figure 4-13 shows the regional variations in *ELP*. East region has the highest number of average *ELP* at 2.0, while the North East region has the lowest *ELP* at 1.2. The inter-regional variation in *ELP* is lower than what is seen in *ENP*.

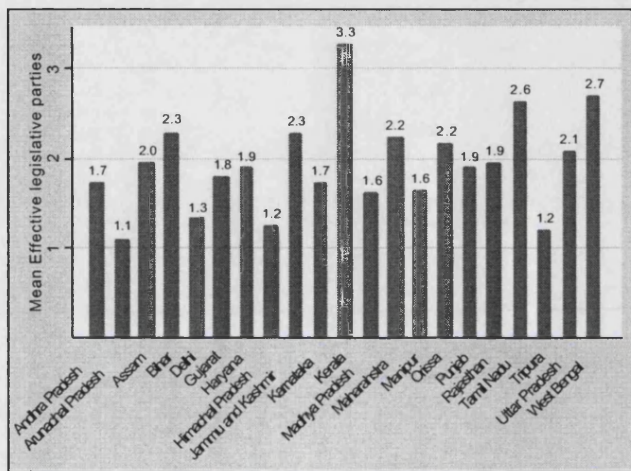
Figure 4-13 Average *ELP* in Indian regions 1951 -2004



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Figure 4-14 shows the cross sectional distribution of *ELP* in the Indian states. As can be seen that, number of *ELP* at the state level vary, with maximum being 3.3 parties that won seats in the elections. Kerala in the south region has highest number of *ELP*, while smaller states such as Tripura and Arunachal Pradesh in the North East region have only 1 *ELP*.

Figure 4-14 Average *ELP* in the Indian states 1951 -2004



Number of Contesting Parties (*NCP*)

The time-series plot of average *NCP* at state level in Figure 4-15 shows a movement in a narrow range of 28 – 34 in the first three elections till 1962. In the next three elections, from 1967 – 1977, the *NCP* increased to a range of 38 -51, but it was the next five elections starting in 1980, that it increased substantially, reaching its peak at 349 in 1996. In the last three elections, average *NCP* has stabilised in the range of 75-85. The mean for all the states and all the elections is just over 100 parties. Thus, this measure of party systems has varied substantially over time in the Indian elections.

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Figure 4-15 Average *NCP* at state level over time

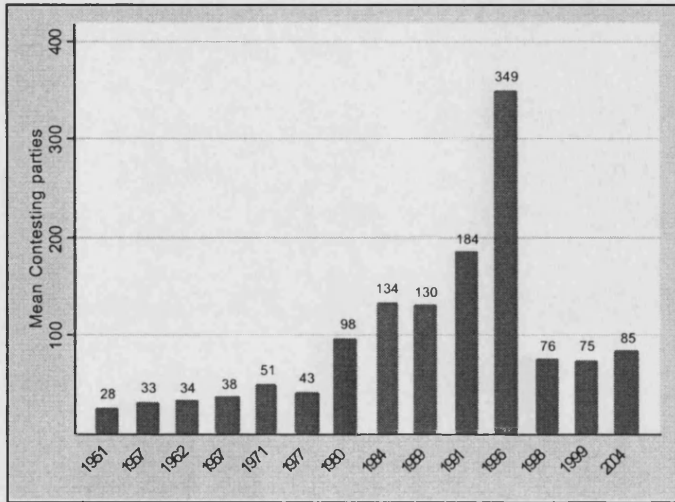


Figure 4-16 shows regional patterns of *NCP*, and it can be seen that the Hindi belt region has substantially more contesting parties than the other Indian regions, while other regions has far fewer number of contesting parties. North-East region is an outlier, with significantly lower number than the other regions.

Figure 4-16 Average *NCP* in Indian regions 1951 -2004

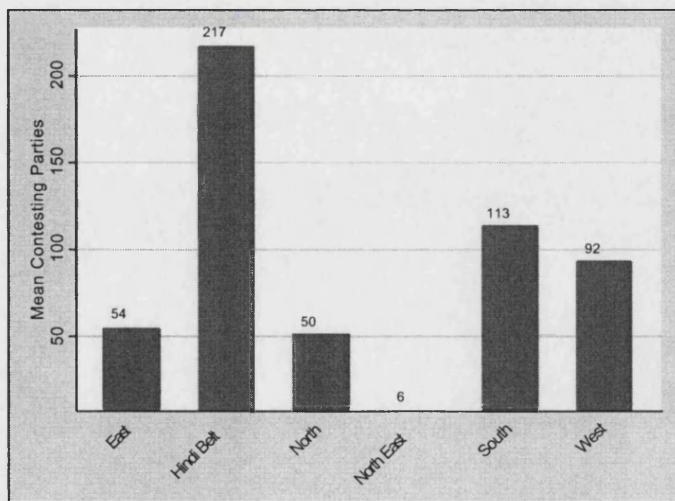


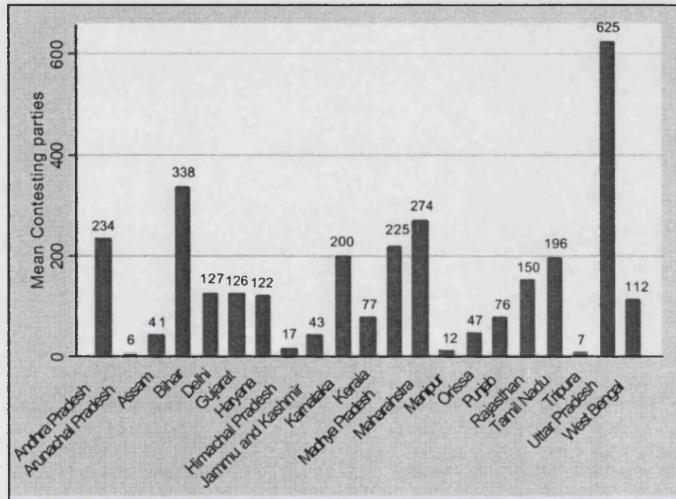
Figure 4-17 shows that *NCP* vary substantially even between states within a region. Uttar Pradesh and Bihar in the Hindi belt have the highest *NCP* at 625 and 338

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respectively, while North Eastern states such as Arunachal Pradesh Tripura have less than 10 *NCP*. Overall, there is large inter-state variation in *NCP* in the Indian party system.

Figure 4-17 Average *NCP* in the Indian states 1951 -2004



The above analysis reveals that not only do we see inter-state variation, but also inter-regional variations and variation over time, in the number of contesting parties

Disproportionality

One can see from the time series plot in Figure 4-18 that Disproportionality in the Indian states rose gradually but consistently in the five elections starting in 1962. Thereafter, it seems to have stabilised in the range of 0.29 to 0.31, even though in 1989, it was 0.34. The overall average for all the states for all the elections is 0.29.

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Figure 4-18 Average Disproportionality at state level over time

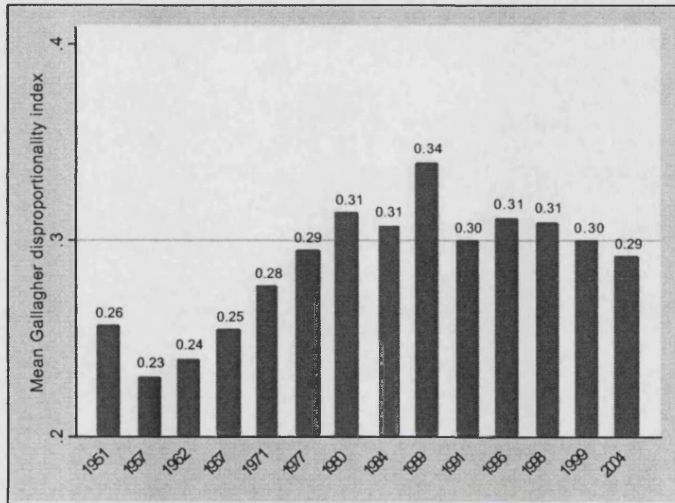
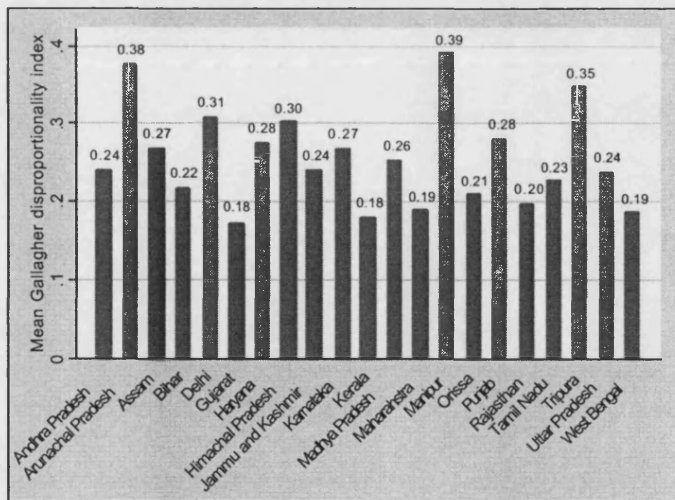


Figure 4-19 shows the average Disproportionality in the Indian states, and it can be seen that there is a fair degree of variation in this variable in the Indian states.

Figure 4-19 Average Disproportionality in the Indian states 1951 -2004



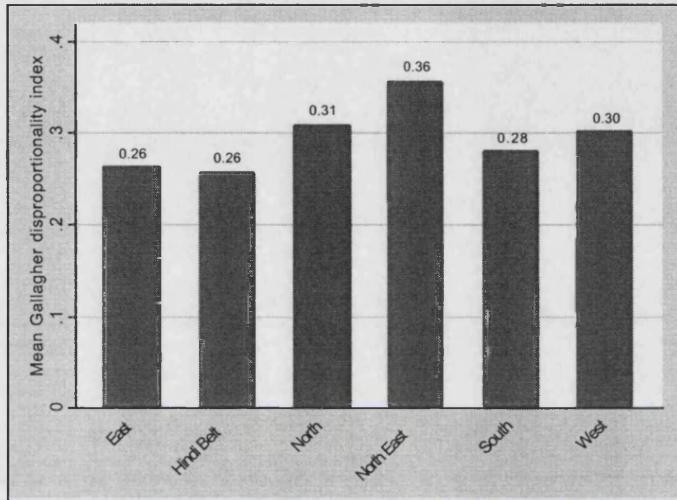
In terms of regional break-up shown in Figure 4-20, one can see that North East region witnesses the highest Disproportionality at 0.36, while this measure for the other regions are in the range of 0.26-0.30. Many North Eastern states have very

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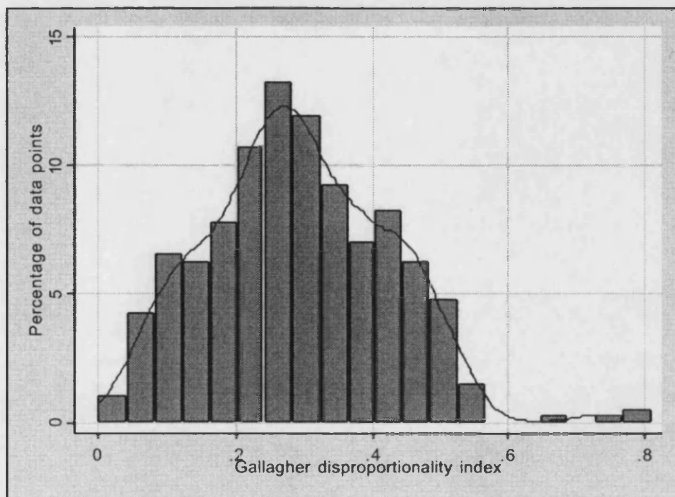
few seats allotted to them, and therefore, Disproportionality can be expected to be high there.

Figure 4-20 Average Disproportionately in the Indian regions 1951 -2004



Finally, I plot histogram of Disproportionality in the Indian states for all elections in Figure 4-21. The distribution is close to being a normal distribution, and the distribution is well-spread signifying variation in this variable in the Indian elections. Most of the data points fall between 0.2 and 0.4.

Figure 4-21 Frequency histogram of *Disproportionality* 1951 -2004



4.4 *Independent variables*

My independent variables represent key institutional dimensions of the Indian electoral system. These include District Magnitude and Electoral Threshold, Assembly size, the geographical size, and the number of voters or population. I provide specific formulations of these variables, and the study their effects on the dependent variables discussed in the previous section.

4.4.1 *District Magnitude*

District Magnitude refers to the number of representatives elected in an electoral unit (district in the Indian context). Rae (1967) finds a strong influence of this variable on Disproportionality and multipartism. In general, the empirical literature has confirmed the proposition given by Hogan (1945) more than half a century ago: “(the) larger the constituency, that is, the greater the result approximate to proportionality.” In the same vein, Taagepera (1998: 393) stresses that

Arguably the most important aspect of an electoral system is the degree of squeeze it puts on representation on small parties, which influences the number of parties and is reflected in deviation from proportional representation (PR).

As mentioned earlier, for two elections held in 1951 and 1957, many districts in India were multi-member. However for the subsequent 12 national elections, India shifted to single-member districts. Thus, we can study the effect of multi-member districts on the size of the party system in 1951 and 1957 elections. The effect of District Magnitude in the Indian districts is shown in Table 4-10 which compares average *ENP* in the single-member districts with those with multi-member districts.

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Table 4-10 Average *ENP* in the Indian districts by District Magnitude

<i>District Magnitude</i>	1	2	3	Total
Election Years				
1951	2.7 (310)	5.6 (81)	6.8 (1)	3.4 (392)
1957	2.4 (312)	5.1 (87)	-	3.0 (399)
1962 – 2004 (12 elections)	2.6 (6383)	-	-	2.6 (6383)
Total	2.6 (7005)	5.4 (168)	6.8 (1)	2.7 (7174)

Note: Figures in the parenthesis are number of districts

Table 4-10 shows that in 1951 elections, 82 out of 392 districts were multi-member, and the average *ENP* in these districts was much higher than in single-member districts. Thus, as against average *ENP* of 2.7 in the single-member districts, the *ENP* was 5.6 for two-member and 6.8 for three-member districts. Similar results are obtained for elections in 1957, and it is clear that multi-member districts have a much higher average *ENP* thus indicating adherence to the theoretical predictions.

I now run regressions taking *ENP* at the district level as the dependent variable and District Magnitude as an independent variable. In the first regression (models 1A and 1B), I only include 1951 and 1957 elections (elections when some districts were multi-member). In the second regression (models 2A and 2B), I include all elections. The results of the regression are shown in Table 4-11, where I report regression coefficient of District Magnitude variable, lagged dependent variable and their *t* statistics.

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Table 4-11 Regression of *ENP* and District Magnitude in Indian districts

Dependent: <i>ENP</i>	1951 and 1957 elections		All elections	
	Model 1A	Model 1B	Model 2A	Model 2B
	OLS	OLS with PCSE, lagged dependent	OLS	OLS with PCSE, lagged dependent
District Magnitude	2.79** (38.5)	2.35** (16.3)	2.70** (46.1)	1.67** (17.8)
ENP lagged		0.05 (1.3)		0.31** (23.7)
Constant	-0.23	-0.12	-0.06	0.11
R square	0.65	0.64	0.23	0.20
N	791	312	7174	6463

** refers to significance at 95% confidence interval

The coefficient for District Magnitude variable is positive and statistically significant for all the regressions. This variable alone explains a very large percentage of variance in the district-level *ENP* in the 1951 and 1957 elections. Even for the regression results for all the elections, District Magnitude explains 20%- 23% of the variance in *ENP*. The regression results further confirms the theoretical prediction about the effect of District Magnitude on the size of the party system in the Indian context; the regression results reported in Table 4-11 show that higher District Magnitude leads to increase in *ENP* in the Indian districts.

4.4.2 *Electoral Threshold*

Another important dimension of the electoral system is the electoral threshold or the minimum share or level of votes that is required to gain representation. This can either be provided specifically as a legal threshold, or can be inferred as an observed threshold, from the other dimension of the electoral system (Taagepera and Shugart, 1989). As Lijphart (1994:12) also points out “Low (district) magnitudes have the

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same effect as high thresholds: both limit proportionality and the opportunities for small parties to win seats....legal thresholds and district magnitude can be seen as two sides of the same coin.” Taagepera and Shugart (1989) introduced the following measures of effective threshold and district magnitude as rough measures of a given electoral system on small-party representation.

Equation 4-3 **Effective Threshold (T') = 50% / District Magnitude (M),**

Equation 4-4 **Effective Magnitude (M') = 50% / T**

Lijphart (1994) used a different averaging formula for calculating T' , which is given by

Equation 4-5 **$T' = 50\% / (M+1) + 50\% / (2M)$, for $M > 1$**

Lijphart uses the threshold for $M=1$ at 35% for his empirical analysis, while Taagepera suggested the following equation to apply to all (including $M=1$) types of magnitudes:

Equation 4-6 **$T' = 75\% / (M+1)$**

This equation yields $T'=37.5\%$, which is close to 35% used by Lijphart (1994) in his empirical analysis. Thus, electoral threshold and district magnitude are closely related to each other, and based on the formulations discussed above, if we know one of these variables, the other can be computed.

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Taagepera (1998: 399) proposes a methodology to measure the effective threshold for polities with single member districts. He defines

the observed effective threshold T' at district level as the votes share at which the number of candidates winning with less than T' equals the number of candidates losing with more than T' .

Since this method provides an analytical way of computing electoral threshold for polities with single-member districts, it can be used in the context of the Indian party system. Using this method, an effective threshold can be computed for the country as a whole (for all the districts in the country), or for different Indian states (by only including districts in specific states in the analysis). Below, I explain the mechanics of this methodology for my empirical analysis.

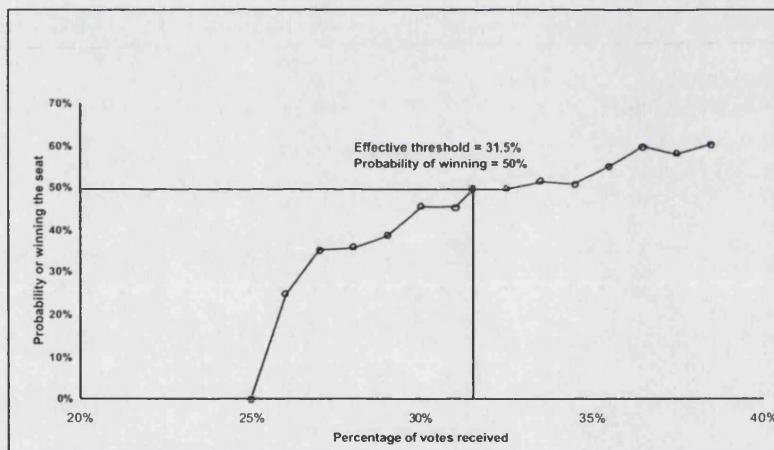
I first provide a hypothetical electoral threshold (T') at the district level, which represents the share of votes required to win the seat in a particular year. Based on this threshold, and share of votes received by the winning candidate, all the losing candidates, and the number of losers in each district, I compute the number of candidates who can win (A) despite getting less than T' (in face of fragmented competition) and the number of candidates who lose despite getting more than that T' (B). Thus, the observed probability of winning a seat (P') with a given T' is given by $A/(A+B)$, and following Taagepera (1998), P' should equal 50% at the effective threshold. Using iterations taking different values of T' , I arrive at a value of T' at which P' equals 50%. This then represents the effective threshold of winning a seat in an Indian district in the chosen election year. Similarly, I compute the Effective Threshold in the Indian districts for the other election-years.

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For computing the Effective threshold for a particular Indian state, I repeat the computation process described above, but only including districts from the chosen state so that the arrived value of Effective Threshold is for that state. The measures of effective threshold so computed for all the Indian states and election years become my data points for the empirical analysis. This way, an abstract formulation for T' for $M=1$, can be in practice computed and used in empirical models. Figure 4-22 shows a graphical illustration of this method of computing Effective Threshold in the Indian districts in the 2004 elections.

Figure 4-22 Effective Threshold in Indian districts in 2004 elections



The horizontal axis shows that percentage of votes received by a party in a district, and the vertical axis shows the probability of winning a seat, corresponding to that percentage of vote received, computed as per the method described earlier. At 25% vote share, the probability of winning a seat is almost zero. At around 27% vote share this probability is about 25%. At vote share of 31.5%, this probability is 50%, and therefore, this is the effective threshold for winning a seat in an average Indian district. For my analysis, I compute Effective threshold for each Indian state for each election, and use it as an independent variable.

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4.4.3 *Assembly size*

Rae (1967, 1971) calls the “Assembly Size”, that is, the number of seats in the legislature a ‘generally neglected variable’, whose effects on party systems have not been systematically studied. However, he still does not enter it in his empirical analysis. One reason for relative neglect of this variable as pointed out by Lijphart (1994) is that Assembly Size is seen as a characteristic of legislatures elected according to particular electoral systems rather than reflecting a feature of electoral rules.

Taagepera (1973) refers to the ‘cube law’ which holds that if, in a two-party systems and plurality single-member district elections, the votes received by the two parties are divided in a ratio of a:b, the seats that they win will be in the ratio of $a^3:b^3$. He shows that the exponent of 3 applies only in special circumstances, and that it goes up (and disproportionality increases), as the number of voters increases and/or assembly size decreases. Thus, according to this view, in plurality-based electoral system, the degree of disproportionality tends to increase, as the size of legislature decreases. This proposition has been confirmed in Lijphart’s (1990) study of plurality elections in small legislatures of the Eastern Caribbean countries. Lijphart (1994) includes Assembly Size as an independent variable in his study of disproportionality and party systems. As Lijphart (1994:12) puts it,

if electoral systems are defined as methods of translating votes into seats, the total number of seats available for this translation appears to be an integral and legitimate part of this translation.

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Thus, there is theoretical justification to include this variable in the research. For my empirical analysis, I include Assembly Size - the number of seats allotted to each state as one of the institutional explanatory variables. Indian states have different 'Assembly Size', and this enables studying the effect of this factor on the size of the party system in the Indian states.

4.4.4 *Reservation of districts for SC and ST*

India has a system of reserved districts for certain sections of society – Schedule Castes (SC) and Schedule Tribes (ST) to improve their representation in the political process. Currently, there are 79 reserved seats for the SC and 41 reserved seats for the ST in the legislature out of total of 543 seats. Since the candidates in the reserved districts can only be from these sections of the society, one can expect the number of parties in these districts to be lower than in the non-reserved districts. One can also hypothesise that this happens mainly because of decline in the number of independent candidates contesting elections, and winning votes and seats. Furthermore, if this logic holds, the larger parties should remain relatively unaffected because they can find SC and ST candidates within their parties to contest elections, or can attract these candidates into their party. In Table 4-12, I present the average *ENP*, *NCP* and the number of independent candidates separately for the reserved and unreserved districts in the Indian elections.

Table 4-12 Effect of Electoral reservation in the Indian districts 1951 – 2004

District type	No of districts	Average <i>ENP</i>	Average <i>NCP</i>	Average no. of Independent Candidates
Reserved for SC	996	2.70	7.44	3.34
Reserved for ST	497	2.68	5.71	2.13
Unreserved	5681	2.71	9.88	5.79
All districts	7174	2.71	9.25	5.20

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Table 4-12 summarises the effect of electoral reservation for SC and ST on the size of party system in the Indian districts. As can be seen, *ENP* remains relatively unaffected due to the reservation factor with both reserved and unreserved districts showing similar *ENP*. This is in line with expectations, since I expect that large parties can find candidates from these social groups to contest elections under their party label, and therefore, the number of vote-getting parties remains unaffected due to electoral reservation. However, the analysis also reveals that the *NCP* in the districts reserved for SC and ST is lower than in unreserved districts. This also confirms the hypothesis that since electoral rules put restrictions on who can contest elections, the number of contesting parties goes down. The average *NCP* in an unreserved district is close to 10, while it is 7 and 6 for districts reserved for SC and ST respectively. Furthermore, the number of independent candidates is substantially lower for the reserved districts. This is in line with predicted results since with electoral reservation, only SC and ST independent candidates can contest elections, and this restriction reduces the number of independent candidates in Indian districts.

Thus, electoral reservation which is a key part of Indian electoral system reduces the number of contesting parties, and the number of independent candidates, but does not affect the *ENP* at the district level. Also, electoral reservation does not seem to be affecting large parties which can always attract candidates from the SC and ST communities to contest elections on its behalf.

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4.4.5 *Geographical size and population*

Dahl and Tufte (1973) discuss the link between size and party systems, suggesting that the size of political entities affect fragmentation of the party system. The main reason for the expected link relates to organisational diversity and complexity; a large unit presupposes a wide range of organizations and institutions, which produce a high degree of specialisation and complexity. Therefore it is reasonable to expect that an increase in size leads to an increase in attitudinal diversity (Dahl and Tufte, 1973: 30–40). According to Dahl and Tufte, it is reasonable to expect that the link between size and party system fragmentation can exist only in very small political systems situated within a single country. The assumption is that the patterns of conflict management vary a great deal between countries, and historical uniqueness can therefore limit the association between size and party system fragmentation. Dahl and Tufte also presume that the arguments derived from social-psychological theory-building only applied to very small units; countries are therefore too large to constitute test cases (Dahl and Tufte, 1973: 94–7). Further, they argue that the presumed effect of plurality electoral systems fragmentation might blur the relationship between size and party system fragmentation (p.100).

Anckar (1998) shows that size contains explanatory power at the inter-state level and also among countries using majoritarian electoral systems. Using the same insight, Anckar (2000) develops and tests two hypotheses:

Hypothesis 1: The larger the size of a political unit (in terms of population and area), the larger the number of political parties operating within that unit.

Hypothesis 2: The larger the size of a political unit (in terms of population and area), the smaller the electoral support for the leading party operating within that unit. He summarises his findings as follows:

the results clearly show that factors traditionally brought forward as determinants of party system fragmentation contain little or no explanatory value compared to size. Concerning the effective threshold, there is a weak relationship between this variable on the one hand and the electoral support for the leading party, as well as the effective number of parties, on the other.

1. The larger the size of a country, or a unit within a country, the higher the number of parties. The rule applies irrespective of electoral system.

2 The larger the size of a country, the lower the electoral support for the leading party. The rule applies irrespective of electoral system.

3 The larger the size of a country, the higher the effective number of parties. The rule applies irrespective of electoral system. (pp. 315, 319)

My research design includes political units (states) within one country (India), and this allows me to test the effect of the 'size' factor on the size of party system. The size variable can be represented by the geographical size, the population, or the number of voters of the individual Indian states.

4.4.6 *Electoral reforms*

In the Indian context, electoral reforms also constitute an important part of the electoral rules and structure. Various reforms have been introduced over the years, which aim at strengthening the electoral process, improve the overall fairness of the electoral results. The reforms that have been introduced over the years include appointment of election observers, fixing ceiling on campaign expenditure, anti-defection laws, codes of conduct, control on officials conducting elections, etc. I

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trace the key reforms carried out in India since independence and based on it, construct a score of free and fair elections.⁴³ Electoral reforms have both encouraging and discouraging effect on the number of parties. They discourage non-serious candidates due to changes such as increase in the forfeiture amount. However, since reforms ultimately mean a level playing field, they encourage more number of candidates to contest elections and get votes.

4.4.7 *Malapportionment*

Gallagher (1991) points to the possibility of malapportionment affecting the degree of proportionality of election outcomes. In single member districts, this means that districts have substantially unequal voting populations. Malapportionment can systematically favour one or more parties and therefore contribute to electoral disproportionality. According to Lijphart (1994), Malapportionment often takes the form of rural or regional overrepresentation, and therefore can affect the size of party system in a polity.⁴⁴ Farrell (2001: 13) points out that malapportionment can happen “as a matter of course, by population shifts not being compensated for by a redrawing of constituency boundaries. But it can also be engineered on purpose”.

I now proceed to provide precise formulations and trends of my explanatory institutional variables.

⁴³My criteria consists of a list of 19 electoral reforms. I follow Goodwin-Gill (1994) in defining criteria for Free and Fair Elections in India. Mendez (2000) uses a similar approach for studying electoral reforms in Mexico.

⁴⁴Lijphart (1997: 130) finds that when the influence of effective threshold is controlled for, malapportionment turns out not to be a factor of any significance for party system variables. Accordingly, he does not include it in his empirical analysis.

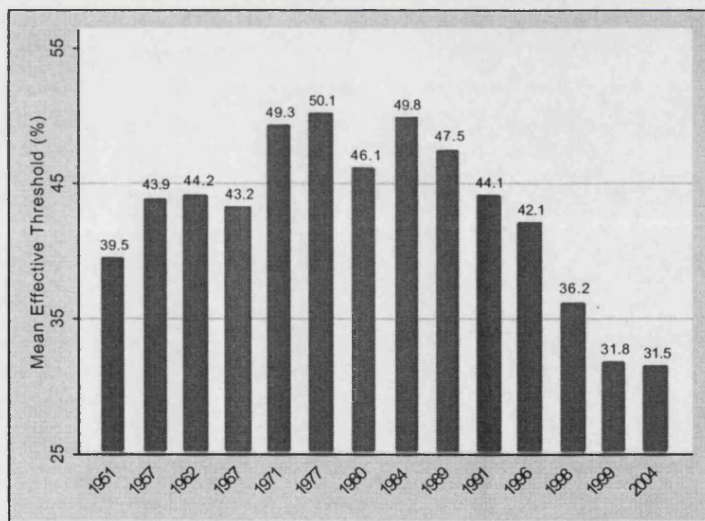
4.4.8 Trends of the independent variables

In this section, I provide and interpret summary statistics and trends of my independent variables. I focus on Effective Threshold, Assembly Size, Number of Voters and Electoral Reforms.

Effective Threshold

Figure 4-23 shows a time-series plot of Effective threshold in India, which is computed using method explained in section 4.4.2.

Figure 4-23 Effective Threshold in (all) Indian states over time



The average Effective Threshold for all the years is 44.4%, which is much higher than 35%, which is assumed by Lijphart (1994) for all countries which have single-member districts.⁴⁵ The Effective Threshold shows an increase between 1951 and 1977 elections, moving from 39.5% to 50%. Subsequently, it has declined, and in the latest 2004 elections it is 31.5% thus indicating the fragmentation of the party

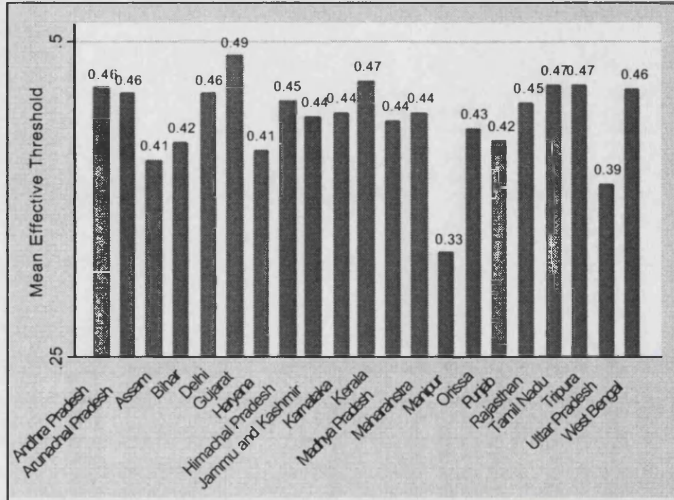
⁴⁵The maximum Effective Threshold is 50.1%, as this vote share guarantees winning the election.

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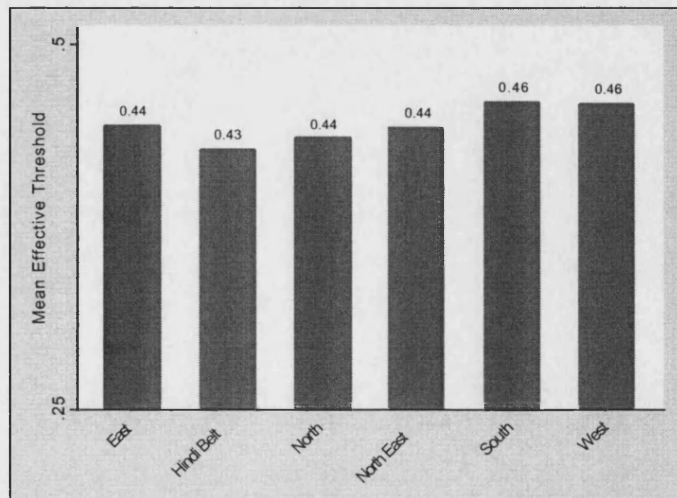
system. I now plot the variation of Effective Threshold across the Indians states in Figure 4-24.

Figure 4-24 Average Effective Threshold in Indian states



The cross-section plot of the Effective Threshold shows that it varies between Indian states, and takes values between 33% and 50%. Most of the threshold values are greater than 40%, again proving that parties require a reasonable high share of votes to win a seat in the legislature. The inter-region variation in threshold are however, not very significant, as is shown in Figure 4-25.

Figure 4-25 Average Effective Threshold by region

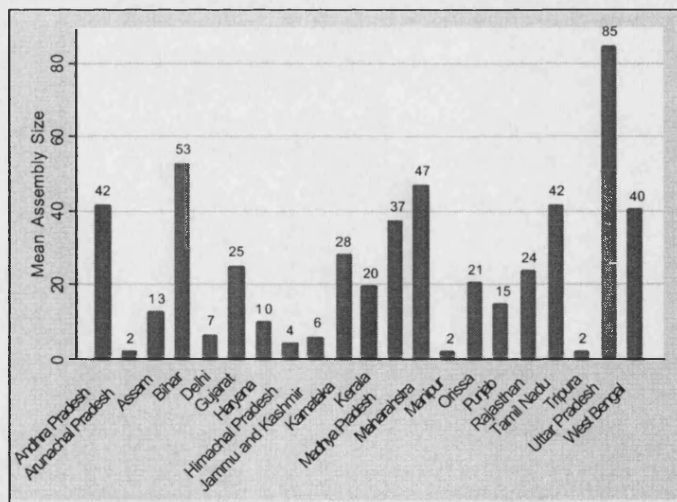


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Assembly Size

Each Indian state has been allotted a specified number of seats in *Lok Sabha* – the main legislating body. These seats are allotted on the basis of a formula based on the population of each state. Accordingly, the number of seats allotted to each state varies, and this has also varied over time, depending on the overall size of the national parliament. However, since census is held only every 10 years in India, the distribution of seats does not change as per corresponding changes in population (since elections are held every 5 years). In fact, there has not been any change in the seats allotted to different states since the 1971 census, and therefore, the current distribution of seats does not reflect the changes in population of different states after this census. For my empirical analysis, I use the Assembly Size as defined above, of each state for each election year as a data point, as shown in Figure 4-26.

Figure 4-26 Assembly Size in the Indian states



As can be seen, Assembly Size varies substantially across the Indian states. Uttar Pradesh, Bihar, Maharashtra, Andhra Pradesh, Tamil Nadu and West Bengal send relatively large numbers of representatives (ranging from 40-85) to the legislature,

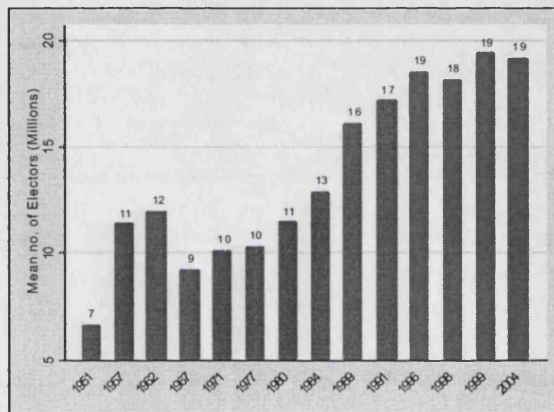
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while smaller states such as Arunachal Pradesh, Manipur and Tripura have been allotted as few as 2 seats.

Number of electors

The number of electors in the Indian states is meant to measure the effect of the 'Size' factor as well as the effect of malapportionment on the party systems in the Indian states. Following I plot a time-series chart of this variable in Figure 4-27.

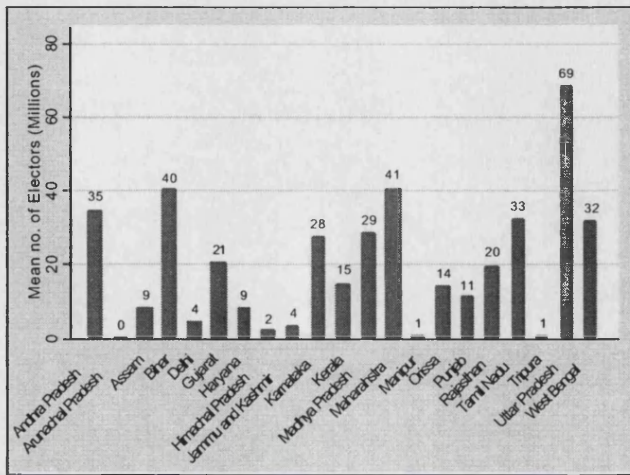
Figure 4-27 Average number of electors in the Indian states



As can be seen an average Indian state has large voting population, the average size of the electorate in an Indian state stood at around 7 million in 1951. It has been rising ever since, and stood at 19 million in the recently concluded 2004 elections. Figure 428 plots the number of electors in the Indian states on a cross-sectional basis.

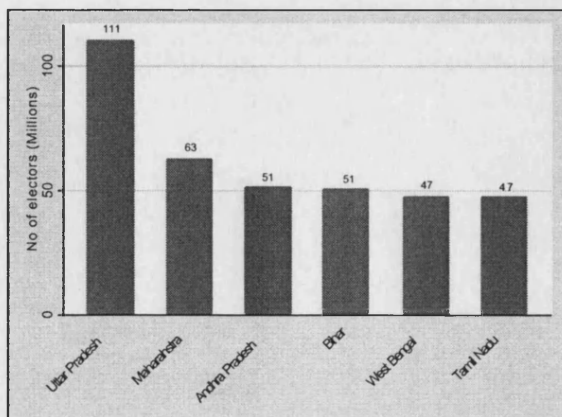
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Figure 4-28 Average number of Electors in the Indian states 1951 – 2004



It can be seen that there are large variations in voting population across the Indian states, with the overall average being 14 million voters at the state level during 1951-2004. Voting population in many large states are comparable to the population of many European countries reflecting the heterogeneity and the complexity inherent in the party politics in India. To illustrate this point further, the voting population in the 2004 elections in some large Indian states is shown in Figure 4-29.

Figure 4-29 Voting population in some large Indian states



Note: Based on 2004 election statistics

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Electoral reforms

As discussed in section 4.4.6., I construct an index of electoral reforms based on measures introduced at different times. Each reform is given a score of one.⁴⁶ The score for different election years are shown in Table 4-13.

Table 4-13 Index of Electoral Reforms

Elections	Index of Electoral Reforms
1951 -1957 (2)	11
1962 - 1977 (4)	12
1980 (1)	13
1984 - 1991 (3)	15
1996 - 1999 (3)	16
2004 (1)	18

Note: Numbers in parenthesis reflect number of elections

I use the Reforms as an explanatory variable so that the effect of the reforms carried out can be controlled in the regression analysis.

4.4.9 Methodology for the empirical analysis

I conduct correlation and analysis, and cross-tabulation of my dependent and independent variables to detect the general patterns of their relationship. For my regression analysis, I focus on the variables that manifest themselves at the state level. Further, I exclude variables which are highly interrelated to minimise the multi-collinearity problem. The details of my dependent and explanatory variables for the regression analysis are given below in Table 4-14.⁴⁷

⁴⁶Details of the reforms introduced are shown in Appendix B.

⁴⁷A snapshot of my data points is given in Appendix C.

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Table 4-14 Description of variables for regression analysis

Variable	Description	Method of computation
Dependent		
<i>NCP</i>	Number of contesting parties in a state	Simple count of parties contesting elections
<i>ENP</i>	Effective number of electoral parties in a state	Following Laakso and Taagepera's (1979), using vote share of each party
<i>ELP</i>	Effective number of legislative parties in a state	Same as <i>ENP</i> , but computed using seat share
Winning Share	Vote share of the Winning Party	Votes received by winning party / Total votes polled
Disproportionality	Index measuring disproportionality between votes and seats in a state	Following Gallagher (1991)
Independent		
Assembly Size	Number of seats allotted to each state in the legislature (<i>Lok Sabha</i>)	Using natural Log
Effective Threshold	Effective electoral threshold in a State	Computed using Taagepera (1998)
Electors	Number of voters in a state	Using natural log
Reforms	Electoral reforms index	Based on an index of electoral reforms

My hypotheses are in the form the expected direction of the relationship between the dependent and independent variables. These are summarised in Table 4-15. The columns show the dependent variables, while the rows show the independent variables. I show the sign of the hypothesised relationship through a '+' (positive relationship) or a '-' (negative relationship).

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Table 4-15 Expected direction of relationship between variables

Dependent	<i>NCP</i>	<i>ENP</i>	<i>ELP</i>	Winning Party Share	Disproportionality
Explanatory					
Assembly Size	+	+	+	-	-
Effective Threshold	-	-	-	+	+
Electors	+	+	+	-	-
Reforms	+	+	+	-	-

4.5 Correlations and cross-tabulation

In this section, I present correlation analysis and cross-tabulation of my dependent and independent variables. The objective is to detect general patterns in the data, which can be further tested using multivariate regression. I start by providing a correlation matrix between the three measures of the size of the party systems in Table 4-16.

Table 4-16 Correlation between dimensions of party system

Correlations	No. of Contesting parties	Effective electoral parties	Effective legislative parties
No. of Contesting parties	1.00		
Effective electoral parties	0.20**	1.00	
Effective legislative parties	0.27**	0.62**	1.00

**Correlation is significant at the 0.01 level (1-tailed).

The correlation is positive and significant between all the three measures, but the strongest relationship is between the *ENP* and the *ELP*, which have a correlation of +0.62. This indicates that the *ENP* provides a sort of upper bound to the *ELP*, and it is the domain of the electoral rules to convert the vote-getting parties into seat-

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getting parties. It also points to the fact that same set of factors are at work in the determination of the three measures of the size of the party systems, especially *ENP* and the *ELP*. The *NCP* however, is also affected by many factors that do not affect the other two measures. Continuing with the correlation analysis, I present the correlations between the three measures of the size of the party system, and the degree of support for the leading party, and Disproportionality.

Table 4-17 Correlation between party system, winning party share and Disproportionality

Correlations	Winning party share	Disproportionality index
No. of Contesting parties	-0.26**	-0.26**
Effective electoral parties	-0.75**	-0.16**
Effective legislative parties	-0.65**	-0.66**

Correlation is significant at the 0.01 level (1-tailed).

The correlation results are in line with the theoretical predictions; the three party system variables are negatively related to the winning party share and Disproportionality. The winning party share has a particularly strong negative relationship with effective electoral parties and effective legislative parties (correlation of -0.75 and -0.65). Thus, the support for the leading party has a significant downward effect on the effective electoral as well as legislative parties. Disproportionality has the strongest relationship with effective legislative parties (correlation of -0.66). This reflects the mechanical effect of the electoral rules on the effective number of legislative parties. One should recall here that the mechanical effect of electoral rules reduces the number of vote-getting parties into seat-getting parties, and since India follows a plurality winning formula, there is a high negative

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correlation between Disproportionality and the number of legislative parties. In general, the results show that the Indian states with higher Disproportionality have fewer number of contesting, vote-getting and seat-getting parties.

In Table 4-18, I summarise the average values for my dependent variables which are measured at the state level, and averaged by region. The total values represent averages for all Indian states taken together.

Table 4-18 Average dimensions Indian party systems at state level by region

Region	No. of Contesting parties	Effective electoral parties	Effective legislative parties	Winning Party Share	Dis-proportionality index
East	54	3.50	2.01	44.49	0.26
Hindi belt	217	3.37	1.76	46.30	0.26
North	50	3.71	1.76	43.18	0.31
North East	6	2.99	1.22	54.69	0.37
South	113	3.40	1.93	45.93	0.28
West	92	3.24	1.59	48.12	0.30
Total	104	3.33	1.70	47.54	0.29
N	401	401	401	401	401

Thus, on an average there are about 104 parties or candidates that contest election in an Indian state. Out of these only 3.3 are vote-getting parties, and only 1.7 are successful in winning elections. The winning party gets an average of 48% of the votes, and the average Disproportionality for the whole country at the state level is 0.29.

I now present cross-tabulation of my dependent and independent variables. I start with cross-tabulation of the dependent variables with Effective threshold, which is shown in Table 4-19.

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Table 4-19 Cross-tabulation of Effective Threshold and Party system

Effective threshold categories	No. of Contesting parties	Effective electoral parties	Effective legislative parties	Winning Party Share	Dis-proportionality index
< 0.31	88	4.72	2.12	39.28	0.28
0.31 - 0.35	203	4.30	2.01	38.62	0.29
0.36- 0.40	138	4.08	2.00	39.24	0.28
0.41 - 0.45	143	3.54	1.78	44.93	0.28
0.46 - 0.5	69	2.79	1.51	52.80	0.31
Total	104	3.33	1.70	47.53	0.29

Table 4-19 reveals two general patterns. First, higher thresholds are associated with lower *ENP* and *ELP*. For threshold values up to 0.30, the average *ENP* is 4.72 and the average *ELP* is 2.12. As threshold values increase, the corresponding *ENP* and *ELP* values see a decline. Thus, for thresholds greater than 0.45, the average *ENP* and *ELP* fall to 2.79 and 1.51 respectively. The second pattern emerging from Table 4-19 is that higher thresholds are associated with a higher share of winning party and higher Disproportionality. Thus, while for threshold levels less than 0.31, the average vote share won by the winning party is 39.28%, and Disproportionality is 0.28, but these increase to 52.8% and 0.31 respectively for thresholds greater than 0.45. Both these patterns are consistent with the theoretical predictions about the relationship between the number of parties on one hand, and Effective threshold and Winning Share and Disproportionality on the other. The relationship between the number of contesting parties and threshold does not give us a clear pattern. Sometimes the number of contesting parties increase with increase in threshold, but on other occasions they show a decline with the increase in electoral threshold.

Table 4-20 presents cross-tabulation of the dependent variables with Assembly Size.

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Table 4-20 Relationship between Party system and Assembly size

Assembly size categories	No. of Contesting parties	Effective electoral parties	Effective legislative parties	Winning Party Share	Dis-proportionality index
1 - 5	9	2.86	1.18	52.88	0.37
6 - 10	101	3.55	1.79	45.29	0.28
11 - 20	60	4.23	2.42	39.79	0.23
21 - 50	171	3.40	2.00	44.83	0.22
> 50	462	4.26	2.34	39.54	0.22

Table 4-20 shows that in general, the relationship between Assembly size and the number of parties is positive. Thus, states with larger assemblies tend to have higher number of *ENP* and *ELP*. For states with Assembly size between 1 and 5, the average *ENP* is 2.86, and *ELP* is 1.18. The corresponding numbers for states with Assembly Size greater than 50 are 4.26 and 2.34 respectively. The number of contesting parties too tend to increase with increase in the Assembly size. For states with Assembly size less than 6, there are average of 9 parties that contest elections, while for states with Assembly size greater than 50, the number of contesting parties increases manifold to 462. The share of winning party decreases as the Assembly size increases, but it stabilises around 0.22 for states with Assembly size greater than 20. The relationship between Assembly Size and Disproportionality is also negative, i.e. states with larger Assembly Size tend to have lower levels of disproportionality. For example, while for states with Assembly Size less than 5, the average Disproportionality is 0.37, while for states with Assembly size over 50, it is 0.22. Thus, in general the pattern of the relationships follows the direction predicted by theoretical models.

I now turn to verify the direction and strength of the relationships between my dependent and independent variables through regression analysis.

4.6 *Regression Analysis*

Using multivariate regression, I test the hypothesis about the relationship between the dependent variables representing the Indian party system at the state level, and the hypothesised institutional explanatory variables. Since Assembly Size and the Electors are highly correlated (with correlation coefficient of 0.94), these are used in different regression models. Accordingly, my first regression model uses five party system dependent variables and the explanatory variables - Assembly Size, Effective Threshold and index of electoral reforms. In the second regression model, I replace Assembly Size with Electors. For each regression, I report the intercept for the dependent variable, regression coefficients, *t* statistics, R-square, and the number of observations.

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Table 4-21 Regression of Party System, Assembly Size, Effective Threshold, Reforms

	1	2	3	4	5
Dependent →	<i>ENP</i>	<i>ELP</i>	<i>NCP</i>	Winning Share	Disproportionality
Independent					
Assembly size	0.27** (8.9)	0.30** (14.7)	70.2** (8.6)	-3.3** (8.2)	-0.05** (11.4)
Effective Threshold	-9.24** (9.0)	-2.69** (4.7)	-257.9* (1.7)	84.2** (8.8)	-0.03 (0.29)
Reforms	0.03 (1.4)	0.05** (3.2)	25.2** (5.8)	-1.3** (5.0)	0.00* (1.8)
Intercept	6.4	1.6	-279.3	35.4	0.33
R square	0.40	0.37	0.29	0.37	0.29
Adj. R square	0.39	0.37	0.28	0.37	0.28
N	401	401	401	401	401

Table 4-22 Regression of Party System, Electors, Effective threshold Reforms

	1	2	3	4	5
Dependent →	<i>ENP</i>	<i>ELP</i>	<i>NCP</i>	Winning Share	Disproportionality
Independent					
Electors	0.18** (8.9)	0.20** (15.2)	43.7** (8.7)	-2.2** (7.8)	-0.03** (10.2)
Effective Threshold	-9.2** (9.1)	-2.64** (4.6)	-260.4 (1.6)	83.4** (8.7)	-0.04 (0.37)
Reforms	0.00 (0.03)	0.01 (0.9)	16.9** (4.6)	-0.93** (3.6)	0.01** (4.0)
Intercept	7.2	2.4	-69.5	26.1	0.20
R square	0.39	0.36	0.26	0.37	0.28
Adj. R square	0.39	0.36	0.25	0.37	0.27
N	401	401	401	401	401

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In general, the regression results in Table 4-21 and 4-22 are in line with the theoretical predictions. I focus on results in Table 4-21.

Assembly Size has a positive effect on all the three dependent variables that measure the size of the party system. Therefore, larger the Assembly Size, larger is the size of the party system in that state. This variable has a positive and statistically significant effect on all three measures of the size of the party systems – the *ENP*, *ELP* and *NCP*. Assembly Size has negative effect on the other two dependent variables – the vote share of the winning party and the degree of disproportionality. The regression coefficients of Assembly Size for these two dependent variables are negative and significant, thus confirming the theoretical prediction that larger Assembly Size enable a more competitive party system with reduced vote share for the winning party, as well as reduced degree of disproportionality between votes and seats. The effect of Assembly Size variable on the size of Indian party system has not been examined empirically before, and the fact that it has significant effect on both the size and competitiveness of the party system in the Indian states is an important result.

The broader implication of this result is that if Indian states were to be sub-divided into smaller units with smaller Assembly Size, it is likely to result into reduction in the number of parties at the state level. This reduction in the number of parties at state level can have important administrative, economic and social consequences. For example, Chhibber and Noorudin (2004) report that Indian states with fewer parties are likely to provide more public goods than the ones with multiparty competition. This happens because in two-party systems parties draw support from many social

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groups and therefore need to provide more public goods to win elections. In multiparty systems on the other hand, parties need only a plurality to win an election, and therefore are more likely to use private goods rather than public goods to mobilise support.

The regression results for the second explanatory variable – Effective Threshold are also broadly in line with the theoretical predictions - this variable has a negative effect on the size of the party systems in the Indian states. Thus, states having higher thresholds have fewer parties, and vice-versa. The regression coefficient is negative and significant for regressions run on *ENP*, *ELP* and *NCP*. These results in general confirm the hypothesis that high Effective Thresholds constrain the size of party system in a polity. This variable has the expected positive effect on the vote share of the winning party, and its coefficient is statistically significant. The results show that Effective Threshold does not have a statistically significant effect on the degree of disproportionality in the Indian states.

As mentioned earlier in this chapter, it is difficult to theorise about the likely effects of electoral reforms on the size of Indian party system. On one hand, it may result into a more level playing field, and lead to more parties contesting elections and gaining votes and seats. On the other hand, it can also lead to reduction in the number of parties by measures such as anti-defection laws, strict monitoring of elections, measures to ensure integrity of polling and counting of votes. Table 4-21 shows that Electoral reforms have positive effect on the size of party system in the Indian states, with the regression coefficient being positive for the three size of the party system variables, but having significant effects only for *ELP* and *NCP*. This

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factor is also significant to explain the vote share of winning party, and reforms have led to lower share of winning party. Results also show that electoral reforms have a positive effect on disproportionality. This might happen because reforms carried out have only affected the electoral rules which govern the carrying out of the elections, rather than affecting the basic electoral system (SMPS) and the disproportionality associated with it.

The R square and the adjusted R squares in all the five regressions in Table 4-21 are of reasonable magnitude (in the range of 0.28 to 0.39), and I conclude that institutional variables have important and significant effect on the size of the party systems in the Indian states. Both Assembly Size and Effective Threshold are important and significant variables in affecting the size of the party system at the state level. States with large Assembly Size and lower Effective Threshold have more number of parties. The results reported in Table 4-22 which uses Electors instead of Assembly size as an explanatory variable produces very similar results to the ones reported in 4-21.

The above regression results are based on OLS. I also run these regressions using method recommended by Beck and Katz (1995) in light of TSCS nature of my data. This involves using OLS with PCSE and a lagged dependent variable as one of the independent variables. The results of these regressions for the three size of the party system variables (*ENP*, *ELP* and *NCP*) are shown in Tables 4-23 and 4-24. As can be seen that these results are consistent with OLS results discussed earlier. Further, the lagged dependent variable in these regressions is both positive and

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significant thus indicating that previous election results affect the results of subsequent elections.

Table 4-23 Regression of Party System, Assembly Size, Effective Threshold, Reforms OLS with PCSE and lagged dependent variable⁴⁸

	1	2	3
Dependent →	<i>ENP</i>	<i>ELP</i>	<i>NCP</i>
Independent			
<i>Assembly size</i>	0.15** (5.3)	0.21** (8.3)	70.6** (7.1)
<i>Effective Threshold</i>	-7.63** (9.3)	-2.10** (3.9)	-300.5* (1.8)
<i>Reforms</i>	0.01 (0.6)	0.06** (3.2)	25.5** (4.8)
<i>Lagged dependent variable</i>	0.43** (9.3)	0.31** (5.5)	0.09 (0.6)
Intercept	4.8	0.9	-272.4
R square	0.57	0.46	0.30
N	358	358	358

Table 4-24 Regression of Party System, Electors, Effective Threshold, Reforms OLS with PCSE and lagged dependent variable

	1	2	3
Dependent →	<i>ENP</i>	<i>ELP</i>	<i>NCP</i>
Independent			
<i>Electors</i>	0.10** (5.3)	0.13** (8.9)	43.1** (7.1)
<i>Effective Threshold</i>	-7.6** (9.2)	-2.1** (3.8)	-283.9* (1.7)*
<i>Reforms</i>	-0.00 (0.2)	0.03** (2.0)	16.5** (3.2)
<i>Lagged dependent variable</i>	0.43** (9.5)	0.32** (5.8)	0.12 (0.8)
Intercept	5.2	1.4	-65.2
R square	0.57	0.45	0.27
N	358	358	358

* shows significance at 90% confidence interval

** shows significance at 95% confidence interval

⁴⁸REM also produces consistent results.

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4.7 *Conclusions*

In this chapter, I provide measures of the size of Indian party system, and study the effects of important institutional factors on it.

I find that India is an exception to the Duverger's Law at the national and state levels. I also find that even at the district level, the support for Duverger's Law is not unqualified, and elections in a non-trivial number of districts involve competition between more than two parties. Furthermore, one does not see a clear movement towards Duverger's equilibrium of a two-party system even at the district level. In particular, two largest Indian states of Bihar and Uttar Pradesh are clear exceptions to the Duverger's Law. My findings show that it is difficult to generalise the application of Duverger's Law to the Indian case because effective number of parties vary across Indian states and regions.

I show that institutional variables matter in explaining the variation in the size of the Indian party system. At the district level, I study the effect of District Magnitude and electoral reservation. I show that District Magnitude increases the number of parties in the Indian districts (in the 1951 and 1957 elections), and that the reduction in District Magnitude (to one) after the 1957 elections led to a substantial reduction in the effective number of parties. I also show that electoral reservation for SC and ST has a downward effect on the number of parties, especially for independent candidates who contest elections in the Indian districts. Overall, these results are in line with my hypotheses for these variables.

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The comparative analysis at the state level, which is my main focus of this chapter shows that the size of the party systems across the Indian states varies, and this variation is affected by institutional variables such as the Assembly Size, Effective Threshold, and Electoral reforms. While the Effective Threshold reduces the number of parties in an Indian state, the Assembly Size has positive effect on it. The results for these two variables are in line with my predicted institutional hypotheses, and are also statistically significant and robust.

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5 RELIGIOUS AND SOCIAL HETEROGENEITY

In this chapter, I investigate whether and to what extent are the party systems in the Indian states shaped by the degree of social fragmentation, measured by the effective number of religious and social groups.

5.1 Introduction

India is composed of a huge variety of ethnicities, religions, languages, races and classes. All the major religions are represented in the country. According to the 2001 census, there are 827 million Hindus (80.5%), 138.2 million Muslims (13.4%), 23.4 millions Christians (2.3%), and 19.2 million Sikhs (1.9%) in the Indian population. The break up of population according to the religion over the years is shown in Table 5-1.

Table 5-1 Indian population percentage by religion

Religious communities	1961	1971	1981	1991	2001
1	2	3	4	5	6
All religious communities	100.0	100.0	100.0	100.0	100.0
Hindus	83.4	82.7	82.6	82.0	80.5
Muslims	10.7	11.2	11.4	12.1	13.4
Christians	2.4	2.6	2.4	2.3	2.3
Sikhs	1.8	1.9	2.0	1.9	1.9
Buddhists	0.7	0.7	0.7	0.8	0.8
Jains	0.5	0.5	0.5	0.4	0.4
Others	0.3	0.4	0.4	0.4	0.6
Religion not stated	Neg.	Neg.	Neg.	Neg.	Neg.

Source: Census of India, various years

Note: Neg. means negligible.

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Although Hinduism is by far the majority religion, there are inter-state differences, and in many states other religious communities have a much larger proportion of the total population. For example, Muslims form a significant proportion of the total population in Jammu and Kashmir (67%), Assam (30.9%), West Bengal (25.2%) and Kerala (24.7%); Sikhs form a majority of the total population in Punjab (59.9%) and are present in sizeable numbers in Chandigarh (16.1%); Christians form a large proportion of population in Nagaland (90%), Mizoram (87%), Meghalaya (70.3%), Manipur (34%), Goa (26.7%), Kerala (19%), and Andaman and Nicobar islands (21.7%). Buddhists are mainly present in Sikkim (28.1%).

Thus, while at national level, Hindus are clearly the dominant community, in many states other religious communities are present in significant numbers, and form a major social and political group, that affects the party systems in those states. India is also very diverse linguistically. Table 5-2 provides the percent of population speaking the main languages as per the Indian Constitution.

Table 5-2 Population percentage in terms of languages spoken

Language	Percentage
Hindi	40.22
Bengali	8.30
Telugu	7.87
Marathi	7.45
Tamil	6.32
Urdu	5.18
Gujarati	4.85
Kannada	3.90
Others	3.71
Malyalam	3.62
Oriya	3.35
Punjabi	2.79
Assamese	1.56
Nepali	0.25
Sindhi	0.25
Konkani	0.21
Manipuri	0.15
Kashmiri	0.01
Sanskrit	0.01

Source: 1991 census⁴⁹

⁴⁹The data on languages from the 2001 census is still not released from the Census of India.

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Hindi is the most commonly spoken language on a national basis. However, as in the case of religion, this hides the inter-state variation in the languages spoken. One of the reasons for large share of Hindi-speakers is that Hindi is the main language in some of the most populous Indian states such as Uttar Pradesh, Bihar, Madhya Pradesh and Rajasthan. In many other states however, the level of linguistic heterogeneity is much higher. Further, the above list does not include a large number of languages which are spoken by small groups and communities across India.

Caste is a major social cleavage in India. The Indian society is divided into a large number of social castes and sub-castes. Chhibber and Kollman (1998:1991) cite Powell (1982) in stating that “the ethnic variety of India is so great that one only has an 11 per cent chance of picking two individuals at random and finding them to be of similar ethnic groups (in the United States, there is a 50 per cent chance of randomly selecting two people from the same ethnic-linguistic group).” These divisions have the potential of causing political divisions, and even conflicts. Pai (2002) argues that parties based on caste, religion and geography have not been able to aggregate public opinion, and this has led to political instability, lack of incentive for development, and a low level of developmental expenditure in the politically important Indian state of Uttar Pradesh.

The literature on party systems in India is dominated by treating it as a reflection of the social cleavages. These well-known divisions in the Indian society include differences in social characteristics such as religion, language, caste and geography. The constitutional categories of SC and ST are two major social groups, which have been gaining in importance following the growing importance of caste factors in

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Indian politics in the recent years. Scholars have mainly focussed on the effect of caste factors on the party systems (Brass 1965, 1984; Rudolph and Rudolph, 1987; Chandra, 2004). The rise of BJP has brought the effect of religion back into focus as scholars (Jaffrelot, 1995) have explained its rise to the exploitation of religious cleavages. Since Indian party system has developed on regional lines, as against ideological or national lines (Wallace, 2000), regional parties have also used it to advance the interest of a particular region, as a part of their electoral strategy.

5.2 Social cleavages and the Indian party system

The existing literature on sociological effects of the party system does not clearly point out the process by which cleavages result into parties. This omission from the literature leaves many questions unanswered. For example, when and under what circumstances will cleavages result into a political party? How many parties will form as a result of the presence of cleavages? Further, research linking cleavages and the number of parties also stress the importance of other variables in being important in politicisation of cleavages. Rudig (1990) points out that the mere presence of social cleavages will not lead to a party. The work of Cox (1997), Ordeshook and Shvetsova (1994), Golder (2003) shows the interactive effect of institutional and social variables on the party system.

I am in agreement with scholars that the presence of social cleavages does not axiomatically result into political groupings and parties. However, the *presence* of these cleavages is a *necessary* (although not sufficient) condition for these cleavages to be transformed into politicised cleavages and political parties. And therefore,

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despite the absence of a clear theoretical link between social cleavages and party formation, scholars have tested the social cleavages theory by relating the number of social cleavages in a polity to the number of parties. I too, follow this tradition.

In India, there are multiple and overlapping social cleavages. At the basic level, there are religious cleavages. Hindus by far are the majority community. However, the next biggest religious group is Muslims, which have a significant proportion of population. This cleavage is also important, because in some states they have significant presence, and influence electoral results substantially. The other religions are relatively small in number, although in some states Christians and Buddhists are present in significant numbers. Within each religion, there are further sub-divisions. For Example, Hindus are made up of a huge number of castes and sub-castes (Singh, 1994). Then, there are cleavages based on region and language. The multiplicity of these cleavages gives rise to overlapping social and religious groupings in the Indian states, and as Chhibber and Petrocik (1989:192-193) point out,

The litany of divisions and dispute is easy to exaggerate. The uniqueness of India does not lie in the existence in these conflicts - equivalent social differences have occasioned inter-group conflict in most societies - but in the *variety* of salient differences, castes within religion, language within class, class within religion, class within language, class within caste, caste within language, etc. The puzzle, given all these cleavages and their divisiveness, is the weak link that has been found between social cleavages and party support....correlation between social characteristics and partisanship varies with the number, salience and political significance of its cleavages, and it is from the perspective of this relationship that India is anomalous.

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The above comments were made in the context of a single party's dominance in Indian politics, despite India's social heterogeneity. Chhibber and Petrocik (1989:205), while investigating this anomaly find that inter-state differences in the nature of cleavages created inter-state differences in the social group constituency of the same party. They argue that nation-wide political party like the Congress has an exceptionally heterogeneous social base at the national level, but at an individual state level, it has a more homogenous voter clientele. Therefore, the electoral support and success of the INC depends on district social groups, but the groups vary by state, and "an aggregation at the national level masks a cleavage alignment which is almost precisely what the social cleavage theory of party systems expect to find."

Chhibber and Petrocik (1989) analyse the effect of social cleavages on the support for INC, and find that the political significances of the social cleavages is state specific. Thus, while at national level, religion, caste and class-based cleavages explain only 2% variance in votes for INC, at state level 20% of variance can be explained by these factors. Thus, the inter-state differences in social cleavages appear as being paramount in seeing the effect of social cleavages on the party system. This analysis supports our objective of studying the effect of the social fragmentation on the size of the party system in the Indian states. The importance of inter-state differences in social cleavages, and their effects has been pointed out by many authors. Consider the following comment by Chhibber and Petrocik (1989: 201)

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Given the territorial nature of social cleavages in India, we expect that: (1) At the national level, where a voter lives – his or her state – should be a far stronger predictor of the vote than social factors such as caste, religion or social class observed nationally. (2) However, because caste, class and religion are major points of conflict within India, each will have a strong correlation with party support when examined at the level at which these social factors are politically significant; that is, within each state. (3) The political significance of group conflicts varies by State so the strength of the link between particular social cleavages and party should vary across the States.

Therefore, one can hypothesise that higher the degree of social fragmentation in a state, higher will be the number of parties.

5.3 SC and ST population in the Indian states

These two groups represent prominent social cleavages, which are defined in the Indian Constitution, and have special privileges in terms of political representation, job reservation, and other forms of affirmative action to ensure their interests are adequately protected. Political parties in India have tried to win the support of these groups, and the caste-based politics especially involving the SC has become more intense. Since these two groups comprise a large percentage of the total population (24% according to the 2001 census), their voting pattern can influence the electoral outcomes, especially in states where they are in large numbers. However, the effects of the presence of these two groups in a state's population are complex and depend on many factors. First, it depends on how large is the share of their population in the total population of the state. SC are scattered in varying strength all over the country, and their dispersal then constitutes a disadvantage for their voting power. Further, a relatively small percent of SC live in the urban areas, and the balance still

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lives in rural areas where the influence of traditional institutions and prejudices is stronger. This coupled with their internal heterogeneity, has led to difficulties in translating their population numbers into political power. The rise of BSP has led to some consolidation of SC vote behind it, but still the fact remains that the influence of BSP is limited outside its traditional stronghold of the state of Uttar Pradesh.

However, it also depends on other factors such the distribution of their population in electoral districts. If their modal density in the electoral districts, where the elections are actually fought and won, is relatively low, they will have less influence on electoral outcomes. However, in districts where there are located in large numbers, they will affect the electoral outcomes more successfully. My focus here is not on the party preferences of these social groups, but instead on what is the effect of the presence of SC and ST population on the number of parties in a state. On one hand, this will have a positive effect on the number of parties, since it will mean a more fragmented population, and different social groups (including SC and ST) will have incentives to represent the interests of their groups, and use their caste-based support to win elections. On the other hand, a large enough population of SC and ST can also have a depressing affect on the number of parties, because then the parties will field candidates only from these communities, and parties perceived to be dominated by other castes will be less successful in mobilising electoral support. Due to these reasons, the influence and effect of these variables can vary across the Indian states.

Roy (1990) points out that SC face a dilemma that arises out of democratic politics. Democratic politics stresses the role of citizens in addressing the larger questions of public policies, governance and the maintenance of democratic political order. This

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role requires the citizens to think beyond their partisan concerns, and to give priority to the society's interests as a whole. At the same time however, democratic functioning also means competition between social and political groups to safeguard their socio-economic interests. Thus, while democratic politics aims at narrowing the gap between individual and society's interests, the intensity of competition which is its essence, also works to sharpen social divisions and increase conflicts. This paradox is visible in the case of SC and ST. Thus, on one hand, SC can seek the solution of their problems in conjunction with other members of the society, as a part of the solution to the larger, national problems. However, if the social impediments to their social and economic progress remain in the society, it can erode their faith in the democratic politics, and move them towards the path of protest (Roy, 1990:49). The rise of BSP has consolidated the position of SC, especially in UP, and it seems that SC seem to be favouring a party which exclusively caters to their interests.

Chandra (2004) defines an ethnic party as a party that overtly represents itself as a champion of the cause of one particular ethnic category or set of categories to the exclusion of others, and that makes such a representation central to its strategy of mobilising voters. Her main argument is that an ethnic party is likely to succeed in a *patronage-democracy* when it has competitive rules for intraparty advancement *and* when the size of the ethnic group(s) it seeks to mobilise exceeds the threshold of winning or leverage imposed by the electoral system⁵⁰ She uses the case studies of three 'ethnic' parties in India: the Hindu nationalist Bharatiya Janata Party (BJP) among Hindus across Indian states in 1991; the Dravida Munnetra Kazhagam

⁵⁰Chandra (2004) defines patronage democracy as a democracy in which the state monopolises access to jobs and services, *and* in which elected officials have discretion in the implementation of laws, allocating the jobs and services at the disposal of the state. She defines success in terms of the degree to which a party is able to capture the votes of members of its target ethnic category.

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(DMK), a linguistic party, among Tamil speakers in Tamil Nadu in 1967; and the pro-Jharkhandi Jharkhand Mukti Morcha (JMM), a regional party, among “Jharkhandis” in 2000.

She explains the variation in the performance of the BSP across the three states under study either as the consequence of variation in the relative representational opportunities offered by the BSP and its competition to SC elites, or to the variation in the ability of SC voters to take the BSP past the threshold of winning or leverage through coordinated action, or by a combination of the two conditions. Thus, Chandra (2004) finds that the relative opportunities for representation given to elites from across the spectrum of the target ethnic groups, combined with the expectations of the efficacy of the voters whose elites found representation, prove to be a more plausible explanation for the performance of the ethnic parties.

Chandra (2004) recognises the importance of both sociological and institutional variables on the party system. She includes population percentage of selected social groups, as well as threshold of winning the election to explain the performance of the ethnic parties in India. Thus, implicitly, she recognises the importance of both sociological and institutional factors in shaping party systems in India, which is also the key theme of my thesis. My focus is on the other hand, to explain the variation in the size of the party system as a whole, and for my analysis of the effect of sociological factors, I use the percentage of population of religious and specified social groups to represent this diversity in the population.

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The effect of ST population on the party system is somewhat different from that of SC. First, overall, they represent a much smaller proportion of the total population. However, they are present in large numbers in specific areas and states of the country. To that extent, they have a major influence on the electoral outcomes in the districts reserved for them. Accordingly, one can expect the number of parties to be lower, since there are limited chances of success of non-tribal candidates. Over the years, tribal political leaders have tried to integrate their tribal identities into a more broad-based regional identity. This has led to them including many non-tribals into their fold, especially the backward non-tribal communities living in tribal areas. Due to one such movement, a new Indian state Jharkhand was formed out of the erstwhile state of Madhya Pradesh. This state was formed in 2000 out of a long agitation for an independent state by JMM, a tribal party, which later developed their movement into a movement for a region, and not just for tribals.

The other concentration of ST is in the North Eastern region. Here, already the size of different states is very small, and the possibility of new states being carved out of existing states is low. Further, since these states are heavily dependent on the national government, most of the tribal leaders have either joined the national parties, or have formed alliances with them. In general, therefore, one can expect to witness a depressing effect of ST on the number of parties.

5.4 Measuring social heterogeneity in the Indian states

Broadly, there are two approaches to measure the social heterogeneity for an empirical study. Either, one can identify *important* social cleavages in the society,

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and compute their proportions in the entire population, and use these as independent variables to study the size of the party system in a state or district. The resultant regression coefficient will then tell us the strength and significance of *each* cleavage used in our analysis. This approach is useful because it helps to identify which social cleavages affect party systems, and which do not, and using this information, one can try to build up a theory of the process of politicisation of specific cleavages into political groups and parties. This approach requires limited data on specified social groups, and is therefore, attractive from the point of view of availability and collection of data. This approach however, also suffers from two main shortcomings. Firstly, the choice of which social cleavage to include and which ones to exclude is a subjective exercise. In the Indian context, this is especially problematic, since the number of castes vary across states and are very large in number. Further, including only few castes can introduce an 'omitted variables' bias in the analysis. The second approach is to include all the social cleavages in the analysis, either in the form of an index of social cleavages, or number of effective groups. However, this approach is difficult to apply in practice, because often, the data on all the social groupings is not available.

Ordeshook and Shvetsova (1994:108) point out "...no single index can serve as a wholly satisfactory measure of every aspect of social heterogeneity...". Thus, while the theory behind the effect of social fragmentation on the size of party systems is sound, testing it empirically is problematic. Measuring social heterogeneity in the Indian context is especially complex, given the nature of overlapping cleavages as is discussed earlier in this chapter. Further, different types of cleavages dominate in different Indian states. For example, Kerala is homogenous in terms of language, but

has much more heterogeneity in terms of religion. Rajasthan is homogenous in terms of religion, but heterogeneous in terms of castes and sub castes.

For my empirical analysis, I focus on two major dimensions of social cleavages: religion and caste.⁵¹ According to Goyal (2003), these two factors are the major factors that influence the electoral outcomes in the Indian elections. I use alternative approaches in depicting these factors, and then study the effect of these factors on the size of party systems in the Indian states.

5.4.1 *Measuring religious fragmentation in the Indian states*

For depicting religious heterogeneity in the Indian states, one can construct a religious fractionalisation index following Taylor and Hudson (1972), Easterly and Levine (1997) and Annet (2000). The formula for computing the religious fragmentation index (*REL*) is given below.

Equation 5-1

$$REL = 1 - \sum_{i=1}^M \left(\frac{n_i}{N} \right)^2, i = 1, \dots, M$$

Here, N and n_i refer to total population, and the population belonging to the i th religious group respectively. This index is a measure of the probability that two randomly drawn people in a specific country (Indian state in the context of my study) will not belong to the same religious group. Therefore, more the number of religious groups in the society, higher will be the value of this index. Another way of

⁵¹Fukumi (2004) uses a similar approach in measuring social heterogeneity in 14 large Indian states using Census of India 1981 and 1991.

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computing the degree of religious fragmentation is to compute the effective number of religious groups, using the method (Laakso and Taagepera, 1979) used to compute the effective number of parties, but replacing vote or seat share with the share of population of the various religious groups. The formula for computing the effective number of religious groups (*ERL*) is given below:

Equation 5-2

$$ERL = \frac{1}{\sum_{i=1}^M \left(\frac{n_i}{N} \right)^2}$$

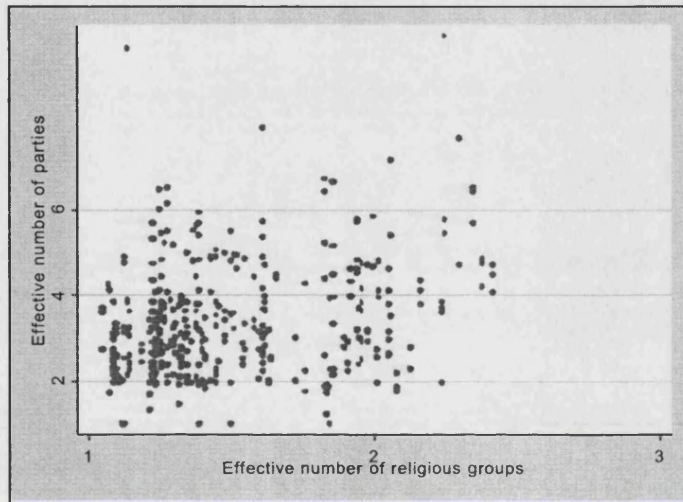
As is clear from the above formulae, both *REL* and *ERL* use different formulation based on percentage of different religious groups, and are closely correlated, and as such either of the two can be used as a measure of the degree of religious fragmentation. To compute religious fragmentation in the Indian states, I use the decennial census data which provides the population proportion of different religions.⁵²

Figure 5-1 plots a scatter chart of effective number of electoral parties and effective number of religious groups (*ERL*). The *x* axis represents effective number of religious groups, while the *y* axis denotes effective number of parties in the Indian states. The figure shows that in general, there is a positive relationship between the two variables, i.e. states with more number of religious groups also tend to have

⁵²Census has been carried out in 1951, 1961, 1971, 1981, 1991, 2001. I use the data for the most proximate census (to an election year) to compute the effective number of religious groups. For example, for 1996, 1998 and 1999 elections, I use 2001 census data, while for 1989 elections, I use 1991 census data, and so on.

higher effective number of parties, thus supporting the views of the sociological school of party system.

Figure 5-1 Scatter chart of Effective number of parties and religious groups in Indian states



The *ERL* variable is both a relevant and an objective measure of social heterogeneity in the Indian states, and since data on the religious groupings in India is readily available, this variable is particularly suitable for inclusion in an empirical analysis. Many cross-country studies on the determinants of the size of party system include religious heterogeneity in their empirical analysis to represent social cleavages (See for example, Ordeshook and Shvetsova, 1994, Anckar, 2000, and Vatter, 2003).

As mentioned earlier, the effect of sociological factors can also be studied for individual social groups. One can thus study whether and how a particular religious group affects the size of party system in an Indian state. In my thesis, I study the effect of the presence of Muslim population on the size of party systems in the Indian states. Muslims form the largest minority religious group in India (population 138

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million, 13.4% of the total), and are present in even larger proportions in many Indian states. Therefore it is important to study the effect of Muslim population on the number of parties in an Indian state. Accordingly, I define *MUS* as an independent variable representing the proportion of Muslims in the population in an Indian state. Figure 5-2 shows that Muslims comprise a large proportion of the population in many Indian states. Also, the Muslim population varies substantially between the Indian states, and as Figure 5-3 shows, across the Indian regions. Therefore, it is important to study if the variable *MUS* affects the size of the Indian party system.

Figure 5-2 Proportion of Muslim population in Indian states
(2001 census)

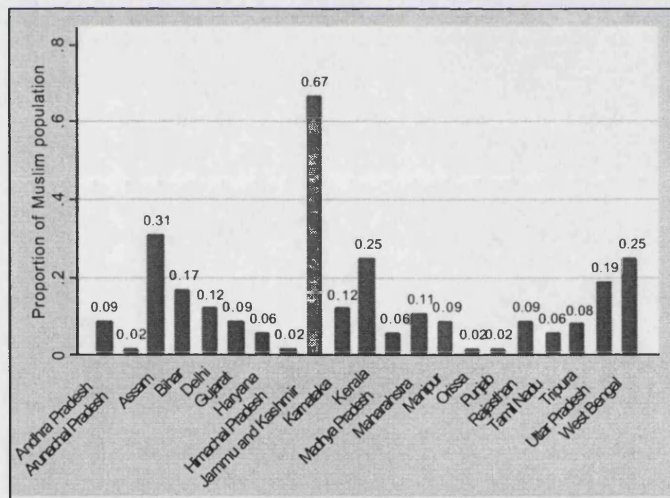
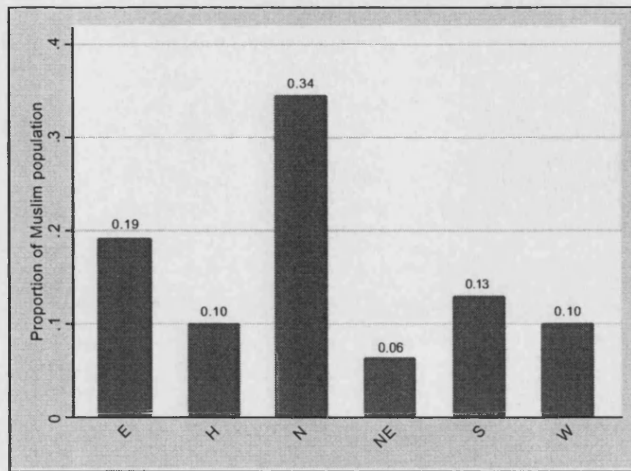


Figure 5-3 Proportion of Muslim population by region
(2001 census)



5.4.2 *Caste-based fragmentation*

The quantification of caste-based fragmentation is more complex, since caste-based Census has not been carried out since 1931. The population structure, the boundaries of the states have undergone a major change since then, and therefore, the 1931 caste data is of limited use for current research. What constitutes a caste is another difficult question in the Indian context. Further, there is no other single source of information on the population percentage of caste-based groups in India. This leads to a problem of ensuring consistency between the data obtained from different sources of information. The task is made more complex by the multiplicity of caste and sub-caste groupings, and overlaps between various religious, ethnic and caste-groupings in the Indian states. Some comparative studies that include India present some data on the number of social groups in India, but most often this is on a country rather than state level, and do not capture the overlapping and multiple social cleavages in India.

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As mentioned earlier in this chapter, SC and ST constitute two constitutionally defined social categories based on caste, and these (especially SC) have become increasingly politicised and have an important effects on the electoral outcomes in many Indian states. Thus, it is important to study the effect of the presence of SC and ST population on the size of party systems in the Indian states. Further, reliable and consistent state level data is available for SC and ST population, and accordingly, it can be used as independent variable for determining their effects on the size of party systems in the Indian states. Accordingly, two variables – *SCP* and *STP* reflecting the percentage population of SC and ST respectively can be used as independent variables in the empirical analysis of sociological factors affecting party system in India. These variables are shown below.

SCP = The proportion of scheduled castes to total population in a state

STP = The proportion of scheduled tribes to total population in a state

Figures 5-4 and 5-5 present the data on *SCP* in the Indian states and regions respectively

Figure 5-4 Proportion of SC population in Indian states (2001 census)

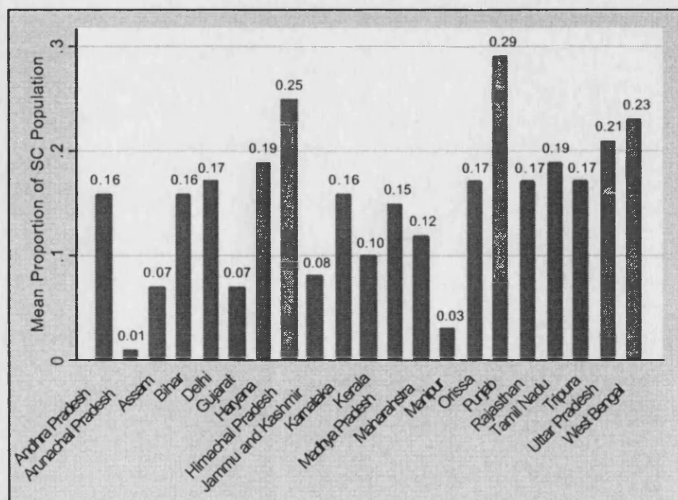
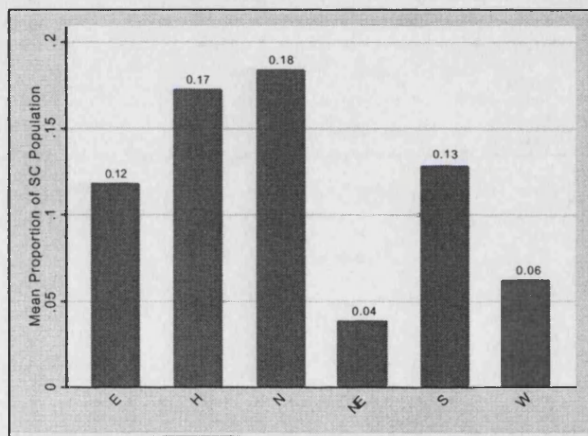


Figure 5-4 shows that the proportion of SC population varies substantially across the Indian states. For example, Arunachal Pradesh only has 1% SC population, states such as West Bengal, Himachal Pradesh, Punjab have large SC population ranging between 23% and 29% of the total population. The average percentage of SC population over all Indian states is around 12%. Figure 5-5 shows the inter-region variation in the proportion of SC population in India.

Figure 5-5 Proportion of SC population percentage by region (2001 census)



As is seen in Figure 5-5, Hindi belt and North regions have the highest while North Eastern and West regions have the lowest proportion of SC population. Figure 5-6 and 5-7 show proportion of ST population in Indian states and regions.

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Figure 5-6 Proportion of ST population in Indian states (2001 census)

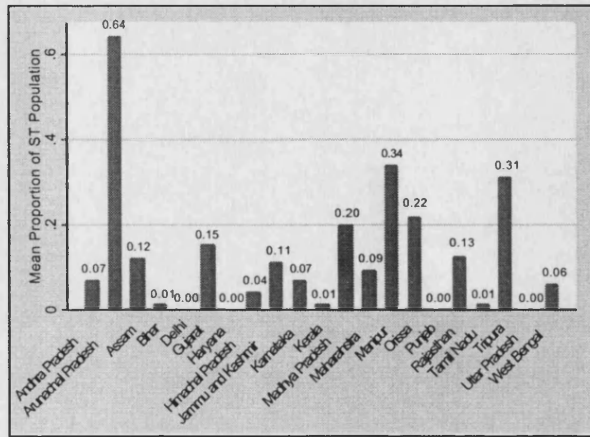
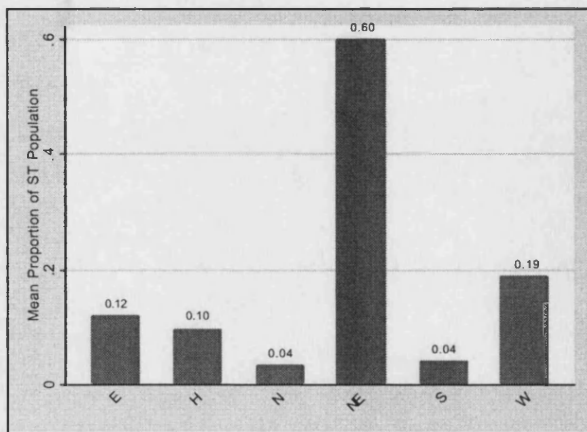


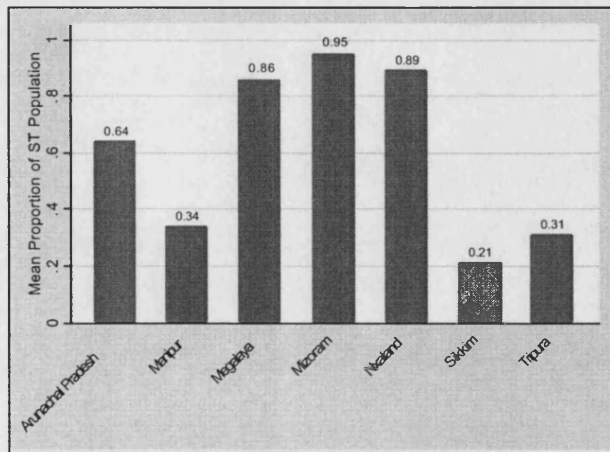
Figure 5-6 shows ST population is less evenly distributed in the Indian states as compared to SC population. For example, the North Eastern states of Arunachal Pradesh, Manipur and Tripura, and other states - Madhya Pradesh, Orissa, Rajasthan have relatively higher proportion of ST population. The average percentage of ST population over all Indian states is around 20%. Figure 5-7 shows the inter-region variation in the proportion of ST population in India.

Figure 5-7 Proportion of ST population by region (2001 census)



It is clear from Figure 5-7 that states in the North Eastern region in particular have very high proportion of ST population, which is more clearly seen in Figure 5-8.

Figure 5-8 Proportion of ST population in North Eastern states (2001 census)



The above discussion shows that Indian states and regions vary in terms of the proportion of SC and ST distribution, and this presents an interesting agenda for studying the effects of this cross-sectional variation on the size of the party systems.

5.4.3 *Effective number of social groups*

As mentioned earlier, caste based census has not been carried out in India since 1931, and therefore, reliable current information about population of different castes in the Indian states is not available. As an approximation, I use the information available on the religious groups and the SC and ST population to compute a measure of Effective number of social groups (*ESG*) in the Indian states. This is an attempt to include the effect of both religious and caste-based (SC and ST) fragmentation in the Indian states. In general, the measure estimates non-overlapping population percentage of religious and SC and ST groupings, and then uses these to compute the *ESG*. The methodology of constructing this measure is shown in Appendix D. Figure 5-9 shows a scatter plot between *ERL* and *ESG*, and it is clear that both these measures show high positive and statistically significant (0.54) correlation.

Figure 5-9 Scatter chart of Effective religious and social groups

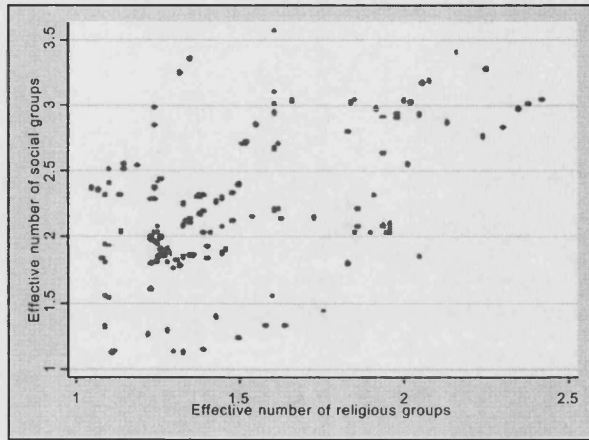
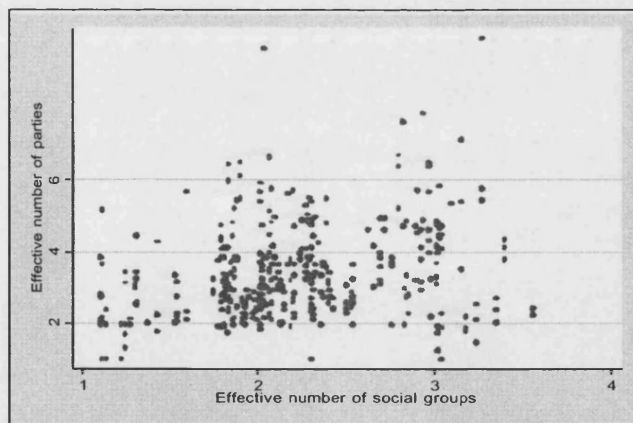


Figure 5-10 plots a scatter chart between the *ENP* and *ESG*. It is clear from the figure that there is a positive relationship between the two variables.

Figure 5-10 Scatter chart of effective number of social groups and electoral parties



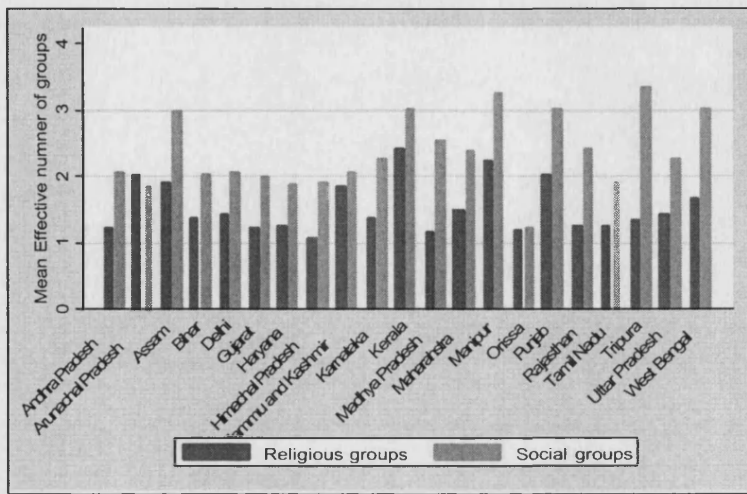
5.5 Data on social and religious groups

Figure 5-11 provides a cross-sectional depiction of the effective number of religious and social groups.

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Figure 5-11 Effective Number of religious and social groups in the Indian states



The chart shows that there are cross-sectional variations in terms of social and religious heterogeneity in the Indian states. The effect of this variation on the size of the party system thus represents an interesting area of investigation. Tables 5-3 and 5-4 provide summary statistics of *ERL* and *ESG* grouped in terms of Indian regions.

Table 5-3 Effective number of religious groups by region

Regions	Mean	Minimum	Maximum	Standard Deviation	N
East	1.56	1.06	2.13	0.32	52
Hindi Belt	1.27	1.08	1.61	0.12	103
North	1.85	1.54	2.05	0.17	36
North East	1.64	1.22	2.25	0.32	75
South	1.46	1.11	2.42	0.43	79
West	1.42	1.10	1.97	0.30	56
Total	1.50	1.06	2.42	0.56	401

Table 5-4 Effective number of social groups by region

Regions	Mean	Minimum	Maximum	Standard Deviation	N
East	2.53	1.21	3.03	0.42	52
Hindi Belt	2.17	1.81	3.10	0.25	103
North	2.46	2.02	3.02	0.42	36
North East	2.25	1.11	3.56	0.92	75
South	2.00	1.12	3.04	0.54	79
West	1.94	1.31	2.63	0.27	56
Total	2.18	1.11	3.40	0.59	401

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The correlation between the two social cleavages variables and the three dependent variables is shown in Table 5-5.

Table 5-5 Correlation between social cleavages and party system variables

	Effective no of Religious groups (<i>ERG</i>)	Effective no of Social groups (<i>ESG</i>)
<i>ENP</i>	0.31**	0.31**
<i>ELP</i>	0.18**	0.27**
<i>NCP</i>	-0.12**	0.06
Winning share	-0.19**	-0.25**

N = 401

In general, the above correlations show that social cleavages have significant effect on the party system variables. Both *ERL* and *ESG* have a significant and positive correlation with *ENP* and *ELP*, and a significant and negative correlation with share of winning party. This result is expected since *ERL* and *ESG* are highly correlated, and is also in line with theoretical predictions. The results for number of *NCP* is not uniform, a result which again shows that it is difficult to assess the determinants of this variable.

5.6 Regression Analysis

In line with the sociological explanation of party systems, I expect the degree of religious and heterogeneity in the Indian states to be positively related to the number of parties. Thus, a state with more social and religious cleavages will have a greater number of parties. Mere presence of a social cleavage will not lead to a political party. It needs to be cohesive, it has to have sufficient mass, and the issue concerning its members has to be sufficiently relevant. Existing theory is inadequate to explain

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the process of this politicisation of social cleavages. In India's context, many social cleavages have become more politicised in recent years. Therefore, although these very cleavages were present in the society, they remained politically dormant. Many of these cleavages have now become politicised and this has led to increase in the number of parties, and the fragmentation of the party system. Literature uses measures of social heterogeneity in a polity as an independent variable to validate the sociological cleavages theory of the size of the party system. I too, follow this tradition.

In my first regression, I study the effect of the three sociological cleavages - *SCP*, *STP* and *MUS* (representing proportion of SC, ST and Muslim population respectively in a state) on the size of party systems in the Indian states. In the second regression, I include *ERL*, while in the third regression I use *ESG* as my independent variables representing social heterogeneity.⁵³

Following I present regression analysis using explanatory variables of religious and social cleavages in India.⁵⁴ The general hypothesis is that increased social and religious heterogeneity leads to increase in the size of the party system. While the first regression shown in Table 5-6 includes specific caste and religious groups, the next two regressions shown in Tables 5-7 and 5-8 include effective number of religious and social groups respectively as independent variables.

⁵³*ERL* and *ESG* cannot be both included in the same regression because of high positive correlation between them.

⁵⁴These results are based on OLS with PCSE and lagged dependent variable. Regressions using OLS and REM produce results consistent with the reported results.

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Table 5-6 Regression of Party System, SC, ST and Muslim Population

	Model 1	Model 2	Model 3
Dependent →	<i>ENP</i>	<i>ELP</i>	<i>NCP</i>
<i>SC population</i>	-0.01 (0.1)	0.01 (1.4)	5.5** (2.3)
<i>ST population</i>	-0.02** (3.3)	-0.00** (3.5)	-0.51** (2.3)
<i>Muslim population</i>	0.01** (2.0)	0.01** (3.8)	0.63** (2.4)
<i>Lagged dependent variable</i>	0.58** (11.8)	0.42** (8.7)	0.28* (1.9)
Intercept	1.6	0.9	25.5
R square	0.43	0.37	0.15
N	358	358	358

Table 5-7 Regression of Party System, Effective religious groups

	Model 1	Model 2	Model 3
Dependent →	<i>ENP</i>	<i>ELP</i>	<i>NCP</i>
<i>Effective Religious Groups</i>	0.54** (3.3)	0.26** (2.0)	-64.3** (3.5)
<i>Lagged Dependent Variable</i>	0.57** (12.2)	0.48** (10.6)	0.34* (2.2)
Intercept	0.6	0.5	178.1
R square	0.42	0.33	0.12
N	358	358	358

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Table 5-8 Regression of Party System, Effective social groups

	Model 1	Model 2	Model 3
Dependent →	<i>ENP</i>	<i>ELP</i>	<i>NCP</i>
<i>Effective Social Groups</i>	0.30** (3.1)	0.20** (3.2)	16.4* (1.9)
<i>Lagged Dependent Variable</i>	0.58** (12.2)	0.47** (9.8)	0.34** (2.3)
Intercept	0.7	0.4	45.4
R square	0.42	0.33	0.12
N	358	358	358

The results in Table 5-6 show the effect of the population of specified social groups on the party system. Presence of large SC population does not have a significant effect on the effective number of electoral and legislative parties, but does have a significant positive effect on the number of contesting parties. Since SC population is spread over the Indian states, its influence on the proportion of votes won by different parties, and therefore on *ENP* is relatively limited. The results for ST population in regressions shown in Table 5-6 are more robust and clear. This variable is significant for all the dependent variables. The presence of large ST population decreases the number of electoral, legislative and contesting parties. The explanation for this can be, as Macmillan (2003) reports that ST population is concentrated only in small geographical areas. And therefore, they have a more decisive effect on the voting patterns and the outcome of the elections. This result is also consistent with the findings in Chapter 4, where I reported that electoral reservation for ST has led to a large decrease in the number of contesting parties and independent candidates in the reserved districts. The effects of the presence of

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Muslim population as reported in Table 5-6 show that this factor leads to increase in the size of party system in the Indian states. This variable is significant for explaining the variation in all the three party size variables.

Table 5-7 reports regression results based effective number of religious groups and a lagged dependent variable as independent variables. The coefficient for the effective number of religious groups has positive and significant effects on *ENP* and *ELP*. Thus the Indian states with more religious heterogeneity tend to have higher number of parties. A surprise result is that this factor reduces the number of contesting parties. This may be explained by the domination of one religious group – the Hindus in the overall population of India. Thus, even if a state has a higher number of religious groups, the relative dominance of Hindus in terms of their population does not lead to increase in the number of contesting parties. As expected however, higher religious fragmentation increases the effective number of electoral parties which is line with theoretical predictions. This result also reflects the difficulty of modelling the determinants of this factor.⁵⁵

Finally, Table 5-8 repeats the regression reported in Table 5-7, but now using effective number of social groups instead of effective number of religious groups as the independent variable. The results are in line with predicted results, and the presence of larger number of social groups increases the size of the party system. This variable is significant for explaining the three party-size dependent variables.

⁵⁵Please refer to Figure 4-15 (Chapter 4) which shows that number of contesting parties have not followed a consistent pattern in the Indian elections.

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This result also shows the general robustness of the effect of social heterogeneity on the size of the party systems in the Indian states.

5.7 Conclusions

In general, the discussion and results in this chapter show that the degree of social and religious fragmentation in Indian states have important effects on the party system. In general, more fragmentation leads to more number of parties. However the presence of ST population has the opposite effect on the party system in the Indian states. Parnerkar (2002) while citing Pushpendra (2001) points out that on an average, scheduled caste (and Muslim) voting behaviour tends to be more difficult to predict than the voting behaviour of scheduled tribes. Accordingly, in the presence of a large SC and Muslim population, candidates have to make decisions regarding strategic entry under greater uncertainty, and this also indicates difficulty in predicting the effect of these groups on the size of party system. It is also important to note that the effects of SC and ST population on the party system are also affected by the electoral reservation for these groups, and in particular presence of large ST population tends to reduce the number of parties in the reserved districts.

Although the literature is still without a clear theory linking the number of social cleavages in a polity to the party system, my results show that the presence of these cleavages itself is an important determinant of the size of the party system in the Indian states. I argue that these general results should apply to other polities, and that

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the cross-sectional variation in the party systems can be explained reasonably well by the sociological school.

6 PARTY AGGREGATION AND CONTEXTUAL FACTORS

In chapters 4 and 5, I have shown how institutional and sociological factors affect the size of Indian party system. The discussion in these chapters has revealed that the formation of party systems is a complex phenomenon, and that the number of parties vary substantially between different elections and states. Although a large proportion of this variance is explained by the differences in the institutional and sociological factors discussed in Chapters 4 and 5, a comparative study of party systems also needs to take into account the difference in the contexts in which the elections take place. One can generally interpret contextual factors as the overall environment in which the elections take place. In the Indian case, important contextual factors include characteristics of a state, changes in relationship between the national and the state governments, and politicisation of social cleavages. Although it is difficult to measure and model contextual variables, ignoring them altogether renders any comparative analysis of party systems incomplete. This chapter explores the effects of important contextual factors that affect party systems in the Indian states.

Why is the context important?

The context is important because different elections are fought under specific set of circumstances which influence voter behaviour and electoral competition, and hence the party system. These circumstances or the contextual factors have an independent effect on election outcomes. At the same time, the presence of these contextual factors presents a challenge in carrying out comparative studies especially when cross-sectional units vary substantially in terms of these factors. The fact remains

that whether or not it is possible to accurately measure and include contextual factors in a multivariate analysis, a comparative study also needs to consider these factors while drawing its conclusions.

In a comparative study involving cross-sectional units within one country, this problem should normally be less acute as many contextual factors will be common to all the cross-sectional units in an election, even though they might vary between the different elections. However, since India is a highly heterogeneous country, the effect of contextual factors can vary across the cross-sectional units (states). It is argued (see for example Chhibber and Kollman, 2004) that since electoral rules and the effect of social cleavages within a polity remain relatively stable, the change in the number of parties over time also indicates the importance of contextual effects. In the Indian states, the contextual factors gain importance also because the political environment here is fluid, where political alliances keep changing between elections.

Below, I discuss the effect of important contextual factors on the size of Indian party system. The focus is primarily on the party aggregation phenomenon, but I also discuss the importance of factors such as politicisation of social cleavages, differences in literacy rates and urban population across Indian states, and the expectation of the formation of a coalition government.

6.1 *The party aggregation phenomenon*

Most of the existing accounts of the party systems assume that the factors that affect the district level party system affect the national party system in an almost axiomatic

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way. This assumption has led to comparative studies that focus on the national level to test the determinants of the size of party systems. However, recently scholars have pointed out that the formation of national party system involves coordination by voters and parties across a country's districts and states, and therefore the national party system is also affected by the strength of the 'aggregation' or 'linkage' between the national and district level party systems. Chhibber and Kollman (1998, 2004) use the term 'aggregation', while Cox (1997) uses the term 'linkage' to describe the relationship between party systems at district and national levels.⁵⁶ Similarly, Jones and Mainwaring (2003:140) point out that a party system is "highly nationalized...[when] the major parties' respective vote shares do not differ much from one province to the next. In weakly nationalized systems, the major parties' vote share vary widely across provinces." The scholarship on the differences between the national and sub-national party systems implies that the determinants of national level party system go beyond the traditional sociological and institutional explanations. Below I summarise the arguments which have been put forward to link the party system at the national level to the party system at the sub-national level.⁵⁷

6.1.1 *The Projection argument*

Most existing studies assume that electoral rules not only affect district level but also the national (and the state) party system, because voters coordinate their efforts in favour of party labels, and national parties link politicians across different districts

⁵⁶I primarily use the term 'aggregation' to denote the relationship between the national and sub-national party systems.

⁵⁷Most of this discussion focuses on the linkage between the district and the national party systems. However, as I discuss in this chapter, party aggregation or linkage also affects state level party systems, and the arguments about party aggregation at the national level also apply to the state level party systems.

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for the purpose of electoral campaigning. Although Duverger (1954) recognised that the true effect of simple majority system was limited to district as opposed to national bipartism, he also suggested that increased centralisation of parties and their national perspective favoured a two-party system at even the national level. However, Wildavsky (1959) argues that this 'projection' argument is tautological and therefore does not provide a sound explanation of the relationship between the district and national party systems.

Leys (1959:1942) extends the projection argument by arguing that strategic voting "occurs in favour not of the two parties which are in the lead locally, but in favour of the two parties which have the largest number of seats in parliament, regardless of their local strength." According to this view, voters want to influence the electoral outcome at the national level rather than merely the district level, and this leads to the elimination of nationally uncompetitive parties. However, Cox (1997:183) correctly points out that Leys overstates the importance of national as opposed to local competitiveness, since "voting for a locally hopeless party never makes instrumental sense, even if it is nationally competitive and voters care only about the disposition of forces in parliament." Cox argues further that "electing a nationally hopeless party's candidate increases the probability of a hung parliament (and thus of participation in a coalition government), and decreases the probability that one of the nationally competitive parties will secure a majority, both things that some instrumentally motivated voters may want to do." Thus, overall, Leys argument fails to provide an adequate support for Duverger's projection argument for the national party system.

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Sartori (1968: 281) also attempts to link local bipartism to national bipartism by arguing that “plurality systems have no influence (beyond the district) until the party system becomes structured.” A structured party system consists of at least some mass parties which is characterized by “(1) the development of a stable and extensive....organization throughout the country, and (2) the fact that it presents itself to the electorate as an abstract entity (ideologically or programmatically qualified) that allows stable identifications” (Sartori, 1986:293). Sartori merely implies that more nationalised the parties, the fewer the number of parties in the party system, and as Cox (1997:184) points out, “If there are reasons for politicians to link across districts, and they therefore do link across districts, then this will reduce the number of parties from 2D. But the number remaining may still be well about 2, unless the definition of a ‘national party’ is that it fields candidates in every district.... If we do not assume national parties field candidates in every district, then how close the national party system gets to the theoretical minimum of 2...depends on something other than the district-level electoral structure.”⁵⁸

Sartori’s arguments also emphasise the notion of loyalty to a party requires an electorate that is capable of abstraction, and therefore, the ‘mass stage’ cannot be entered until an adequate spread of literacy allows “capacity for abstraction” (Sartori, 1968:293). Cox (1997:185) counters this argument by pointing out that illiteracy need not be a limiting factor for building political loyalty, and cites Indian example, where parties often resort to ‘symbolic politics’ to appeal to the large section of population that is illiterate.

⁵⁸Here D represents number of districts.

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Overall, the attempts to 'project' Duverger's Law as a district level effect, to the national party system assume the presence of rather than theorise about the party aggregation phenomenon. As Cox (1997:185) argues, "...Duverger's Law at the district level is a theoretical proposition, while Duverger's Law at the national level is an empirical generalization, and one to which there are many exceptions at that."

Extending the above arguments to the Indian state level, the projection argument also fails to explain the differences between the state level and the district level party systems in India. Thus, although the district level party systems in India are directly affected by Duverger's psychological and mechanical effects due to SMPS, the state level party systems need not axiomatically tend towards two party systems because of the party aggregation phenomenon at the state level.

6.1.2 *Electoral coordination argument*

Cox (1997) approaches the party aggregation at the national level by focusing on the linking together of like-minded individuals from different districts into parties, while Chhibber and Kollman (2004:62) emphasise "the process of assessing party strength nationally or regionally [which]...entails adding up votes of party candidates across districts." They state further (73-74) that "Candidates want to coordinate across districts to influence national politics, and they want to adopt recognizable national-party labels because voters understand the need for co-ordination to accomplish policy goals.....At the national level, Duvergerian effects, where the number parties is reduced due to strategic voting, are found when national policies matter a lot to voters."

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Cox (1997) discusses five reasons for a phenomenon whereby a pre-existing national group induces the would-be legislators from different districts to join a party label. These reasons are “enacting laws, electing a president, electing a prime minister, securing seats distributed in a national upper tier, or securing campaign finance” (pp 186-7). Cox’s analysis thus focus on the benefits of ‘economies of scale’ in forming a large national party to gain various political and economic objectives, and that these benefits motivate the legislators to unite under a common party label, and thus strengthen the process of linkage across a country’s districts. Cox points out further (pp 193) that as in the case of district level, the number of parties at the national level also depend on the interaction of social and electoral structure. Finally, Cox notes (pp 198-9) that a national party finds it easier to form factions within itself which bargain and agree on a series of reciprocal withdrawals to maximise its electoral gains. Since the bargaining takes place at the national and not a district level, a national party has a higher range of benefits that can be allocated to factions that withdraw, and overall the whole market for entry at the national level is more liquid, and gives more power to the national leaders. Such gains typically favour organised and national groups.

Cox (1997, 201) rewrites the Duverger’s Law as under: “If a system (1) elects legislators by plurality rule in single-member districts; (2) elects its chief executive by plurality rule in single-member districts; and (3) holds executive and legislative elections concurrently, then it will tend to (a) have at most two viable candidates in each legislative district, (b) have at most two viable candidates for executive office, and (c) have a national two-party or one party-dominance system.”

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Overall, Cox's arguments imply that only under specific circumstances does the district level party system resemble the national party system. This line of reasoning can also be extended to the state level party systems in India. For example, Cox's 'economies of scale' applies to the Indian situation since there are clear benefits for parties to organise at the state level. An important advantage of doing so relates to the bargaining power with national level parties in terms of electoral alliances and seat-sharing arrangements. This is evident in the Indian situation by the growing power and negotiation ability of state level parties, and the fragmentation of the Indian party system at the national level.

6.1.3 *Federal distribution of powers argument*

Anckar (1999) points out that federal states tend to have more fragmented party systems than unitary states because they are highly heterogeneous in different respects. This heterogeneity is likely to generate political parties with support rooted to a group specific to a particular region. Anckar (1999:101-102) point out the importance of division of powers between federal and the sub-federal governments as an important variable effecting party systems

With elections to a regional assembly with substantial legislative power, one can assume that there is a special niche for regionally concentrated parties...since the power of the legislature at the sub national level is substantial, there is also supposedly great incentives to found political parties with the ambition to operate solely at the local level, concentrating mainly, or even exclusively, on questions concerning local matters. This will possibly have a spill-over effect on national parties as well. When voters grow accustomed to voting for

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regional parties in regional elections, the threshold for voting for a regional party is lowered. Consequently, parties with a regional base should have a better chances to survive in federal states than in unitary states....By gaining representation at the regional level, a party can, at least to a certain extent, carry some weight when it comes to shaping national party outcomes.

In a federal system of government, both national and state levels (and possibly sub-state or local levels) share fiscal and administrative powers. However, this division of powers in a federal country does not remain uniform, and can vary over time with some periods seeing more powers being vested with the federal government.

According to Chhibber and Kollman (1998, 2004), the degree of fiscal centralisation affects the incentives of both voters and political parties. When the federal government holds more power than the federal states, voters will have higher incentives to vote for a candidate from or affiliated to a national party. On the other hand, when the federal distribution of power gives more power to the states, voters have less incentive to vote for a national party. Therefore, in the first case where there is relative centralisation of powers at the national level, there will be greater aggregation of parties at the state level, leading to lower number of parties at the national level. Using the same logic, in the second case where power is relatively decentralised, aggregation of parties at national level will be relatively weak. In a period of federal centralisation, the parties will seek to merge, form alliances so that they are able to influence the policy making and politics, are perceived as being able to do so by voters. On the other hand, if federal distribution of powers provides more power to the states, smaller parties and independent candidates will have incentives to contest elections without seeking affiliations or alliances with larger,

national parties. Thus, the key argument made by Chhibber and Kollman (1998, 2004) is that party aggregation is easier under conditions of federal centralisation, and once party systems are determined by institutional and sociological variables, the change in party system moves in line with federal centralisation and decentralisation.

The research on the party aggregation in India has focused on linkages between the district and the national party systems, while paying limited attention to the intermediate state level aggregation. By extending the party aggregation argument to the state level party systems in India, I argue that Duverger's Law need not apply to the state level also because of the party aggregation phenomenon between the state and the district level. Thus, the size of Indian party system at the state level is affected not only by institutional and sociological factors, but also because of the changes in the degree of party aggregation or linkage between the district and the state level. The state with higher number of local parties at the district level will have lower level of party aggregation, while states where district party systems are dominated by fewer parties will a higher level of party aggregation. Thus, the first state is likely to have higher number of parties than the second one.

6.2 *Federal Distribution of powers and party aggregation in India*

Using data from Indian parliamentary elections between 1957 and 2001 for 16 Indian states, Chhibber and Kollman (1998) find that, on *an average*, the number of national parties in India is higher than the number of parties in the districts. Chhibber and Kollman (2004:174) define the *difference* between the effective number of parties at the national level and the *average* effective number of parties in districts for an

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election as the *measure of party aggregation*, and point out that “the number of parties and party aggregation (in India) have fluctuated, although there have not been concomitant changes in India’s religions, linguistic, and caste diversity.”

Chhibber and Kollman (2004) recognise the difficulty in measuring the degree of centralisation and decentralisation, and point out that (pp 105) “it is extremely difficult, if not impossible to rely too much on aggregate economic data...to assess the degree of concentration of power to the national government...Centralization and its converse, provincialization, of political or economic authority are not easy to measure quantitatively in any systematic manner...”. They cite various limitations to use quantitative information to measure the degree of centralisation, which include lack of comparable economic data on federal and provincial spending, difficulty in factoring conditions attached with the grants by the national government, changes in categorisation of transfer of resources between the level of the government, difficulty in separating accounting changes from the real political and economic changes. Therefore, for determining these periods, they rely on qualitative criteria to categorise the Indian post-independence history into centralising or decentralising periods as shown in Figure 6-1.⁵⁹

⁵⁹These criteria include changes in constitutional-legal authority, threats to the integrity of the nation-state that invite responses by governments, fluctuations in the economic role, and alterations in the size of governments at different levels.

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Figure 6-1 Summary of periods in India's post-independence history

Centralising or Centralised periods	Decentralising or Decentralised periods	Ambiguous periods
1952 – 57 (6 years) <i>Unifying the Nation</i>	1964 – 69; 1991 – present <i>State-Level Regulation</i>	1957 – 64; 1978 – 91 <i>Devolution, but Centre Holds Resources</i>
1970 – 77 (8 years) <i>Indira Gandhi's Authority</i>		
14 years	18 years	20 years

Source: Chhibber and Kollman (2004:163)

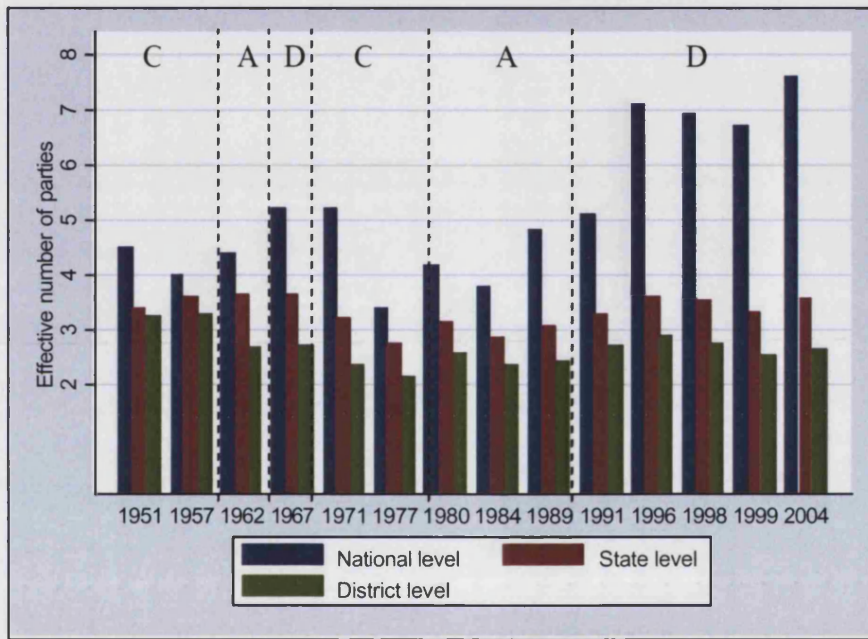
Chhibber and Kollman's (1998, 2004) key thesis is that in periods of federal centralisation, more decisions about matters affecting a voter are taken at the national level. Therefore, if voters want to influence these decisions, they need to vote for larger parties (party labels). In the periods of federal decentralisation, the need for party labels is much less, and voting for a local candidate or state parties is good enough to be able to influence policy choices affecting the voters. The nature of a country's party system therefore depends on whether state parties link together to form regional or national parties. In some periods in some countries, they aggregate to form regional or national parties, and in other periods in these same countries, they do not. In an even more complicated variation, during the same periods in some countries, select states or provinces have party systems that mirror the national party systems, and other states or provinces do not. Contemporary India is a prominent example of this variation.

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Figure 6-2 shows the trends in average *ENP* at the national, state and the district level in different election years.⁶⁰ The periods have been categorised into centralising, decentralising and ambiguous phase as defined by Chhibber and Kollman (2004).

Figure 6-2 *ENP* at national, state and district level by election year



C = Centralising periods; D = Decentralising period; A = Ambiguous periods
 Bars are ordered as follows: 1. National level 2. State level 3. District level

As can be seen in Figure 6-2, the average *ENP* at the district and state level remain relatively stable over the years, while the number of parties at the national level tend to follow the changes in federal distribution of powers. Thus, number of parties at the national level decline during the centralising phase of 1971 – 1977, and increase during the decentralising phase starting in 1991. The changes in the number of parties at the state level relative to the national level are smaller, and in particular, one does not see much change in the number of parties at the state level in the

⁶⁰I extend the data set used by Chhibber and Kollman (2004) by adding 1951/2 and 2004 elections, and including all states and union territories – currently 32 (instead of 16 states included in their data set).

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decentralising periods. Finally, the number of parties at the district level remain relatively stable and do not change in response to the changes in federal distribution of powers.

Chhibber and Kollman's (2004: 200,205-6) use these trends to support their argument about the relationship between party aggregation and the federal distribution of powers. They explain this stability of the number of parties at the state as follows: "something systematic and palpable occurred in the 1990s when the aggregation measure $[Nn - Dn]$ shot up to the levels not seen in the other countries in the twentieth century...Ethnicity and caste are important factors in any full explanation of electoral and political outcomes in India, but they cannot explain the dynamics in the party system over the past fifty years...In the late 1990s, the state-level (aggregation) measure actually drops. What this means is that starting in the 1980s, and gaining momentum in the 1990s, when power was rapidly devolving to the states, the party system was fragmenting into many state-level party systems with little aggregation across these states...fragmentation in the Indian party system in recent decades is due to the failure of state-level parties to coordinate across state-boundaries".⁶¹

Chhibber and Kollman (1998, 2004) imply that that once party systems are determined by institutional and sociological variables, the *change* in the party system moves in line with federal centralisation and decentralisation. While drawing their conclusions, they rely on the relationship between average effective number of

⁶¹Here, $[Nn - Dn]$ refers to the difference between effective number of parties between National and District level, while the 'state level measure' refers to the average effective number of parties at the state level.

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parties at the national level and the district level, and do not explicitly measure the measure of party aggregation at the state level, an important omission especially because these states vary greatly in terms of political situation, economic condition, social heterogeneity, etc.

Following Chhibber and Kollman's (2004) arguments, the aggregation trends between national and district level should be consistent with aggregation trends between the state and the district level. This is likely to happen because it is at the state level that the effect of federal centralisation and decentralisation is felt, and therefore, for example, we should expect the number of parties to decrease (higher degree of aggregation) during the periods of federal centralisation not only at the national level but *also* at the state level, as voters prefer to vote for national parties. Chhibber and Kollman (1998, 2004) do not investigate whether this is the case, and only compare *average* number of parties at the district level (for all the districts in the country) with the *average* number of parties at the national level. Although they recognise the importance of state level politics, but do not study party aggregation at the state level. In the following section, I identify and discuss factors that affect party aggregation in India. The focus is on the party aggregation at the state level, although national aggregation is also discussed to complete the analysis.

6.3 Party aggregation in India – an extended analysis

I argue that that party aggregation in India is better understood and explained by studying it at two levels: one between district and state level, and second, between

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state and the national level.⁶² I argue that studying the process of party aggregation into these two levels enables a better insight than is achievable by studying it only as a national level phenomenon. Building on this argument, I provide a more comprehensive analysis of the party aggregation phenomenon, especially at the state level.

I define *Party Aggregation* as a process by which the number of parties at the district level is aggregated at the higher (state and national levels).⁶³ I define two types of aggregation that can take place in a federal system. The first type of aggregation takes place at the State level and can be measured by the difference (or the) ratio of effective number of parties at the state level (N_s) and the effective number of parties at the district level (N_d).⁶⁴ Thus, state level aggregation takes place when one or few parties win the elections in various districts of a state. The second type of aggregation takes place at the national level and can be measured by difference (or the ratio) between effective number of parties at the national level (N_n) and the effective number of parties at the state level (N_s). Thus, national level aggregation takes place when one or few parties are dominant in different states of a country. Figure 6-3 shows a simple illustration of the effect of voting behaviour on party aggregation at the state and the national levels.

⁶²Here I assume that there are two levels of government in the federal state: National and state. This analysis can be extended to cases where there is one more level (local government) of government.

⁶³Aggregation is a matter of degree. Thus, one can expect to see higher degree of aggregation in the periods of federal centralisation, and lower degree of aggregation in the periods of federal decentralisation

⁶⁴State level aggregation takes place if voters vote either for a state or for a national party in preference to a local or district level party.

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Figure 6-3 Voting patterns and party aggregation

Case	Voting behaviour	Degree of Party Aggregation	
	District level	State level	National level
1	Vote for a national party	High aggregation	High aggregation
2	Vote for a state party	High aggregation	Low aggregation
3	Vote for a local party	Low aggregation	Low aggregation

In case 1, if voters favour voting for national parties, it will reduce the number of parties both at the state and the national level, and is likely to result into high party aggregation at both these levels. If however, voters prefer voting for a state party (case 2), it will result in reduction in the number of parties in a particular state (since voters in all districts of that state vote for state parties rather than local candidates), but *increase* the number of parties at the national level because different parties dominate in different states. This then leads to high party aggregation at the state level, but low aggregation (or party fragmentation) at the national level. Finally, in case 3, where voters prefer to vote for a local candidate in the district, it leads to increase in the number of parties both in the state and at the national level, which is likely to result into low party aggregation both at the state and the national levels. Thus, high aggregation at state level is necessary but not sufficient condition for national level aggregation.

Chhibber and Kollman (1998, 2004) focus their main attention on aggregation between national and the district level, but as I have argued, aggregation at the national level is better understood, and is a *consequence* of the aggregation of the two types outlined above. I now turn to a more detailed explanation of the factors affecting party aggregation at the state level. Since this aggregation takes place

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within a state, it is affected by a *combination* of state specific factors as well as factors that affect all the states.

States' dependence on the national government

The effect of federal distribution of powers on the party aggregation phenomenon has already been discussed earlier in this chapter. I argue that although federal distribution of powers is an important factor affecting party aggregation, its effect is better studied on a state-by-state basis, since the response of each state to the changes in the federal distribution of powers is shaped by various other factors. I argue that in a state which is less *dependent* on the central government for grants, resources and support, voters are *less* likely to be influenced by the degree of federal centralisation and decentralisation.⁶⁵ Thus, the aggregation of parties from state level to the national level will represent the weighted responses of different states, arising from their respective positions, including their *dependence* on the national government.

Based on above argument, I present the hypothesised relationship between the federal distribution of power and states' dependence on the national government in a matrix shown in Figure 6-4.

⁶⁵Dependence can be a combination of economic and political dependency, where states depend on resources and political alliances with the national parties and government.

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Figure 6-4 Effect of federal centralisation and states' dependence on party aggregation

		Degree of states' dependence on national government	
		High	Low
Degree of federal centralisation	High	Moderate to High party aggregation	High party aggregation
	Low	Low party aggregation	Moderate to low party aggregation
		Low	High

Figure 6-4 shows, one needs both a high degree of federal centralisation *and* a high dependence of a state on the national government to have a *high* degree of party aggregation at the state level. Similarly, if both the degree of federal centralisation and a states' dependence on the federal government are low, one is likely to witness low level of aggregation of parties. The two intermediate categories do not give clear-cut results. I expect the federal centralisation variable to dominate the dependence variable, since *all* states are dependent on the national government to some extent. And, therefore, when the degree of federal centralisation is high, but the state's dependence is low, we are likely to see 'Moderate to High' aggregation of parties at the national level. What makes the result ambiguous is the relative force of state's dependence and federal centralisation. In a centralising phase, party aggregation can either be moderate, since higher federal centralisation is neutralised by low dependence of a state. However, if the federal centralisation affects the states through various formal and even informal ways, high aggregation can still occur. Also, where the federal tightening takes place in an unusual situation – say war or natural disaster, aggregation is expected to be high, despite low dependence of a state. The second intermediate case, where federal centralisation is low, but dependence is high is expected to lead to moderate to low aggregation. This

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expectation is understandable, as lower centralisation and higher dependence together produce a moderate degree of aggregation. However, if the low degree of centralisation leads to delegation of important powers to the states, even a higher dependence could still lead to low degree of aggregation, higher number of parties at the state level.⁶⁶

Thus, the dependence and the centralisation factors affect party aggregation, and in particular, states which are more dependent on the national governments are likely to witness higher degree of party aggregation in times of federal centralisation, than the ones which are less dependent. If one looks at the Indian states, it becomes very clear that there is a wide disparity between them in terms of economic development, income, level of employment, infrastructure, and so on. These differences, I argue, can manifest themselves on the political system. Voters in a relatively rich state will have different incentives than in a relatively poor state. For example, for a state which is relatively rich, less *dependent* on the central government for grants, resources and support, the voters and candidates are likely to be less influenced by the degree of federal centralisation and decentralisation. And therefore, although the degree of federal centralisation and decentralisation affects the party aggregation phenomenon, its impact will vary in different states, as voters in different states are affected differently by this factor, and will respond differently.

To conclude the discussion in this section, one is likely to see party aggregation at the state level if (1) there is centralisation of federal powers at the national level; (2) states become more dependent on the national government for financial and other

⁶⁶This can happen especially in a situation where financial powers are delegated to the states, so that they become less dependent on the national government to raise resources.

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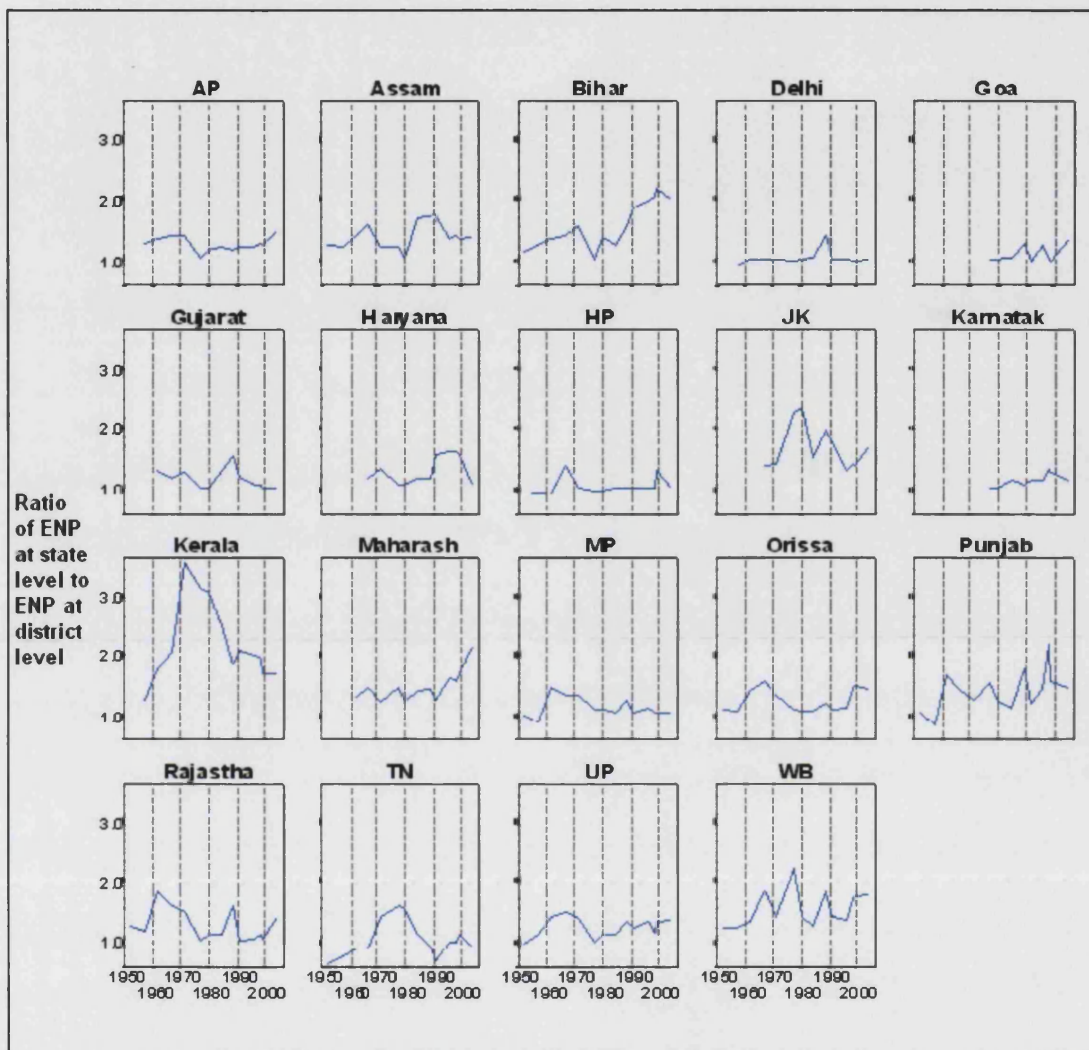
resources. Similarly, one is likely to see party disaggregation at the state level if (1) there is decentralisation of federal powers at the national level; (2) states are less dependent on the national government for financial and other resources; (3) some or all states see an enhanced politicisation and mobilisation of social cleavages.

I can now summarise the limitations of the existing literature on party aggregation as applied to Indian party system. One, the effect of federal centralisation on the party aggregation is treated rather simplistically. In reality, this effect is conditioned by changes in social, political and economic variables described in this section. Second, the response of different federal units to federal centralisation and decentralisation is shaped by different specific economic and political factors. Therefore, drawing conclusions from aggregate mean measure of national and district level party system does not provide a complete picture of the effects of the federal distribution of powers. Third, responses of the different political units to the federal centralisation and decentralisation need not be uniform in their effects. Fourth, existing research does not differentiate between aggregation at different levels of governance, thus ignoring the diversity of Indian states.

Figure 6-5 presents party aggregation trends in 19 Indian states. The line shown in the chart is a measure of aggregation at the state level defined as the ratio of *ENP* at the state level to the *ENP* at the district level (*Ratio*).⁶⁷

⁶⁷Chhibber and Kollman (2004) use the difference between the effective number of parties at different levels (national, district) to measure party aggregation. I prefer to use the ratio between the effective number of parties rather than the difference, since it also takes into account the difference in the absolute number of parties in different states. Using the ratio instead of the difference does not affect my basic argument that it is important to formally include party aggregation at the state level to understand the party aggregation phenomenon.

Figure 6-5 Party Aggregation trends at state level in India



Source: Author's own calculations from Election commission of India and CSDS data

Figure 6-5 illustrates that the aggregation trends at the state level do not follow the same path, and looking only at the averages for all the states (as in Figure 6-2) hides these differences. A higher *Ratio* indicates a higher number of parties at the state level, and therefore higher fragmentation of party system at the state level. Following Chhibber and Kollman's (1998, 2004) basic idea, one should expect higher *Ratio* in times of federal decentralisation and lower *Ratio* in times of federal centralisation. If one focuses on the decentralising phase starting from 1991, it can

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be seen that states show different aggregation trends. While some states such as Bihar, UP, West Bengal, Andhra Pradesh and Maharashtra witness higher *Ratio*, or lower aggregation as expected in the decentralising phase, other states such as Haryana, Gujarat and MP see stable or even declining *Ratio*, implying higher aggregation between state and district level party systems.

I extend the argument relating to party aggregation by suggesting that this phenomenon is important not only at the national level but also at the state level in the Indian context. This is the case because state is the intermediate level that links the district and the national level politics in India. Thus, the size of party systems in a state can increase or decrease depending on whether and to what extent are voters and parties able to co-ordinate their decisions and strategies across the districts of that state. If this co-ordination is high, voters in the districts will vote for party labels (national or state parties rather than local or district parties) resulting in a decrease in the number of parties at the state level – high aggregation. On the other hand, if this co-ordination is low, voters in the districts do not vote for party labels, resulting in an increase in the number of parties at the state level – low aggregation. Differentiating party aggregation at these two levels also helps in incorporating the effect of the heterogeneity of the Indian states on the formation of national party system, something which is not addressed adequately in the previous literature on party aggregation.

I present an empirical analysis of party aggregation in the Indian states in the following sections.

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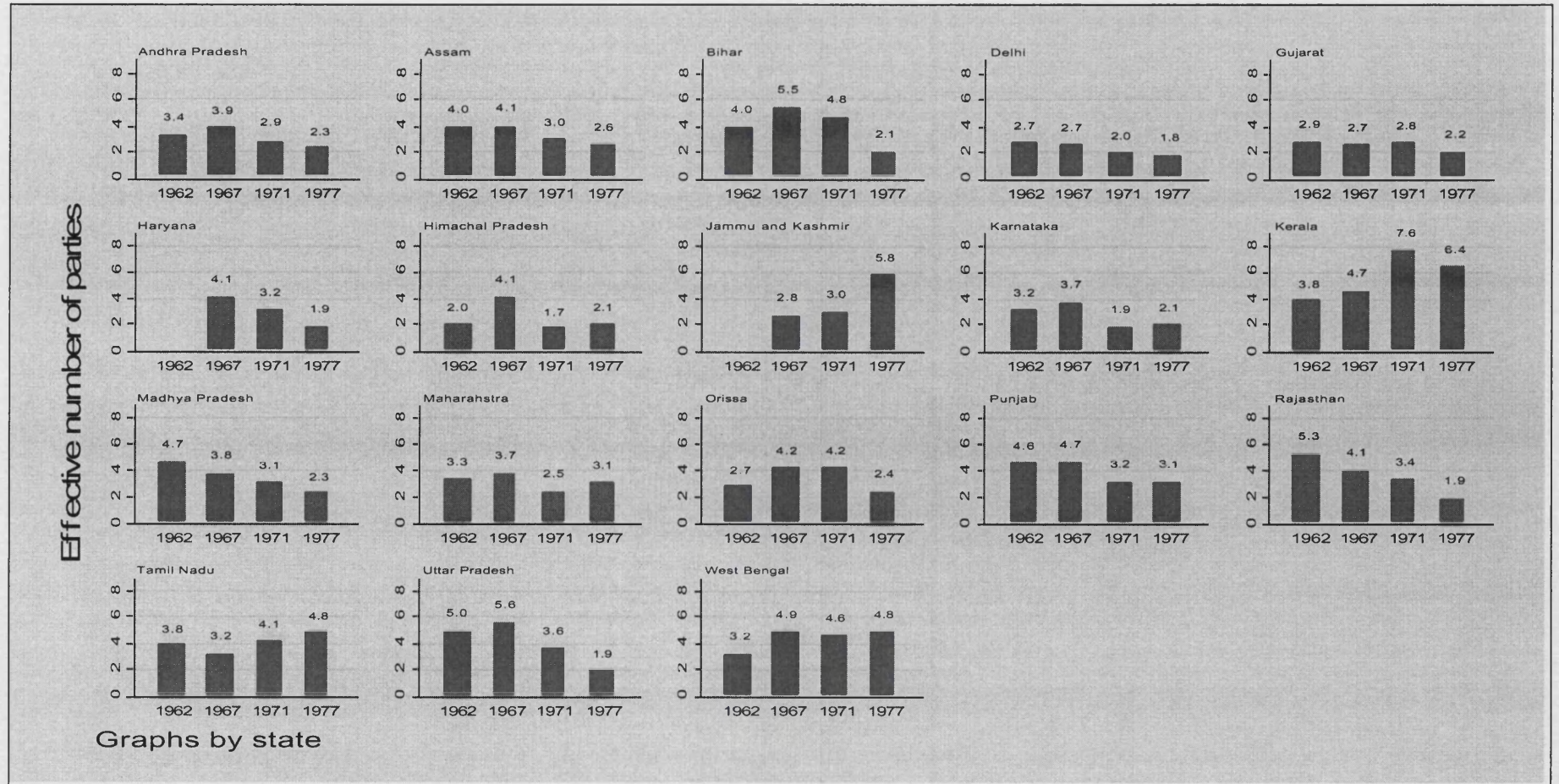
6.3.1 *Party aggregation in Indian states – an empirical analysis*

Figure 6-6 shows the trends in the size of party system in important Indian states in four elections between 1962 and 1977.⁶⁸ The period between 1964 and 1969 was a federal decentralising period, while between 1970 and 1977, India witnessed federal centralisation of powers. Thus, it is useful to analyse the trends in the size of party system during this period for evaluating the effect of federal centralisation.

⁶⁸For the sake of space, I limit the graphical analysis to 18 large Indian states, which cover more than 90% of Indian districts.

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Figure 6-6 Size of party system in the Indian states 1962 - 1977



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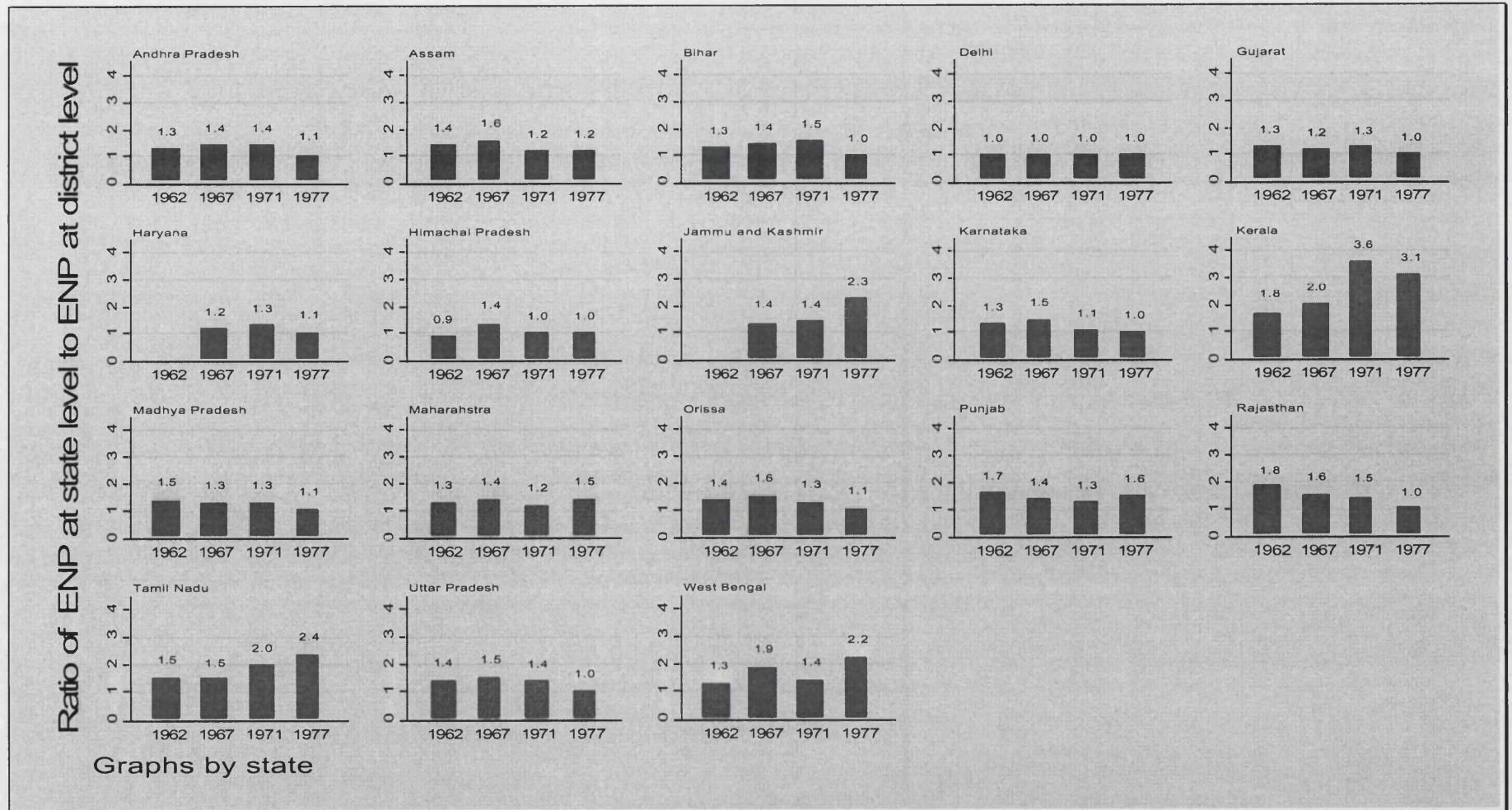
As can be seen in Figure 6-6, the dominant trend between 1962 and 1967 elections shows an increase in the number of parties in most of the states in line with the decentralisation of federal powers between 1964 and 1969. In particular, the states of Bihar, Himachal Pradesh and Orissa witness a large increase in the number of parties. However, the number of parties in Madhya Pradesh, Tamil Nadu and Rajasthan show a decline during this period. Thus, there are no consistent trends in the number of parties across the Indian states in this period of decentralisation.

Moving on to the period 1970-1977, which saw substantial centralisation of powers in the hands of the national government, one can see that 12 out of 18 states shown in Figure 6-6 witness a decrease in the number of parties, which is consistent with theory of party aggregation. The largest decrease is in the states of Bihar, Orissa, Rajasthan and Uttar Pradesh. Contrary to the expectation however, some states such as Maharashtra, Jammu and Kashmir and Tamil Nadu witness an increase in the number of parties in this centralising phase.

Figure 6-7 plots the *Ratio* of *ENP* at the state level to the *ENP* at the district level in the Indian states.

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Figure 6-7 Party aggregation in the Indian states 1962 – 1977



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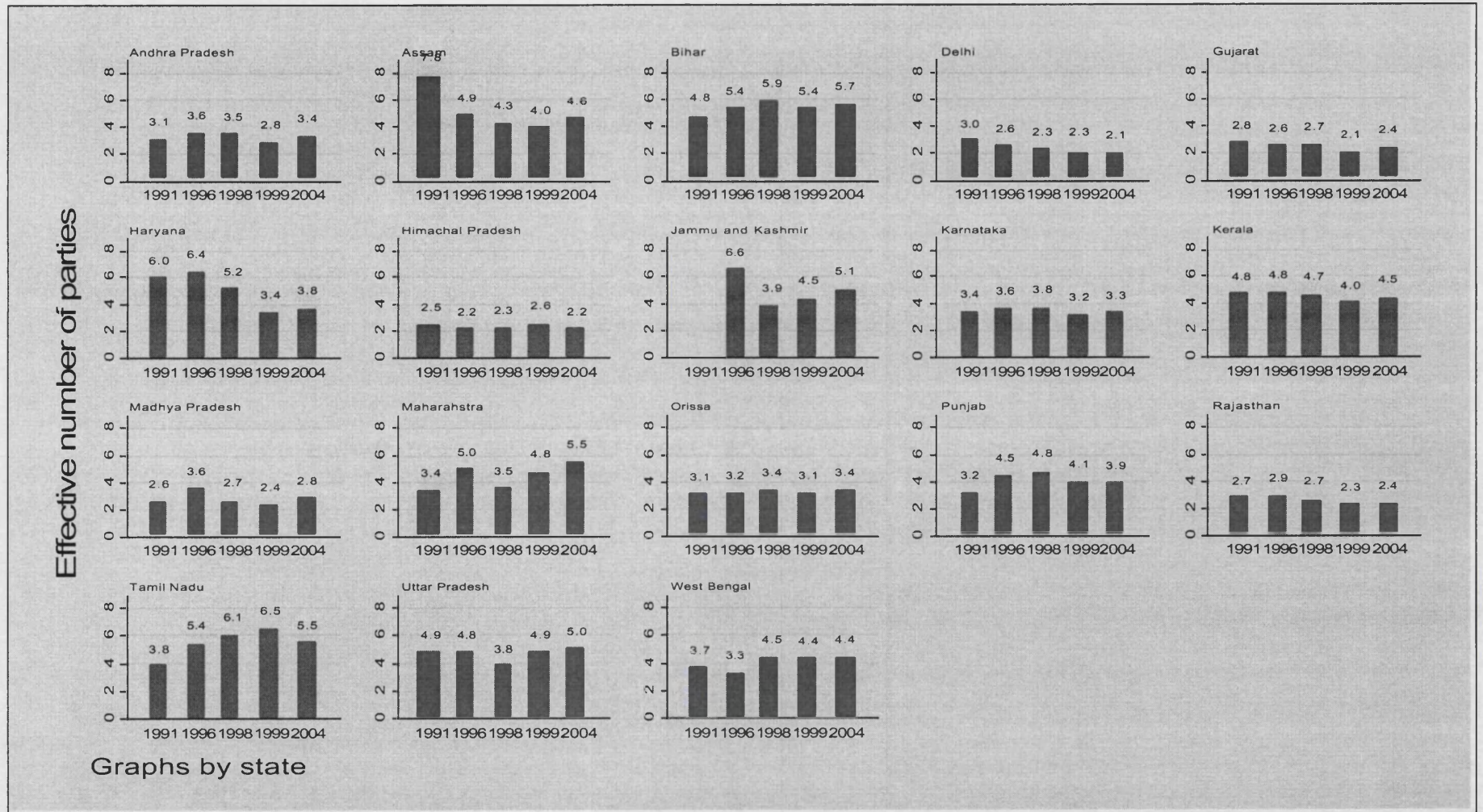
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Figure 6-7 shows that in general, the direction of change in the aggregation follows the changes in federal distribution of powers. Thus, decentralisation leads to increase in the *Ratio* between 1962 and 1967 elections, while centralisation between 1971 and 1977 elections leads to a decrease in the *Ratio* in many Indian states. However, as seen in the trends in *ENP* in Figure 6-7, some states also show trends opposite to the theoretical expectations. For example, the *Ratio* in Tamil Nadu increases from 2.0 to 2.4 between 1971 and 1977 showing greater disaggregation in a centralising period. Furthermore, the reactions to the changes in Federal distribution of powers are more pronounced in some states than the others. Bihar and Uttar Pradesh are two prominent examples of this phenomenon.

I now analyse trends in the size of party systems, and the party aggregation in the Indian states during the decentralising period 1991- 2004. Figure 6-8 shows the size of party systems in the Indian states in the decentralising period of 1991 – 2006.

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Figure 6-8 Size of party system in the Indian states 1991 - 2004



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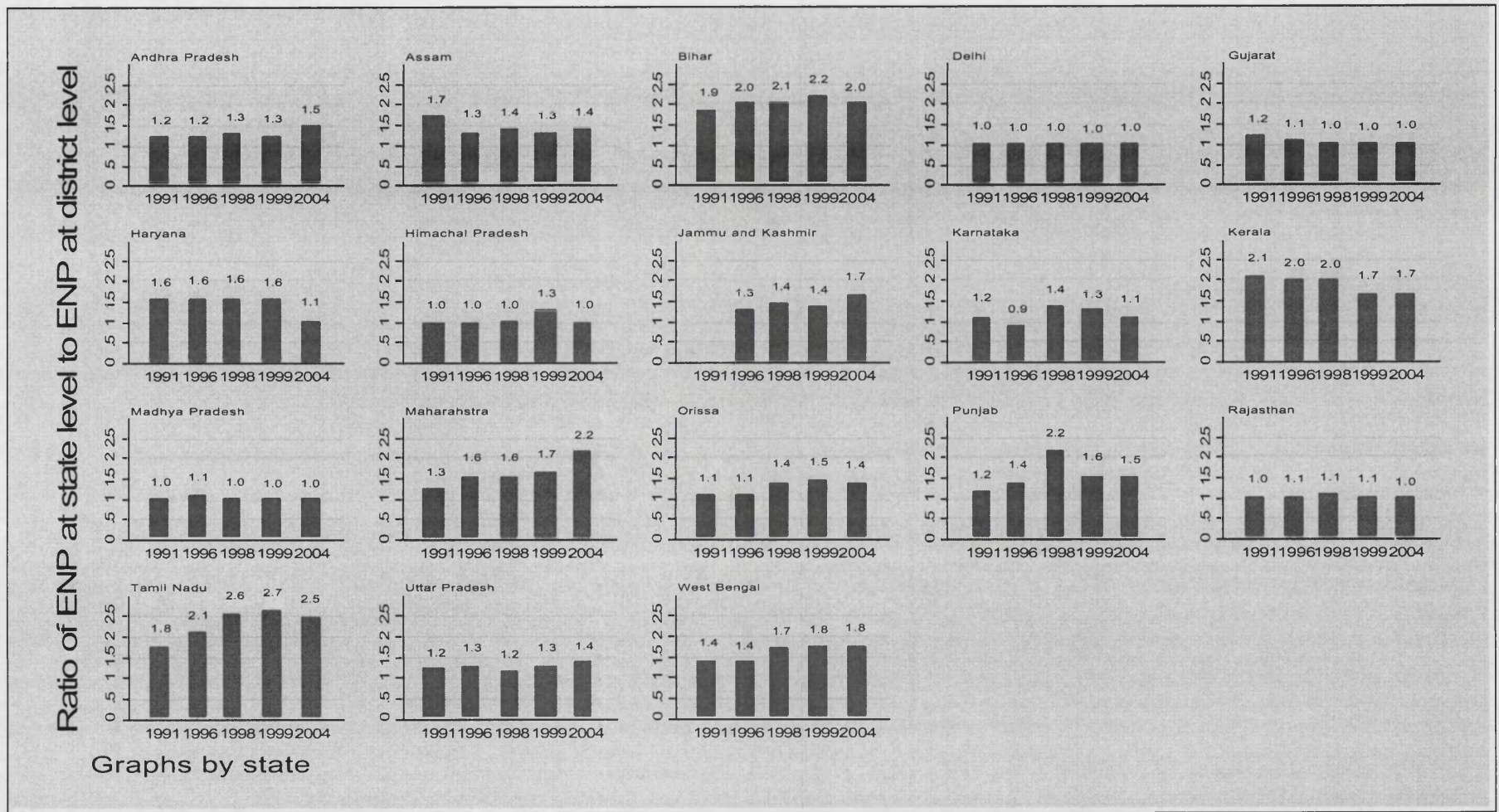
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In this period of decentralisation, one expects to see increase in the number of parties at the state level. Figure 6-8 shows that many states such as Bihar, Andhra Pradesh, Maharashtra, West Bengal, Punjab and Tamil Nadu witness an increase in the number of parties, while number of parties in Haryana and Jammu and Kashmir decrease during this period. In many states such as Andhra Pradesh, Gujarat, Orissa and Rajasthan, the number of parties remain stable. Overall, there are no consistent patterns in the trend of number of parties in the Indian states during this period.

Figure 6-9 presents the *Ratio* of *ENP* at state level to *ENP* at district level during 1991 – 2004 in the Indian states.

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Figure 6-9 Party aggregation in the Indian states 1991 – 2004



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The results in Figure 6-9 also show different patterns of aggregation in the Indian states. The states of Tamil Nadu, West Bengal, and Maharashtra in particular see a large increase in the *Ratio*, in line with federal decentralisation. The trends in Kerala are contrary to the expected result, and the *Ratio* actually falls from 2.1 in 1991 to 1.7 in 2004.

The above discussion shows that the effects of changes in federal distribution of powers on the Indian states are not consistent and uniform. The trends in the number of parties at the state level also show that there is no unqualified empirical support to the theory that federal centralisation leads to higher party aggregation (and decrease in the number of parties), and federal decentralisation leads to lower aggregation (and increase in the number of parties) at the state level. This is in contrast to the findings of Chhibber and Kollman (1998, 2004) about Party Aggregation in India at the national level. One reason for this inconsistency may be due to the varying level of dependence of Indian states on the national government. This factor is discussed below.

6.3.2 *Dependence and party aggregation – an empirical analysis*

In section 6.3.1, I presented the argument regarding the effects of the degree of dependence of Indian states on the party aggregation phenomenon. Chhibber and Kollman (2004:208) acknowledge the importance of this factor by saying that “Among the Indian states, some are more dependent upon the central government for budgetary support...” For example, smaller states in the North East region, as well as the special status states – the union territories are more dependent on the national government, and one can expect higher level of aggregation in these states.

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However, this factor is not investigated further in their analysis. The difficulty in providing precise measures of federal centralisation and decentralisation has already been discussed in section 6.2. Similar limitations apply to measuring the dependence factor, and in particular, it is difficult to quantify political dependence of the Indian states on the national government. Therefore, I divide Indian states into two categories – those which are ‘Highly dependent’ on the national government, and all other states.⁶⁹

Figures 6-10 to 6-13 present trends of effective number of parties and party aggregation at the state level for these two categories of Indian states. These figures enable graphical evaluation of empirical results with my hypotheses regarding relationship between federal centralisation and decentralisation, states’ dependence on national government, and the party aggregation phenomenon. As before, I label the time periods into centralising, decentralising and ambiguous periods as described in Figure 6-1.

Figure 6-10 depicts the trends of *ENP* in the Indian states that are highly dependent on the national government, as described earlier. The periods have been categorised in terms of federal centralisation of powers as defined in Chhibber and Kollman (2004). In the first centralising period 1951-1957, the *ENP* falls marginally, and in the 1967 elections *too*, which represent the first decentralising period, the *ENP* declines marginally to 3.2. This fall however is not in line with theoretical prediction

⁶⁹Highly dependent states include (1) Union Territories - states which derive all their resources from the national government’s budget (2) All North Eastern states which are very small and are highly dependent on the national government for resources and funds, and (3) Other dependent states – Assam and Himachal Pradesh based on their fiscal position. These categories are also consistent with Chhibber and Kollman (2004: 208). I exclude the state of Jammu and Kashmir since it has a special status, and the political situation there is affected by many exogenous factors relating to law and order and militancy.

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that number of parties tend to increase during periods of decentralisation. Thereafter, during the centralising phase between 1970 – 1977, *ENP* shows a sharp decline to 2.6. Finally, in the decentralising phase starting in 1991, *ENP* increases from 3.1 to 3.4 in 2004.

Figure 6-10 *ENP* in Highly dependent states

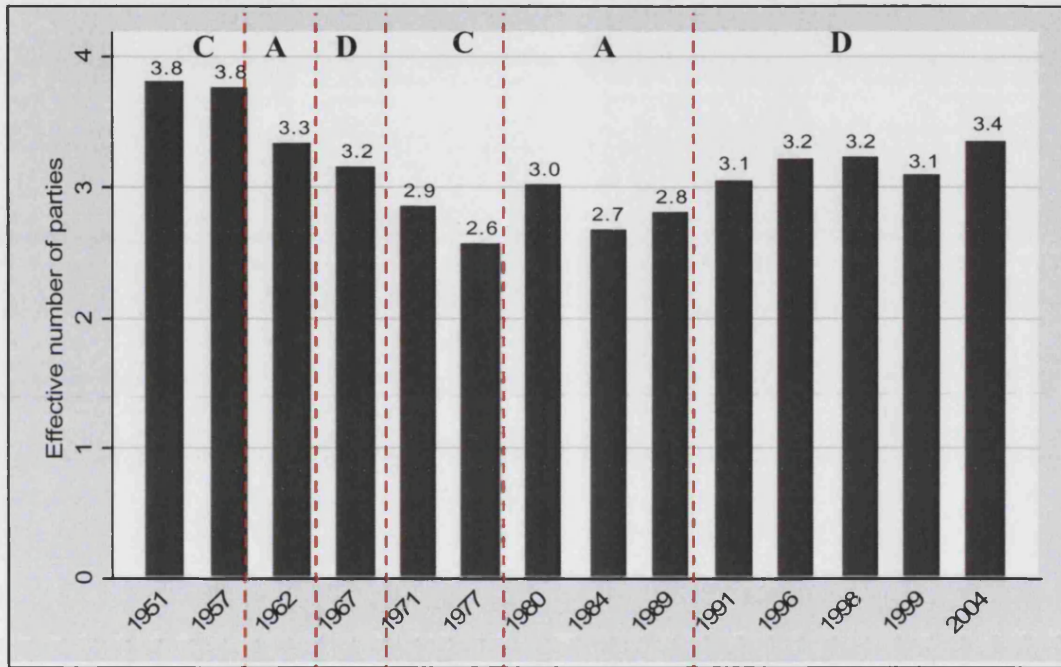
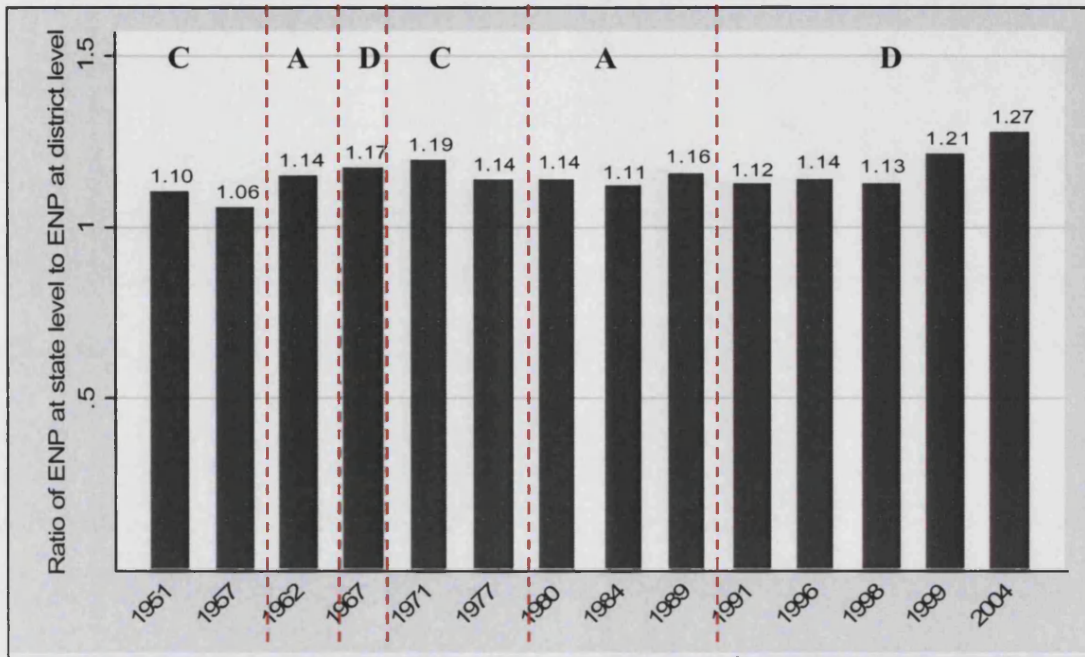


Figure 6-11 charts Party Aggregation (*Ratio*) for the Highly dependent states. The trends in the aggregation ratio shown in Figure 6-11 show that it tends to decline marginally during the centralising periods, and it does not increase much during the decentralisation periods except between 1998 and 2004.

Figure 6-11 Party aggregation in Highly dependent states



I present similar analysis for Indian states which are not Highly dependent on the national government. Figure 6-12 shows that *ENP* increases during the first phase of centralisation during 1951-57, while it decreases in the second centralisation phase during 1970-77. Thus, the results for these states do not consistently follow the expected reduction in *ENP* during the federal centralisation of powers. In the decentralisation phase during 1991-2004, the *ENP* increases from 3.6 from 1991 to 4.1 in 1996, but thereafter decreases to 3.8 in 2004. Thus, even during the latest decentralisation phase, there is no consistent increase in *ENP* for this category of states as is predicted by the theory of Party Aggregation. This is further confirmed by the trends in Party Aggregation (*Ratio*) shown in Figure 6-13.

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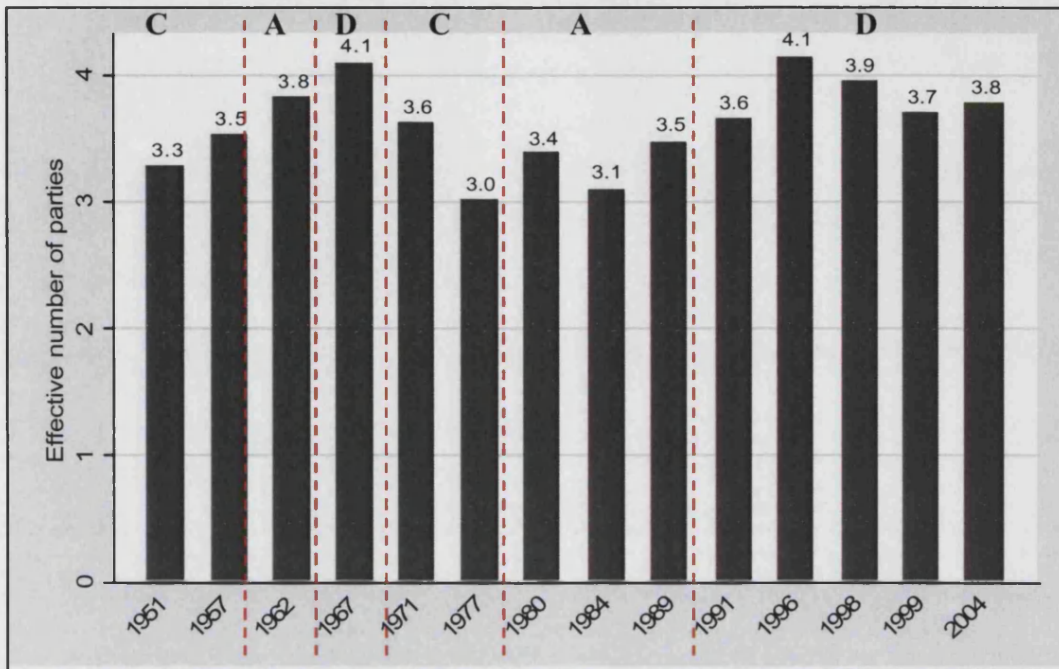
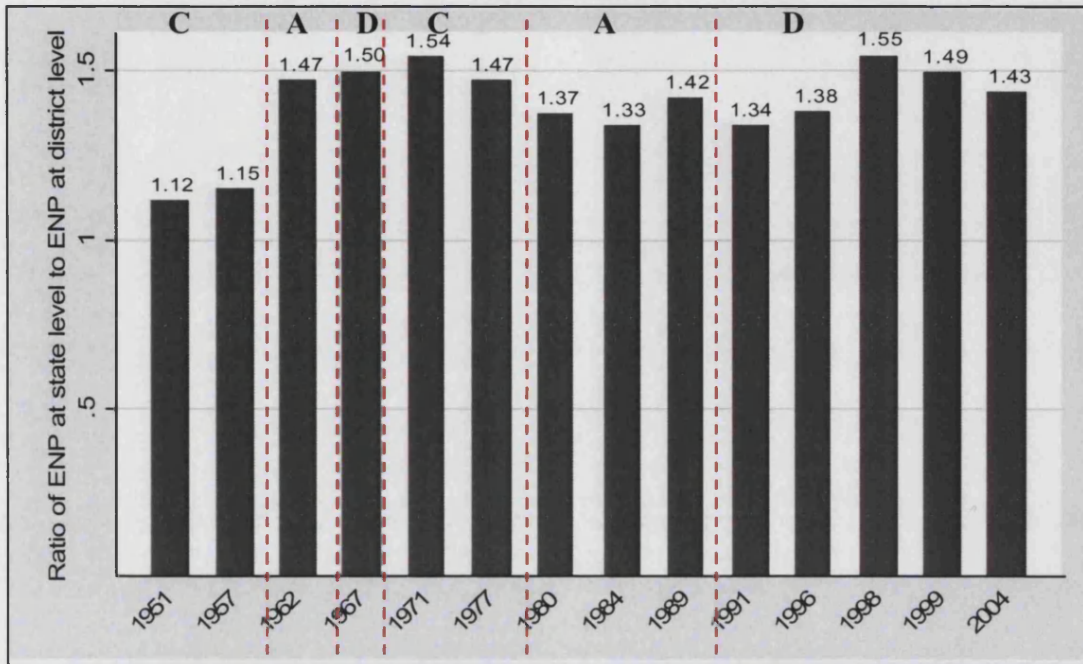
Figure 6-12 *ENP* in other (not Highly dependent) states

Figure 6-13 shows that the *Ratio* increases marginally during the first centralisation phase 1951-57, but decreases in the next centralisation phase 1970-77. In the decentralisation phase 1991 onwards, in general, the *Ratio* does not show a clear increase as would be expected. After 1998, this *Ratio* declines from 1.55 to 1.43 in 2004, a result that is contrary to theoretical prediction.

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Figure 6-13 Party Aggregation on other (not Highly dependent) states



C = Centralising period; D = Decentralising period; A = Ambiguous period

In general, the results for the Highly dependent states are in line with expectations, and changes in the size of party systems in these states tend to follow the federal distribution of powers. Further, for these states, the effects of federal centralisation are more pronounced than federal decentralisation. Thus, faced with federal centralisation, voters in these states have incentives to vote for state or national (rather than local) parties in order to influence policy decisions at these levels. The results for the states which are not Highly dependent on the national government however do not consistently follow the changes in federal distribution of powers, results which is not in line with the existing theory of party aggregation.

I further examine the effects of federal centralisation and decentralisation, and the dependence factor in a unified regression model in Chapter 7.

6.4 *Other Contextual factors*

In addition to the phenomenon of party aggregation, there are some other important contextual variables in the Indian states that affect the size of the party systems.

6.4.1 *Politicisation of cleavages and success of ethnic parties*

I question Chhibber and Kollman's (1998, 2004) assumption that since the number of social cleavages remain relatively constant in a polity, the changes in the size of party system over time cannot be explained by sociological factors. Till date, there is no clear theoretical explanation of the process of politicisation of social cleavages, and how a particular social cleavage will lead to an effective party. However, we do know that different factors (such as access to resources and media) can hinder or facilitate the politicisation of social cleavages. Therefore, even though the underlying number of social cleavages in a polity may remain constant, their effect on party system can vary over time due to degree of politicisation and mobilisation in different elections. Also, as the discussion in Chapter 3 shows, a large strand of research on the evolution of the Indian party system has pointed out towards the politicisation of social cleavages based on region, religion and castes being important reasons for the recent increase in number of parties both at the state and the national level. The rise of BJP has brought the effect of religion back into the focus, as scholars (for example Jaffrelot, 1995) explain its rise to its exploitation of religious cleavages. Since Indian party system has developed on regional lines, as against ideological or national lines (Wallace, 2000), regional parties have also used advancing of the interest of a particular region, as a part of their electoral strategy.

This is also brought out by the following comment by Chhibber and Petrocik (1998: 201).

Given the territorial nature of social cleavages in India, we expect that: (1) At the national level, where a voters lives – his or her state – should be a far stronger predictor of the vote than social factors such as caste, religion or social class observed nationally. (2) However, because caste, class and religion are major points of conflict within India, each will have a strong correlation with party support when examined at the level at which these social factors are politically significant; that is, within each state. (3) The political significance of group conflicts varies by State so the strength of the link between particular social cleavages and party should vary across the States.

Chandra (2004) implies that success of ethnic parties depends on factors such as relative population of the groups it leads, their ability to secure the required threshold of votes, as well as intra-party opportunities for its leaders. These factors change over time, and hence represent important sociological context in which different elections take place.

Thus, since the nature and the intensity of the conflicts based on caste, class and religion do not remain constant, the role of sociological factors in explaining the *changes* in the size of party system *over time* has to be acknowledged, even if these effects are difficult to study and measure. When these conflicts become intensive, they are more likely to be politicised and affect the party systems. Thus, the sociological *context* in which elections take place are crucial determinants of the size of party systems in the Indian states.

6.4.2 *Expectation of coalition government at the national level*

The expectation of the formation of Coalition government leads to disaggregation of party system both at the national and the state level. In a coalition government, smaller parties enjoy disproportionate powers in terms of negotiating for ministerial berths, and influencing policy, and this favours formation of new state parties, and strengthening of existing state parties. During the 1990s, India has seen formation of coalition governments at the national level and in many states, and this has motivated the formation of new parties through a split in the existing parties, and an increase in the share of state parties. This has led to national parties being forced into electoral alliances and seat sharing arrangements with state parties, a move that further increases the viability of smaller parties, and disaggregation of party system both at the state and the national levels. One can measure this factor by vote share of state parties since this leads to increase in fragmentation of party system at the national level, and the chances of the formation of a coalition government at the national level.

6.4.3 *Literacy levels*

The mechanics of Duverger's Law assume that voters act rationally in voting for larger parties. Therefore, it can be hypothesised that the mechanical and psychological effect will be more in states with higher literacy rates. As Heller (2000) points out,

If democracy in Kerala works better than in the rest of India... it is in large part because individuals have been equipped with the basic human capabilities

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required of citizenship. Literacy in Kerala has reached 91 percent, compared with 49 percent for India as a whole... As a direct result, traditionally marginalized groups, most notably women and dalits [SCs and backward castes] have acquired the basic social skills required for informed participation... Caste and community in Kerala continue to be a powerful basis of social identity and civic engagement. But in the realm of politics and in the expression of public authority, these forms of association have been subordinated to broader aggregations.

Chhibber and Kollman (1998, 2004) assume that voters and parties coordinate their strategies across districts and states, and this affects the aggregation of parties at the state and national level. This requires voters and parties to act rationally in assessing their choices, and maximising their utilities. Most models of voters' choice are based on rational-choice, that believe that voters act rationally in interpreting their incentives, and maximising their utilities, while voting for a particular party. Strategic voting on the part of voters assumes that voters have the ability and knowledge to look at the implications of their votes on outcomes of the elections, and on the policy outcomes at the different levels of the government. One can therefore argue that states with higher literacy levels will witness a higher level of strategic voting, and therefore, fewer number of parties. The correlation matrix between literacy level and the party system variables is shown in Table 6-1 below.

Table 6-1 Correlation between Literacy rates and number of parties

	Effective electoral parties	Effective legislative parties	Contesting parties
LITERAC	-.003	.020	-.074

** Correlation is significant at the 0.01 level (1-tailed).

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The correlation matrix shows that literacy does have a negative effect on the effective number of electoral and contesting parties, but the effect is not a significant one. Overall, Indian states do not exhibit a significant relationship between literacy and party systems.

6.4.4 *Urbanisation*

Dahl and Tufte (1973: 98 -100), while arguing the case for a relationship between size and party system fragmentation, point out that urbanization and socio-economic diversification may account for the explanatory power of the size variable. Anckar (2000) includes this variable in his comparative empirical analysis of party systems of 77 countries. Therefore, there are theoretical reasons to include the degree of urbanisation in my study. Further, since Indian states vary in terms of this dimension, it is possible to test it empirically. Figure 6-14 shows the urban population percentage in the Indian states over the years. As can be seen this has increased especially after 1971.

Figure 6-14 Urban population percentage at state level by election years

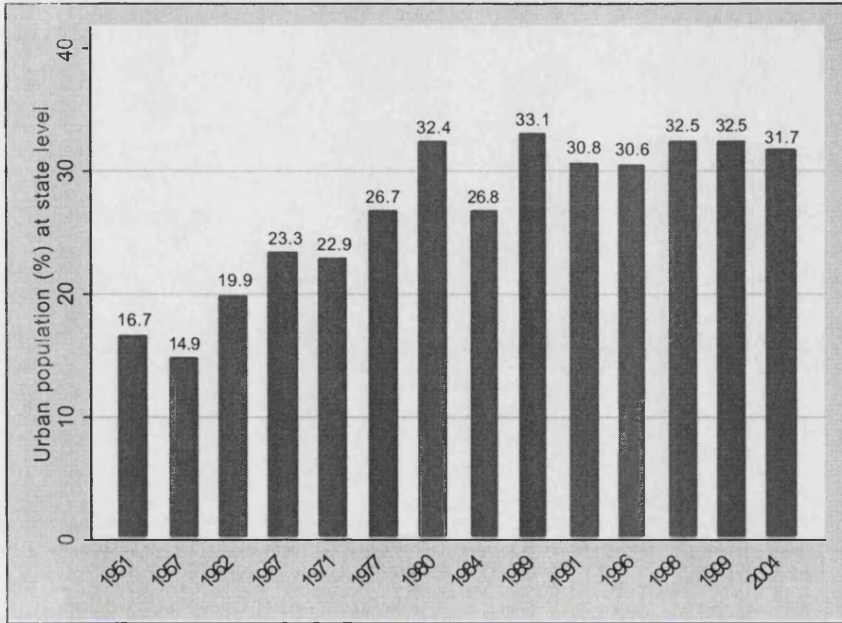
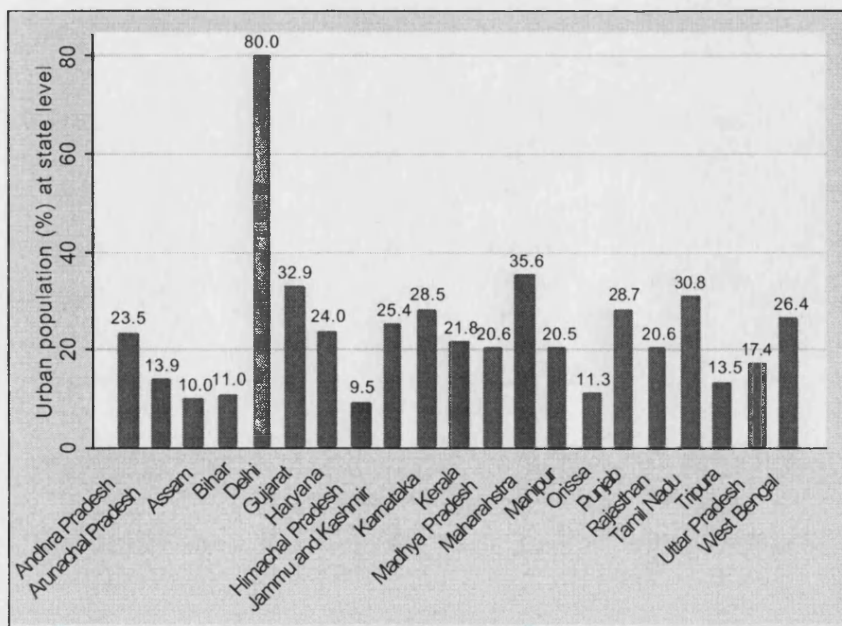


Figure 6-15 shows the cross-sectional variation of this variable in key Indian states. As can be seen, the range in the urban population percentage is large, with states showing urbanisation of 10% to 80%.

Figure 6-15 Urban population percentage by state



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Table 6-2 provides correlation analysis between urbanisation and three party system variables. It can be seen that there is significant negative correlation between the state's urbanisation, and the *ENP* and *ELP*.

Table 6-2 Correlation between urbanisation and number of parties

	Effective electoral parties	Effective legislative parties	Contesting parties
URBAN	-.13(**)	-.14(**)	-.01

** Correlation is significant at the 0.01 level (1-tailed).

6.5 Conclusions

This chapter has explored the contextual factors affecting the party systems in India. The first contextual factor is the phenomenon of party aggregation that takes place both at the national and the state level, and involves interplay between voters, parties and the economic and political environment. While Duverger's Law is able to explain the number of parties at the district level in SMPS, the number of parties at the state and the national level are subject to the phenomenon of party aggregation. Chhibber and Kollman (1998, 2004) put forward a theory linking the party aggregation at the national level to the changes in federal distribution of powers. While Chhibber and Kollman's arguments are sound, they derive their conclusions by focusing on party aggregation at the national level, thus ignoring the heterogeneity of the Indian states. I show that party aggregation at the state level varies between different Indian states. Using this insight, I argue that party aggregation needs to be studied at both national and the state levels. I discuss the factors that account for the phenomenon of party aggregation at the state level party system in India. In particular, I discuss the importance of the states' dependence on

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the national government in affecting the party aggregation phenomenon. In general, states which are highly dependent on the national government tend to show higher aggregation of parties at the state level during the phase of federal centralisation of powers.

The second set of contextual factors discussed in this chapter relate to variables such as literacy levels, degree of urbanisation, and the expectation of formation of coalition government. Since these factors vary across the Indian states and in different elections, they need to be taken into account while studying the determinants of party systems in India.

This leads me to set up the agenda for my final chapter which presents a unified model of the determinants of party systems in the Indian states. My unified model uses important institutional, sociological and contextual variables in a multivariate analysis to explain the variation in the number of parties in the Indian states.

7 SYNTHESIS: UNIFIED MODEL OF PARTY SYSTEMS

In this chapter, I first build up a case for a unified model of the determinants of the size of the party systems in the Indian states. This is based on the argument that since party systems are shaped by institutional, sociological and contextual factors, we need to move towards a unified model that incorporates all these factors into the empirical analysis.

I first present regression results incorporating both institutional and sociological factors, and then include contextual factors to analyse results of the unified regression model. I end this chapter and my thesis by providing some concluding remarks on my research highlighting its achievements, and how it provides directions for further research on party systems in general, and specifically on the Indian party system.

7.1 Towards a unified model of party systems in Indian states

My empirical analysis in the previous chapters investigates the effects of institutional, sociological and contextual factors on the Indian party system separately. This approach helps in an in-depth study of these factors and how they influence the size of the Indian party system. As discussed in Chapter 2, scholars representing institutional and sociological schools have often stressed that these respective factors individually play a dominant role in the formation of party systems. Thus, the scholars of the institutional school have stressed the affect of institutional variables while the sociological school focuses on the social

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heterogeneity as the primary reason affecting the number of parties in a polity. However, while focusing on these respective factors, scholars have not been unaware of the complex set of determinants of party systems, but prefer to be parsimonious in including these in their empirical analysis. The preference for this unilateral focus in the institutional school can be defended so long as the one is studying polities with limited cross-sectional social heterogeneity. In such a situation, it can be argued with some conviction that size of party system will be affected more by institutional than social factors. Indeed, many early comparative studies on the subject which focus only on institutional factors relate to old western democracies which exhibit relatively stable and homogeneous social structure. Furthermore, even if the number of social groups in a polity remains stable, its effects on the size of party system can vary depending on how and whether these social cleavages are politicised and mobilised. This too, calls for including the sociological factors in an empirical study of party systems.

On the other hand, focusing only on sociological factors is based on an assumption that institutions tend to be stable over time, and therefore only have limited affect on the size of party system, and changes therein over time. However, this view ignores the fact that institutional factors matter in explaining the variation in the size of party systems on a cross-sectional basis. Furthermore, institutional factors do not act in a vacuum, and their effects can vary over time depending upon the environment or the context in which elections are held.

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Recent scholarship has sought to address this weakness in the literature by undertaking studies of party systems, by including both the institutional and sociological, and including a larger set of countries in their analysis.

I have argued in chapters 4-6 that there are sound theoretical explanations of the effects of these individual set of factors, i.e. institutional, sociological and contextual on the size of the party systems in Indian states. Although the relative importance of these factors may vary across elections and states, they are all nevertheless crucial determinants of the size of party systems. The basic idea of this chapter is to recognise the importance of a unified model of the size of the party systems in the Indian states. This unified model should include the combined effects of the important variables on the size of the party systems. In the context of my research, such a model will also help in checking the robustness of the effects of individual variables identified in chapters 4 to 6, and avoiding the possibility of 'omitted variable bias' in the analyses that include only the individual effects.

Since the formation of party systems is a complex phenomenon, it necessitates using a more comprehensive set of explanatory variables to explain the size of the party system. A unified model should provide superior results especially in the context of a comparative study where different Indian states are affected by different set of variables to varying degree.

In the next section, I present a unified model of party systems in Indian states in two steps: first using sociological and institutional variables, followed by models which also adds contextual factors in the regression equation. The dependent variable I use

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in the following sections is the effective number of parties based on votes (*ENP*), since this corresponds most closely with both the institutional and sociological variables. Electoral results in a plurality-based system often produce disproportional results in terms of ratio of seats to votes, and therefore, the effect of sociological variables in particular will be more visible on vote-getting rather than seat-getting parties.

7.1.1 Size of party systems, and sociological and institutional variables

In this section, I present regression analysis that includes both sociological and institutional factors as explanatory variables to explain the size of party systems in Indian states. I compare the results from a model that includes both sociological and institutional variable to those of a model that includes only one of these two variables.

Table 7-1 presents comparison of regression results of models including only institutional or sociological factors (Models 1 and 2 respectively) with the regression which includes both institutional and sociological factors as independent variables (Model 3).⁷⁰

⁷⁰Using *ESG* instead of *ERL* to represent social heterogeneity produces consistent results, as they have high positive correlation.

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Table 7-1 Regression analysis using Institutional and Sociological factors ⁷¹

Dependent – ENP	1 Institutional	2 Sociological	3 Institutional and sociological
Assembly Size	0.16** (5.1)		0.20** (6.9)
Effective Threshold	-7.7** (9.3)		-7.5** (9.5)
Electoral Reforms	0.01 (0.6)		0.01 (0.6)
Effective Religious groups (ERL)		0.54** (3.4)	0.75** (4.9)
ENP_Lagged	0.43** (9.3)	0.58** (12.2)	0.35** (7.9)
Intercept	4.8	0.60	3.8
R square	0.57	0.42	0.61
N	358	358	358

The results reported in Table 7-1 show that Model 3 that includes both sociological and institutional variables have better explanatory power than the ones using only of these factors. Thus, the R square for Models 1 and 2 is 0.57 and 0.42 respectively, while it increases to 0.61 in model 3. The coefficients of important institutional and sociological variables are of predicted sign and are significant in the Model 3. Therefore, I can conclude both institutional and sociological factors are significant variables that affect the size of the party systems in the Indian states. While Assembly Size increases the number of parties in the Indian states, the Effective Threshold tends to depress it. The effect of social heterogeneity is also consistent

⁷¹The results reported are based on OLS with PCSE and lagged dependent variable; OLS, REM regressions produce consistent results. Introducing interaction terms to Model 3 does not improve the regression results, and these are therefore not reported.

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with theoretical predictions; *ERL* has positive and significant effects on the effective number of parties in the Indian states.

Overall, the results in Table 7-1 confirm that both sociological and institutional variables affect the size of the party systems. Further, models that include both sociological and institutional variables have better explanatory power (R square) compared to the one that includes either of these variables.

The results also show the robustness of the general result about the importance of religious cleavages *and* institutional variables in the Indian states, as their coefficients continue to be significant in the models including *both* these variables. Thus my results confirm the results obtained using individual institutional and sociological factors in chapters 4 and 5.

7.2 Unified model of the size of party systems in Indian states

As discussed in section 7.1, party systems are shaped by variety of factors, and therefore, a unified model of the size of party systems which includes these factors should provide superior results, than the one which excludes important variables from its analysis. This view does not support adding more variables merely to improve the statistical validity of the regression model, but favours including all the factors that warrant inclusion based on theoretical and analytical reasons.

This proposition is supported by the regression results shown in Table 7.1, where I juxtapose both sociological and institutional factors in the same regression model,

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and this improves the explanatory power of the regression model. Based on this result, one can also hypothesise that adding contextual factors identified in chapter 6 to the model will improve our understanding of the determinants of the party system further. Based on this hypothesis, I specify a 'Unified' model of party systems in the Indian states which can be represented by Equation 7-1.

Equation 7-1 Party system $\sim f(\text{Institutional, Sociological, Contextual factors})$

In chapters 4-6, I identify and analyse the important institutional, sociological and contextual variables affecting party systems in Indian states. I now use important factors in these categories in my unified model of the size of party systems, using a single regression equation. The explanatory variables and the expected direction of the relationship with party system variables used in my unified model are shown below.

Table 7-2 Variables for the Unified model

Explanatory variables		Dependent variable
Category	Description	ENP
<i>Institutional</i>	Assembly size	+
	Effective Threshold	-
	Electoral Reforms	+
<i>Sociological</i>	Effective religious groups	+
<i>Contextual</i>	Centralisation dummy	-
	Decentralisation dummy	+
	Dependence on national government	-
	Degree of urbanisation	-
	Vote share of state parties at the national level	+
<i>Other</i>	Lagged ENP	+

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The dependent variable in Table 7-2 is the Effective number of parties by votes (*ENP*), while the explanatory variables represent institutional, sociological and contextual factors which have been discussed at length in chapters 4-6. I also use a lagged dependent variable following Beck and Katz (1995) and Beck (2001). The expected direction of the relationship between the variables as per theoretical explanations is also shown in Table 7-2. My unified model of party systems in Indian states includes the dependent and explanatory variables shown in Table 7-2.

Regression analysis for the unified model is carried out in four different models. These models use different combination of the factors shown in Table 7-2 to test alternative hypotheses and the robustness of the model. I do not use Assembly Size and Dependence on National government in the same regression because of high correlation between the two. Similarly, I use degree of Urbanisation instead of Literacy levels to avoid multi-collinearity.

I use dummy variables representing the periods of federal centralisation and decentralisation, and the states that are highly dependent on national government. As discussed in sections 6.2 and 6.3.2, it is difficult to provide reliable quantitative measures for the degree of federal centralisation and decentralisation, and dependence of state governments on the national governments. I follow Chhibber and Kollman (2004) in categorising periods into centralising, decentralising and ambiguous, and provide two dummy variables to represent these. I use the categorisation discussed in section 6.3.2 in defining states that are highly dependent on the national government, and provide a dummy variable to represent these states.

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As discussed in chapter 6, fiscal and political centralisation favours a decrease in the number of parties, while decentralisation tends to increase the number of parties.

Another contextual factor used in my unified model relates to the expectation of formation of a coalition government. After 1991 elections, major parties in India have fought elections with different pre-poll alliances and as a part of coalition, thus raising the expectation of a coalition government. This leads to smaller parties becoming more important, as they can be valuable for keeping the coalition in majority in the parliament, and thus hold disproportionate bargaining power. Furthermore, in this situation, voters need not favour larger parties in order to affect policy outcomes, since smaller parties as part of coalition government can increasingly influence policy making. Thus, the hypothesis that the expectation of formation of a coalition government tends to increase the number of parties. I use vote share of state level parties as defined by Election Commission at the national level to depict the probability of a coalition government at the national level.

Table 7.3 presents the results of regression of my unified model (Models 4 – 7) including dependent and explanatory variables in different formulations using OLS with PCSE and lagged dependent variable taken as independent variable.⁷² I also reproduce the regression results using institutional, sociological and combination of these two factors in Models 1-3 to facilitate comparison between the different models.

⁷²Using OLS and Random effects model produce consistent results.

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Table 7-3 Unified model regression results⁷³

Dependent: <i>ENP</i>	Inst.	Social.	Inst. + Social.	Unified Model			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Assembly size (log)	0.16** (5.1)		0.20** (6.9)	0.32** (10.6)	0.19** (6.6)		
Effective threshold	-7.7* (9.3)		-7.5** (9.5)	-8.4** (11.1)	-7.3** (9.4)	-9.2** (11.8)	-7.6** (9.6)
Electoral reforms	0.01 (0.6)		0.01 (0.6)	-0.04 (1.1)	-0.05 (1.5)	-0.05 (1.4)	-0.06* (1.8)
Effective religious groups		0.54** (3.4)	0.75** (4.9)	1.2** (7.3)	0.74** (4.9)	1.1** (6.1)	0.61** (4.0)
Centralisation				-0.33** (2.3)	-0.43** (3.2)	-0.40** (2.6)	-0.46** (3.3)
Decentralisation				0.11 (1.0)	0.06 (0.6)	0.09 (0.7)	0.05 (0.4)
Degree of urbanisation				-0.00 (0.0)	-0.00 (0.2)	-0.00 (1.4)	-0.00 (1.0)
Vote Share of regional parties				0.00 (0.3)	-0.00 (0.3)	0.00 (0.3)	-0.00 (0.4)
Dependence on national government						-0.59** (5.8)	-0.36** (3.8)
ENP_lagged	0.43** (9.3)	0.57** (12.2)	0.35** (7.9)		0.36** (8.0)		0.41** (9.2)
Constant	4.8	0.60	3.8	5.2	4.7	6.9	5.6
R square	0.57	0.42	0.61	0.51	0.62	0.42	0.59
N	358	358	358	401	358	401	358

⁷³Using *ESG* instead of *ERL* to represent social heterogeneity produces consistent results.

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As can be seen in Table 7-3, the direction of the relationship between the dependent and explanatory variables are consistent with those predicted by theory shown in Table 7-2. The Assembly Size variable is positive and statistically significant in Models 1 and 3 confirming the result from Chapter 4. Further, this variable continues to be positive and significant in the unified Models 4 and 5. Thus, states with larger Assembly Size tend to have higher number of parties.

The regression coefficient for Effective Threshold variable is negative and significant in all the models. Thus, higher the percentage of vote required to win elections in a particular state, lower the number of parties in that state, and vice versa. This too confirms the importance of institutional factors, and the robustness of the results obtained using only institutional factors (as discussed in Chapter 4). Higher social heterogeneity (*ERL*) leads to higher number of parties of a state, a result that is consistent with the sociological school of party systems. The fact that this variable is consistently significant in all the models shows robustness of this result.

Also, elections held during periods of federal centralisation of powers tend to produce lower number of parties in Indian states (Models 4-7). As discussed in Chapter 6, this happens because the distribution of powers affects incentives to vote either for local, state or national party, and this affects the party aggregation at the state level. The result for the centralisation variable shows that this factor is significant in explaining the variation in the size of party systems across the Indian states. Thus, voters tend to vote for either the state parties or the national parties during periods of federal centralisation, and this leads to reduction in the number of

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parties at the state level. It is interesting to note that federal decentralisation is not a significant variable thus meaning that number of parties at the state level do not increase in the periods of federal decentralisation. This is explainable since even during periods of decentralisation, voters do not have any extra reason to vote for the local (district) party rather than a state or a national party because India has a two-tiered federal system. And therefore federal decentralisation to the states need not lead to further decentralisation to the local level. This means that federal decentralisation alone does not influence the decisions of the voters to vote for local rather than state or the national party. Thus, while federal centralisation leads to decrease in the number of parties at the state level, federal decentralisation does not increase it.

The regression coefficient for urbanisation and vote share of regional parties are not significant; this means that for all states taken together, these are not important determinants of the size of party systems. The degree of urbanisation is a proxy for more awareness and rational behaviour on part of voters, and therefore the hypothesis was that it has a negative effect on the size of party system. However, empirically, this factor is not significant. In general, Electoral Reforms variable is not a significant variable affecting the effective number of parties in the Indian states.

The variable Dependence on national government is negative and significant in Models 6-7, where it is used. This confirms the hypothesis that states which are highly dependent on the national government for budgetary support have fewer parties. As discussed in Chapter 6, this happens because voters tend to vote for

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parties that can influence the national level politics, and this leads to higher party aggregation at the state level, and lower number of parties in these states. Finally, the lagged dependent variable is positive and significant in all models confirming that size of party systems is influenced by the results of the previous elections.

The explanatory power of all the models in Table 7-3 (in terms of R) is between 0.42 to 0.62, and adding the Lagged dependent variable, and adds to the explanatory power of the models.

In general, my empirical results are consistent with the findings of cross-country comparative analysis on the size of party systems. The only study that focuses on Indian empirical data is Parnerkar (2002) which uses district level data for the 1998 and 1999 elections. My results are in general consistent with both cross-country studies, and Parnerkar's work on the district level party systems. My finding which shows the importance of institutional and sociological factors is consistent with the findings of major empirical research in cross-comparative research on party systems, and also with the empirical research available on the Indian party systems. Furthermore, it confirms the role played by federal centralisation and dependence of the states on the national government in determining the size of the Indian party system. My results regarding party aggregation at the state level are not fully consistent with Chhibber and Kollman's (2004) finding at the national level in that federal decentralisation is not a significant variable in effecting the size of party at the state level.

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7.3 *Concluding remarks and areas for future research*

My thesis investigates the size of the party system in India at different levels. It studies the determinants of the Indian party system using alternative theories, and provides empirical evidence about the effects of institutional, sociological and contextual factors on the size of the party systems in the Indian states.

To conclude, my research achieves many important objectives, and also highlights key areas for future research on party systems, especially of a comparative nature. It undertakes a systematic review of the application of Duverger's Law to the Indian case using a comprehensive database and alternative methods. My research provides a comparative empirical analysis of the party systems at the state level in India. To do so, it constructs a comprehensive data set covering all the general elections in India, identifies and quantifies important determinants of party systems, and systematically examines their affect on the party systems in the Indian states, using alternative arguments, and regression models. A major objective of my work has been to research general patterns in the size of the party systems in the Indian states, and to provide an empirical framework to study its determinants. While previous research on the Indian party systems has been descriptive, focussing on specific states or elections, my study takes a comparative and empirical approach.

My research also highlights that Indian party system can be studied at the district, state or national level, and explains (Chapter 6) how party systems at these levels are related. While studying party systems at any of these levels has its merits and importance, I argue for the growing importance of party systems at the state level.

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The trends in Indian politics especially in the last decade also show that party system at the national level has now become a sum of distinct state level party systems, and electoral competition is between two coalitions each of which consists of one major national party, and many state level parties. My research aims at highlighting the importance of state level party systems in understanding the political situation in India.

Previous comparative work on Indian party system has focused at the national level, ignoring the heterogeneity of the Indian states. My methodology of undertaking a comparative study of party systems in Indian states overcomes this limitation of the existing literature, and provides an alternative approach to study party systems in India. My results also highlight that with the demand for smaller states, one can expect further fragmentation of party systems, and more state level parties, and a reduction of the size of party systems at the state level.

My research provides directions for future comparative research on party systems in India. An important finding of my research relates to the importance of electoral rules on party systems. India had adopted SMPS without a legal electoral threshold. An expected outcome of SMPS is that it tends to reduce the size of the party system, and this was one reason for its adoption in India after its independence. However, SMPS has off late not been successful at providing definitive mandate to a party to form the government, and the national party system has fragmented into many state level party systems. Furthermore, it can also be argued that Indian democracy and political system has matured, and the time has come to reassess the usefulness of continuing with SMSP, and introduce PR of some kind, so that different social

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groups are given their due. Further, introduction of PR may not necessarily lead to political instability, if its design takes into account the Indian situation. However, since this will have a major effect on the political system and Indian democracy, this issue requires careful examination, and is a rich area for future research.

As state level politics becomes important, smaller parties have better chances of gaining votes and seats. Through their growing importance, smaller parties also stand to gain more power in negotiating ministerial berths, and affecting policy outcomes. There also remains a rich potential to apply the Power indices theory (for example see Shapley and Shubik, 1969) to ascertain whether and to what extent small parties operating at state level have gained disproportionate power in comparison with their vote and seat shares. Finally, party aggregation at state level is an important area of further research which has been identified and discussed in my research.

There are some explanatory variables this research does not address. The effect of political leadership is one such factor, which is gaining in importance, and is difficult to incorporate in an empirical study. The increasing importance of state and regional politics in India is also attributable to the success of leaders of these parties in mobilising votes for their parties. This factor and the nature of its effect of party systems is however difficult to measure, and presents an interesting area for future researchers. Thus, it will be interesting to research how the personalities and ambitions of political leaders influence the party system in the Indian states.

A key question for political scientists studying Indian party system will have to be the very definition of a political party. With coalition politics becoming a regular

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feature of Indian political system, and the emergence of electoral alliances between parties, it is becoming difficult to define a political party for analytical purposes. Thus, if two or more parties contest elections not as individual parties but as a coalition, should we not use these alliances rather than their component parties as the unit of comparative analyses?

My research thus provides many areas and ideas for future researchers to study the Indian party system and its determinants. Beyond Indian politics, my research can stimulate comparative research for other countries at the sub-national level using a similar research design. Researchers can also attempt to think about better ways of modelling contextual factors to incorporate them in future comparative studies.

APPENDIX A - Effective number of Parties for Incomplete Data

Taagepera (1997) suggests following methodology to compute the effective number of parties in absence of complete data on the vote-share and the seat-share of *all* parties. If the data is incomplete, common practices include either omitting this data of smaller parties and independent candidates from the analysis, or to club the share of all these parties one 'Others' category. Taagepera shows that both these practices produce distorted measures of the effective number of parties. Let R represent the share of the 'Others' category, and P_L be the vote share of the party getting least share (for which separate data is available). He demonstrates that treating R as a single party for India during for the 1962 – 84 data yields ENP of 4.10, which is too low compared to Lijphart's (1994:169-172) calculation of 4.32. However, subtracting R altogether, as if 'Other' votes did not exist, he obtains 3.45, a figure close to the one reported by Chhibber and Kollman (1996). This obviously is a vast underestimate of ENP.

He suggests following practical guide to improve the ENP calculations in absence of complete data.

Simplest Method

Add 'Others' without squaring in the ENP formula.

Best Method (in the Absence of Other Information)

Take the mean of extremes

- (1) Add 'Others' as 0, and calculate ENP.
- (2) Add 'Others' as the lower of R^2 or $(P_L R)$ and calculate ENP.
- (3) Take the average of ENP under (1) and (2).

A No-No

Do not merely square the 'Others'. Here the results will be unrealistically low, Do not omit 'Others' from the total. One would obtain utterly unrealistic ENP.

APPENDIX B – Electoral Reforms Index

Reforms	1951	1957	1962	1967	1971	1977	1980	1984	1985	1989	1991	1992	1996	1998	1999	2004
Verifiable criteria to be registered as a voter	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Right to establish a party	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Right to campaign on equal basis	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Equal access to media	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Restrictions on candidature, parties' activities and campaign rights	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
Effective, impartial registration of voter	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Funding of political parties	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Impartial election personnel	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Updating of electoral rolls	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Code of conduct	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
Integrity of counting votes	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Non-partisan media coverage	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Secret ballot	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Exp. Observers	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Independent authority to deal with complaints	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Election expenditure limits	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Anti-defection law	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
Electronic voting machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Candidates' Affidavits on the Internet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	11	11	12	12	12	12	13	15	15	15	15	15	16	16	16	18

Based on Election Commission of India's reports

APPENDICES

APPENDIX C – Snapshot of data points at state level

State level Analysis

Details of data points for the Indian states

STATE/Union Territory	Number of data points	Election years
Andaman Nicobar islands	11	1967 - 2004
Ajmer	1	1951
Andhra Pradesh	13	1957 - 2004
Arunachal Pradesh	9	1977 - 2004
Assam	13	1951 - 2004
Bhopal	1	1951
Bihar	14	1951 - 2004
Bilaspur	1	1951
Bombay	2	1951 - 1957
Chandigarh	11	1967 - 2004
Chhatisgarh	1	2004
Coorg	1	1951
Dadar Nagar Haveli	11	1967 - 2004
Daman and Diu	6	1989 - 2004
Delhi	14	1951 - 2004
Goa	8	1980 - 2004
Goa,daman and Diu	3	1971 - 1980
Gujarat	12	1962 - 2004
Haryana	11	1967 - 2004
Himachal Pradesh	14	1951 - 2004
Hyderabad	1	1951
Jammu and Kashmir	10	1967 - 2004
Jharkhand	1	2004
Karnataka	9	1977 - 2004
Kerala	13	1957 - 2004
Kutch	1	1951
Lakshwadweep	9	1977 - 2004
LM islands	2	1967 - 1971
Madhya Bharat	1	1951
Madhya Pradesh	14	1951 - 2004
Maharahstra	12	1962 - 2004
Manipur	14	1951 - 2004
Meghalaya	9	1977 - 2004
Mizoram	9	1977 - 2004
Mysore	5	1951 - 1971
Nagaland	11	1967 - 2004
Orissa	14	1951 - 2004
Patiala and E Punjab	1	1951
Pondicherry	11	1967 - 2004
Punjab	14	1951 - 2004
Rajasthan	14	1952 - 2004
Saurashtra	1	1951
Sikkim	9	1980 - 2004
Tamil Nadu	14	1951 - 2004
Travancore Cochin	1	1951
Tripura	14	1951 - 2004
Uttar Pradesh	14	1951 - 2004
Uttaranchal	1	2004
Vindhya Pradesh	1	1951
West Bengal	14	1951 - 2004
Total	401	1951 - 2004

APPENDICES

APPENDIX D – Effective number of Social groups

- (1) As far as possible, the data should be from the same source; this will ensure *integrity* of the data.⁷⁴
- (2) The social groups should be clearly defined, and only those social groups should be included, for which reliable information is available for *all* the states and periods; this will ensure *consistency* of data.
- (3) The social groups should not overlap with religious groupings; this will ensure that the explanatory variables are *distinct*.
- (4) The steps for constructing this measure index are detailed below
 - a. I take the total proportion in a state to be $P = 1$
 - b. I source the population proportion of the following groups from the Indian census data.

Scheduled castes (<i>SCP</i>)	}	Caste-based groups
Scheduled castes (<i>STP</i>)		
Muslims (<i>MUS</i>)		
Jains (<i>J</i>)		
 - c. The balance non ($1 - SCP - STP - MUS - J$) represents the total proportion of non SC/ST population of

Hindus (<i>H'</i>)
Sikhs (<i>S'</i>)
Buddhists (<i>B'</i>)
Others (<i>O'</i>)
 - d. From this total I obtain individual groups (*H', S', B', O'*) using the total proportions of Hindus, Sikhs, Buddhists and Other religions respectively in India's population.⁷⁵
 - e. Thus, I obtain non-overlapping population percentages of religious (*MUS, J, H', S', B', O'*) and two caste-based (*SCP, STP*) groups in the Indian population
- (5) I use these percentages to calculate *ESG* using equation 5-2, but replacing religious groups by the above social groups.⁷⁶

The above procedure enables the computation of *ESG* which includes religious and SC and ST groupings in the Indian states.

⁷⁴I source my data on social and religious groups from the Census of India (various years).

⁷⁵There are no SC and ST among Jain and Muslim population.

⁷⁶Following Taagepera's (1998), the share of 'Others' category is added without squaring it for my computation.

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