

Party Aggregation and the Number of Parties in India and the United States

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We rely on data from India and the United States to show that political and economic centralization can influence the number of national parties in single-member simple-plurality electoral systems. Historically, in both countries the number of parties in local electoral districts has been near two, but the number of national parties has fluctuated. Periods of a small number of national parties in both countries correspond to periods of centralization. We argue that, as national governments centralize power and make policies that affect local areas, candidates have greater incentives to associate with national organizations, and voters have greater incentives to abandon locally competitive but nationally noncompetitive parties.

Prominent explanations for differences in the number of political parties across countries, most notably Duverger's Law and the literature related to it, have focused on the role of electoral systems. Differences in district magnitude, electoral formulas, the number of run-offs, and presidentialism have each been hypothesized as determining the number of parties (Cox 1997; Duverger [1954] 1963; Lijphart 1994; Rae 1971; Riker 1982; Shugart and Carey 1992; Taagepera and Shugart 1989). Ethnic heterogeneity has also been associated with multiple party systems.¹ In accounting for changes in the number of national parties over time within individual countries, however, explanations based solely on electoral systems or population diversity are strained. These features rarely change much within countries, and certainly not as often as party systems undergo change in some countries, such as Italy, India, Mexico, or even, as we shall show, the United States.

We examine party system change in India and the United States. Both countries are federal (with relatively strong state governments), and both have single-member, simple-plurality electoral systems. Yet, in both countries the number of parties has varied over

time.² Although the United States is widely recognized as a two-party system and India is often categorized as a one-party dominant system, the number of parties in the United States stabilized around two only after the New Deal, and the number of parties in India has fluctuated between two and seven.³ Since neither country has undergone qualitative changes either in electoral arrangements or in ethnic heterogeneity that correspond to the changes which have taken place in the party systems, one must look elsewhere for explanations of the variation in the number of parties over time in both countries.

We rely on data from India and the United States to argue that the degree of political and economic centralization can influence the number of national parties in single-member, simple-plurality systems. Party systems are formed largely on the basis of voters' and candidates' incentives to coordinate on common party labels. These incentives are related not only to electoral laws and ethnic divisions but also to the role of the national government in local politics and local economies. In particular, the cases of India and the United States suggest that, as national governments exert more political or economic control over local areas, candidates have greater incentives to associate themselves with national organizations, and voters have greater incentives to abandon locally competitive but nationally noncompetitive parties. Under increasing centralization, there will be greater similarities in party systems across different levels of vote aggregation (local, state, national). This means that, in single-member, simple-plurality systems like India and the United States, as the national government centralizes authority, we should expect the number of parties at the national level to decline and approach the number of parties at the local level, a number that will be close to two.

In the next section we propose that national party systems are best understood as aggregations of local party systems and that this conceptualization has con-

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¹ Ordeshook and Shvetsova (1994) and Amorim and Cox (1997) have shown that ethnic heterogeneity correlates with multiple parties across countries, especially in proportional representation systems. Key (1949), among others, made the point that the number of parties can be related to the diversity of political interests in the population. Diversity of political interests, of course, may or may not be related to ethnic diversity.

² A standard formula from Laakso and Taagepera (1979) is used in this paper to measure the number of parties.

³ Kothari (1964) first classified India as a one-party dominant system. Lijphart's (1994) analysis of India, as well as our own here, questions that characterization.

sequences for the conclusions we draw from data on electoral institutions and party systems. We then describe how the role played by the national government influences the way local parties aggregate into national parties. Next, we provide evidence from India and the United States to support our argument. We end with a discussion of alternative theories of party aggregation.

NATIONAL AND LOCAL PARTY SYSTEMS

India and the United States have similar electoral and political institutions. Both elect a national lower house from local electoral districts; both are federal systems in which localities, states, and the national government share power⁴; and both apply single-member, simple-plurality rules in all electoral districts for legislative seats.⁵ Moreover, most electoral districts in India and many in the United States are ethnically heterogeneous, and all are large enough to require mass campaigning by candidates, thus permitting or even encouraging the development of mass party organizations within district boundaries. One major institutional difference between the two countries is that the United States has a divided executive and legislature, with the executive elected (somewhat) directly, while India vests executive power in parliamentary government.

Duverger ([1954] 1963), of course, held that single-member, simple-plurality systems lead to two parties. His argument, in short, is that voters have incentives to abandon noncompetitive parties and vote for parties that have a chance of winning a share of political power. Under single-member, simple-plurality rules, only two parties consistently have a chance to win seats in the legislature (or so the argument goes). Even with recent amendments, additions, confirmations, and alternatives to Duverger (Cox 1987, 1997; Feddersen 1992; Myerson and Weber 1993; Palfrey 1989; Riker 1982; Sartori 1986), the theoretical conclusion that single-member, simple-plurality rules leads to two-party systems is fairly robust. The expected consequences for India and the United States would seem to be clear.

Empirically, however, matters are not so simple. There are the troublesome outliers to Duverger's Law. India, for one, has always been seen as exceptional. By just about any measure, the number of parties nationally in India has not been two for most periods in recent history, which seems to contradict Duverger's Law directly (Lijphart 1994). Riker (1976, 1982), in explaining the exceptionalism of the Indian case, claims that the one-party dominant system (until the 1980s) resulted from the structure of voters' preferences. The median position occupied by the Congress Party in the national electorate led it to be the consis-

tent plurality choice (Condorcet winner) *nationally*.⁶ Other researchers have either dropped India from empirical research on Duverger's Law or have just marked it as a troublesome statistical outlier (King and Janda 1985; Lijphart 1994; Ordeshook and Shvetsova 1994; Rae 1971; Taagepera and Shugart 1993).⁷

A far deeper problem with research on electoral laws in general and on Duverger's Law in particular is a confusion over predictions at the district level and at the national level. In nearly all the empirical research on the political effects of electoral laws, the one major dependent variable of interest is the number of (viable, enduring) parties at the national level. For example, Rae (1971) and Lijphart (1994) use national vote proportions or national legislative seat proportions to construct ordinal or continuous measures of the number of parties. Lijphart, for one, then compares a country's average number of seats in a district with the number of parties in that country. Presumably, the way votes are counted and used at the level of the electoral district to allocate seats in the national legislature influences the formation, sustenance, and success of national parties. The conclusions typically drawn are that Duverger's Law works or does not work because of evidence from national party systems (see, for example, Palfrey 1989, 69).

The problem with this approach is that, as a number of researchers have pointed out (Cox 1997; Cox and Monroe 1995; Gaines 1997; Leys 1959; Sartori 1986; Wildavsky 1959), Duverger's Law and its theoretical descendants essentially deal with district-level phenomena. In a country using single-member, simple-plurality rules with m electoral districts, there could be two parties in each district, but if vote proportions are used to measure the number of parties, there could be as many as $2m$ parties at the national level. This is because each candidate at the local level could hypothetically constitute a single political party. If candidates in other districts do not adhere to the same party label, then district-level votes will not aggregate into sizable or competitive national-level vote totals. In other words, for a two-party system to emerge at the national level, candidates and voters across electoral districts must coordinate on party labels. The focus of attention for national party systems, therefore, should be on what we term *party aggregation*, or the coordination of candidates or voters across electoral districts into national political parties.⁸ The conditions that make India an outlier for national-level predictions

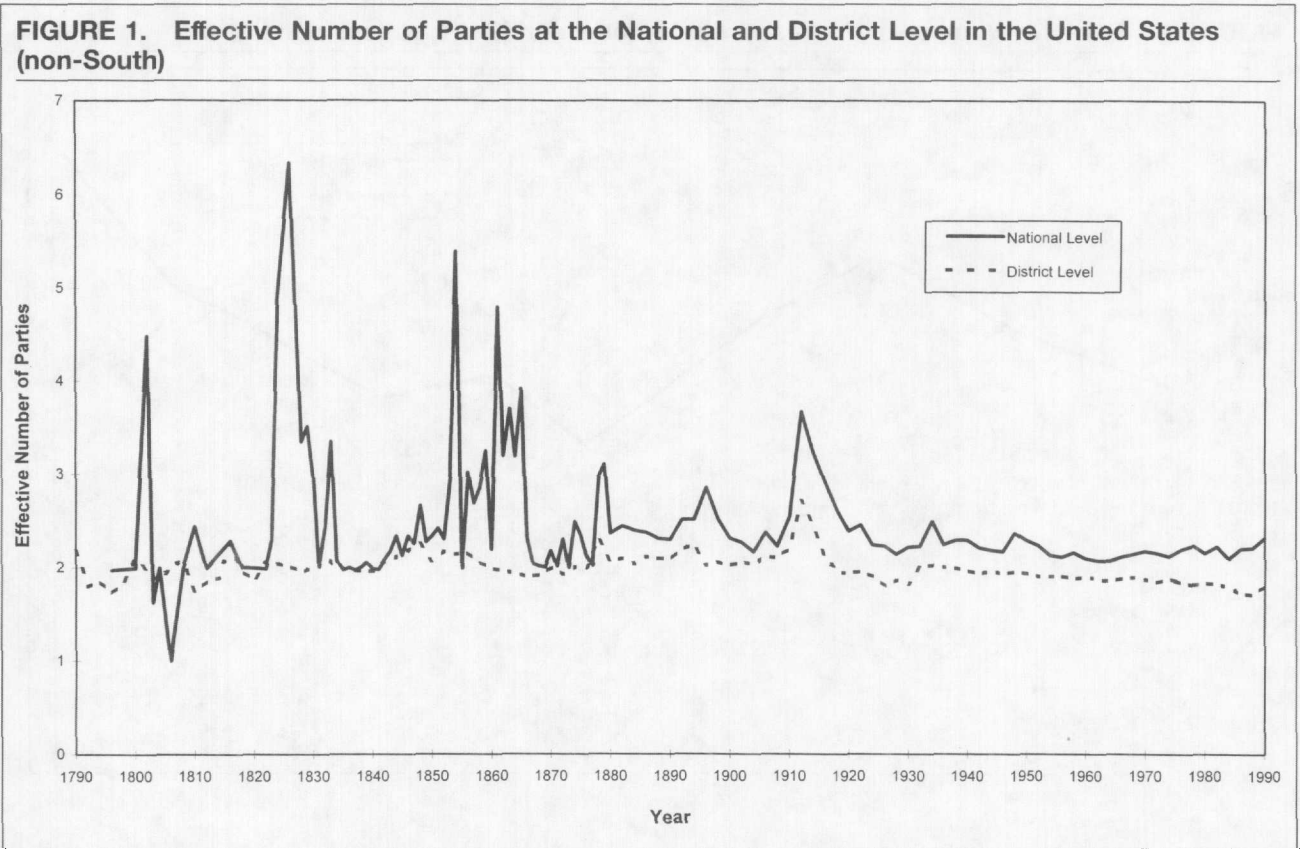
⁴ The nature of federalism in the two countries, especially the economic and political relationship between the national government and state and local governments, is different and has changed over time.

⁵ India had a few two-member constituencies in the 1952 and 1957 national elections.

⁶ Riker (1982) argues that, by occupying the median position, the Congress Party could maintain its dominance by preventing a majority opposition from forming. A majority of voters preferred Congress to alliances with bitter rivals. Recent research on the effective number of parties in India, most notably that of Lijphart (1994), suggests that Riker may have overstated the party's margin of dominance. Congress faced significant electoral competition even in the period of legislative dominance. Nevertheless, the fact that Congress was the party of the independence movement certainly helped it maintain its electoral predominance.

⁷ Other single-member, simple-plurality countries, such as Canada, present empirical problems for Duverger's Law as well (Gaines n.d.; Riker 1982).

⁸ Cox (1997) refers to this process as linkage.



may actually be perfectly consistent with Duverger if local districts approximate two-party systems and party aggregation is taken into account.

To observe the effects of party aggregation, we compared district-level data and national-level data in India and the United States. We calculated the effective number of parties in each electoral district for the lower house in each country (Lok Sabha and the House of Representatives).⁹ The measure we use is the effective number of parties, N , from Laakso and Taagepera (1979). N is a continuous measure that weights larger parties (those gaining more votes or seats) significantly more than smaller parties (see the Appendix for more discussion). It is calculated as follows. For n parties receiving votes or holding seats,

$$N = \frac{1}{\sum_{i=1}^n p_i^2}.$$

The element p_i can be the proportion of popular votes attained by party i in the election or the proportion of seats in the legislature controlled by party i . In this analysis we use the proportion of popular votes.

The average of N across electoral districts, provides a measure of the effective number of parties at the district level (D_N) for lower house elections. If there are d districts in a given year, then D_N for that year is calculated as follows:

⁹ Indian electoral districts are called constituencies. We use the word *district* because most readers are familiar with the term and for consistency with the U.S. data.

$$D_N = \frac{\sum_{j=1}^d N_j}{d}.$$

National data can be obtained by aggregating party vote totals across all districts for lower house elections for a given year. Let v_{ij} be the vote for party i in district j in a given year, and let V be the total vote for all parties in the nation in that year. For n parties nationally,

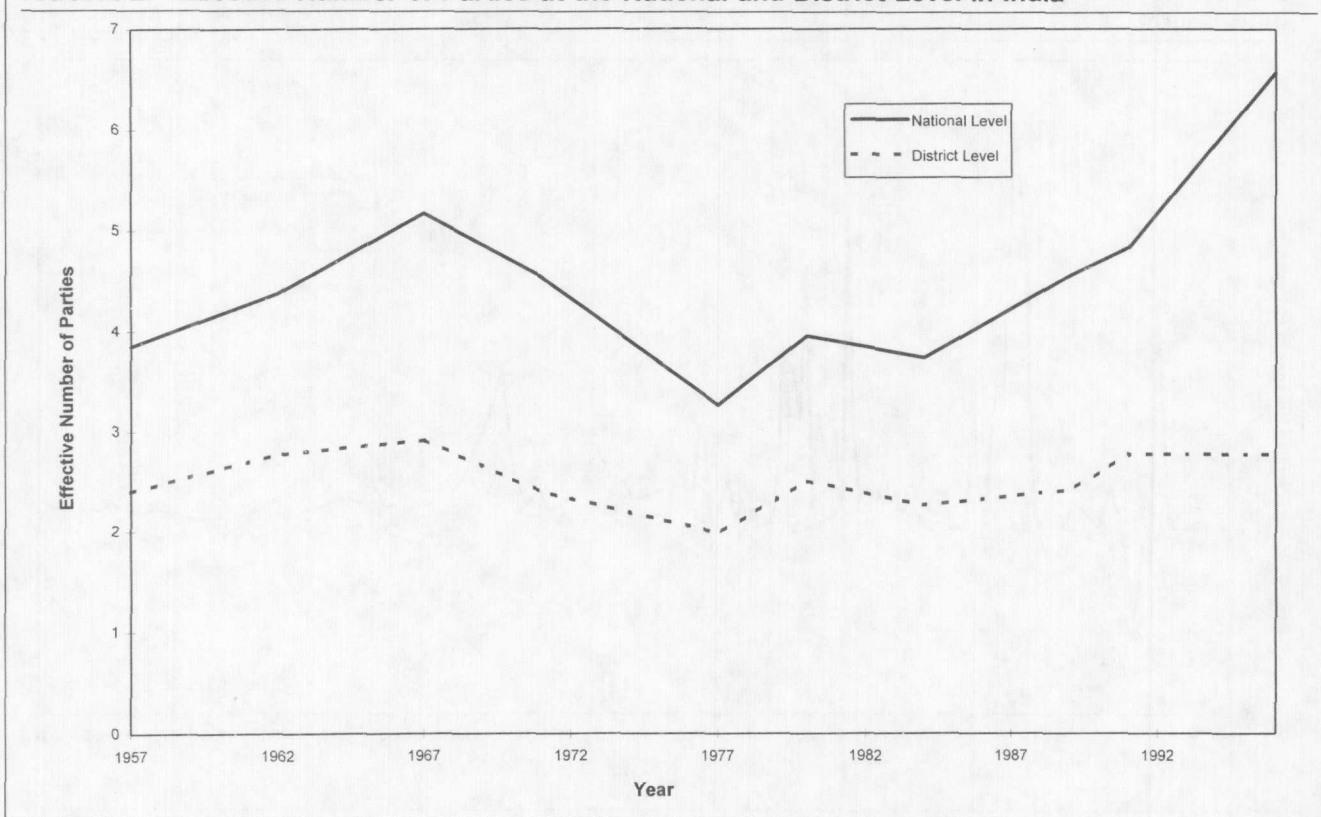
$$V = \sum_{i=1}^n \sum_{j=1}^d v_{ij}.$$

Thus, with v_i being the total vote for party i in the given year, our national-level measure of the number of parties (N_N) is

$$N_N = \frac{1}{\sum_{i=1}^n \left(\frac{v_i}{V}\right)^2}.$$

Figures 1 and 2 show D_N and N_N for both countries over the course of their history of democratic elections.¹⁰ Several patterns are immediately apparent in

¹⁰ Data sources are described in the Appendix. We use the non-South only for the United States for all calculations. Also, we do not include the 1952 elections for India because state boundaries were redrawn before the 1957 national elections and have remained mostly unchanged. There is little reason to believe that adding the 1952 elections would alter our conclusions significantly.

FIGURE 2. Effective Number of Parties at the National and District Level in India

the figures. First, D_N for the United States varies only a little around two, meaning that on average two candidates have received a vast majority of the vote in electoral districts for the House of Representatives. The D_N for India reveals that between two and three candidates receive nearly all the vote on average in the districts.¹¹ Contrary to the conclusion of many studies that report India as a one-party or even a four-party system, the basic single-member, simple-plurality hypothesis of Duverger receives some support. At a minimum, the number of parties is much lower than the number of deep cleavages in most Indian districts. This important finding seriously questions the widely held belief that the numerous Indian "ethnicities" (castes and religions) axiomatically inflate the number of parties. Put another way, and more generously to those in the Duverger tradition, since D_N hovers around 2.5, it is doubtful that ethnic heterogeneity, irrespective of electoral system effects, can account for the number of parties. Furthermore, while the Congress Party has dominated the national government, others have gained significant percentages of the district vote and can be considered competitive locally.

Second, for almost all years in both countries, D_N is less than N_N , and the difference provides a measure of party aggregation problems. We use that measure in

figures 3 and 4, which will be discussed in more detail later. The larger the difference, the more severe is the problem of party aggregation. That is, a small number of candidates receive votes in each electoral district, but the same parties do not exist in all districts, and hence more parties receive votes at the national level. A difference near zero between D_N and N_N would suggest that parties aggregate nearly perfectly. Therefore, the data depicted in figures 1 and 2 suggest that two parties tend to gather a vast majority of the district votes in both India and the United States, but in many periods the same parties are not present in all districts.

Third, the extent of party aggregation is neither constant over time for either India or the United States, nor is it the same for both countries. On the one hand, in the United States there was a marked change in the 1930s. Before that time, the number of effective parties at the national level fluctuated above two, but then it settled to a stable number near two afterward. On the other hand, India displays a different pattern. The effective number of parties nationally rose in the early 1960s, dropped in the 1970s and 1980s, and then began to rise again.

These variations provide an opportunity to examine why party aggregation is more pronounced in some periods than in others. Since the district-level data stay relatively constant, what accounts for changes in the number of national parties over time?

¹¹ Third-party candidates have received more than 20% of the vote in only 15% of the Indian constituencies since 1957. The latter number has varied, however, from 22% in 1980 to 2% in 1977.

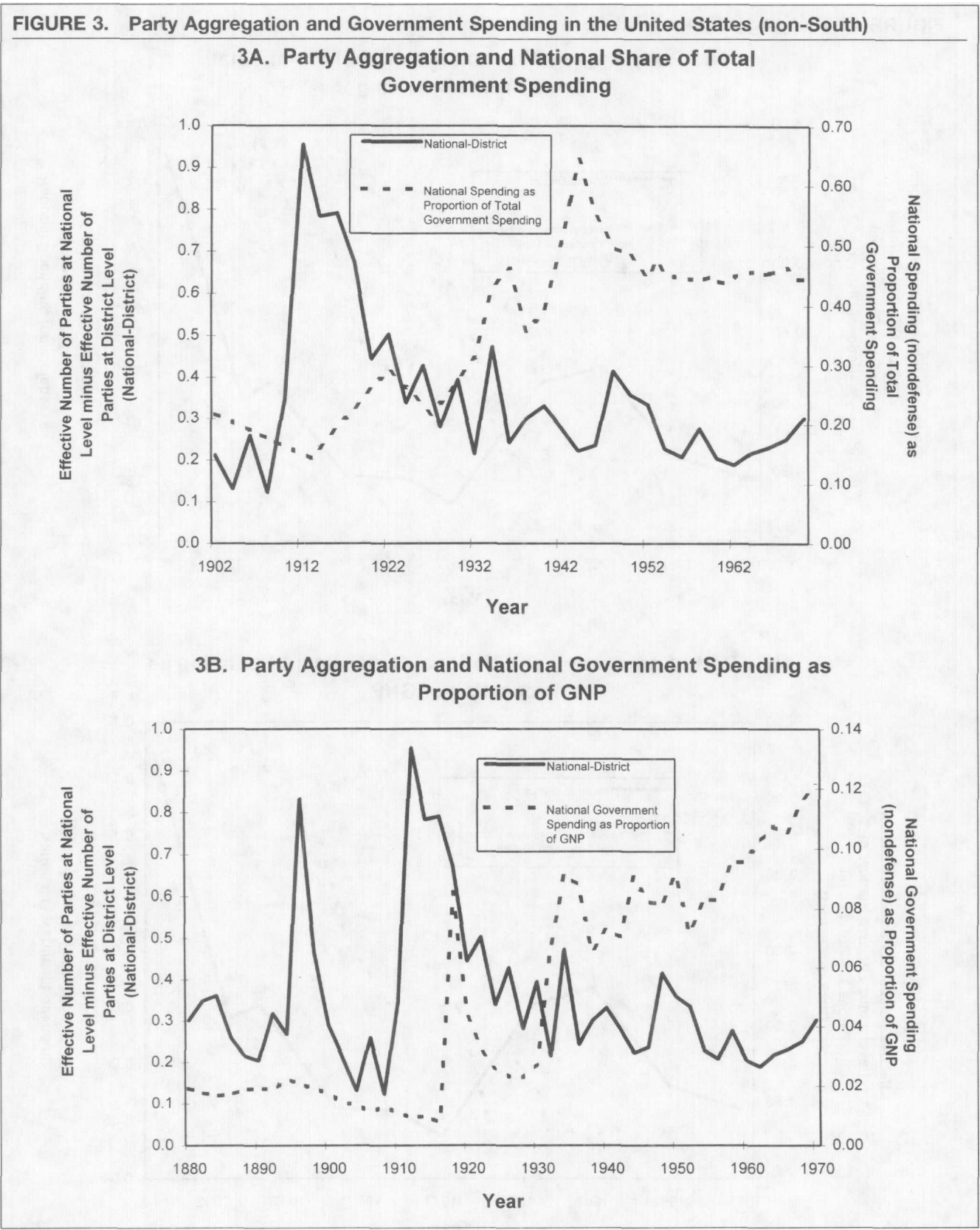
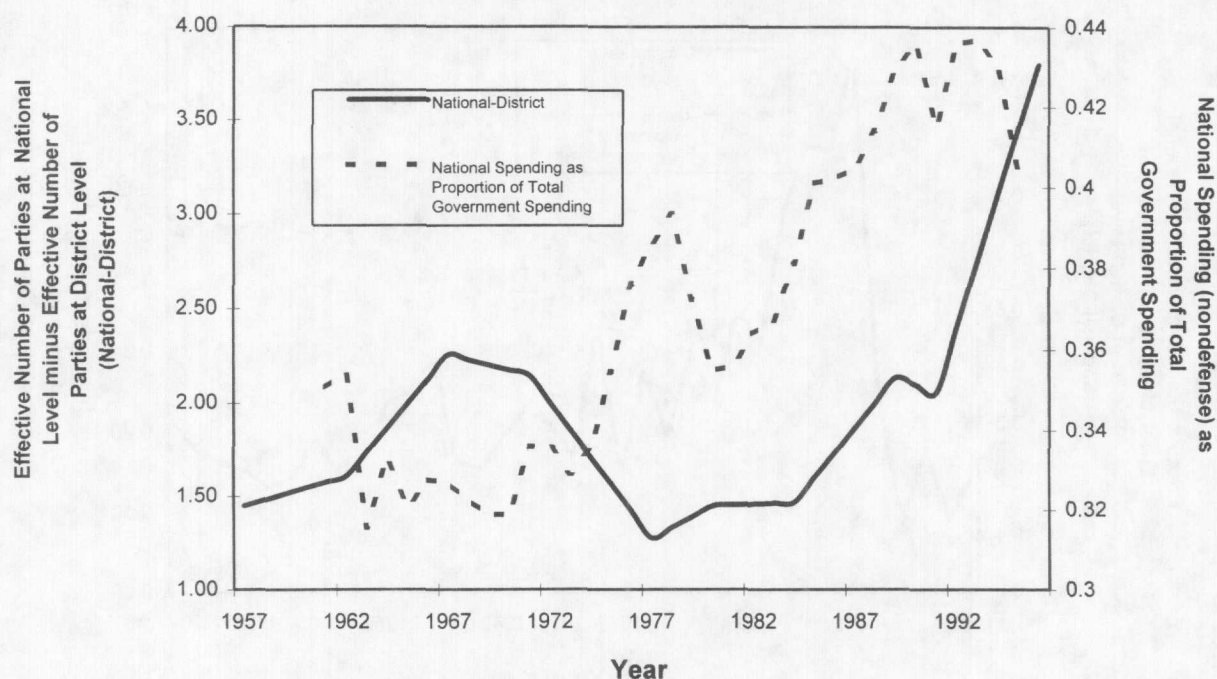
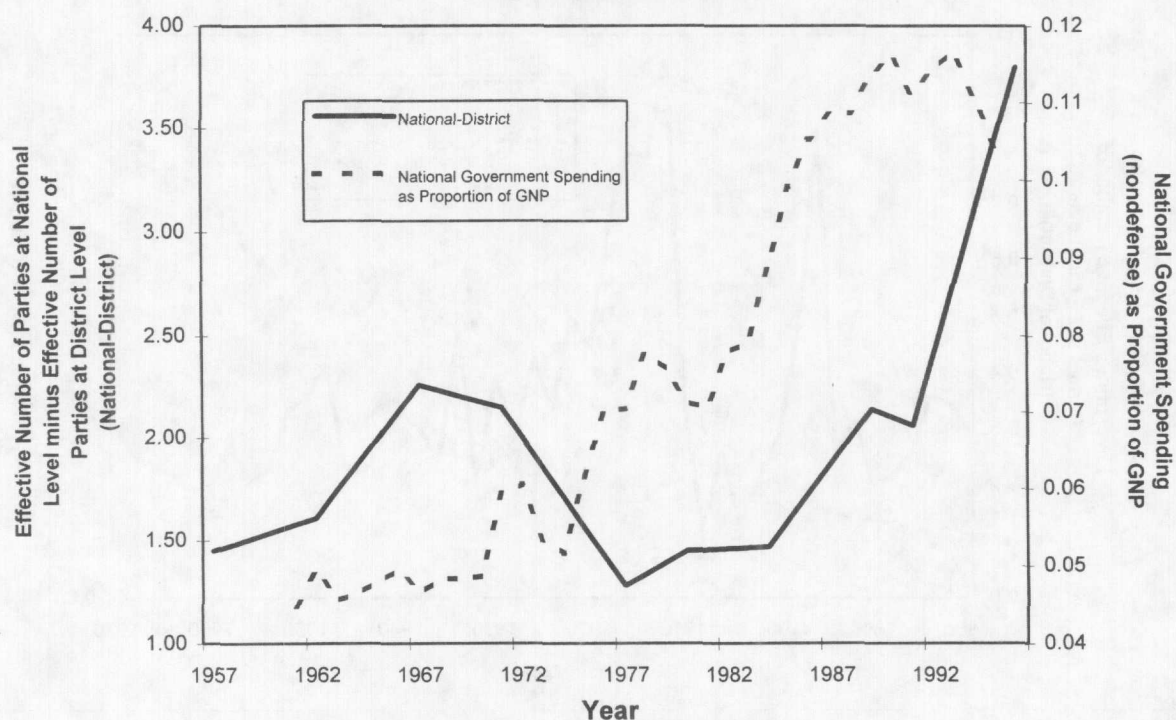


FIGURE 4. Party Aggregation and Government Spending in India**4A. Party Aggregation and National Share of Total Government Spending****4B. Party Aggregation and National Government Spending as Proportion of GNP**

WHAT AFFECTS PARTY AGGREGATION?

National party systems reflect party aggregation across electoral districts. Party aggregation, in turn, reflects the incentives for candidates to coordinate on common party labels and for voters to support parties with broader appeal outside a single electoral district.

Candidates

Candidate coordination across districts—that is, adopting common party labels—can occur for two reasons. First, candidates can respond directly to voters' policy preferences, which may be locally or nationally oriented. In some instances, voter preferences are dominated mostly by local concerns, and those preferences are used to decide among legislative candidates. Candidates, whom we can assume to be office seekers, will take on party labels that respond to voters' policy positions on local concerns. These labels may or may not correspond to national party labels. In the United States, for example, local candidates could call themselves Republicans or Democrats, if these labels communicate to voters something about local policy positions, or they could just as well call themselves Greens and Reds, if these labels were better suited to local conditions. The key point is that party labels may very well differ in surrounding districts. In other instances, voters consider mostly national policies when deciding among legislative candidates. In situations where the national government makes most decisions, such as those on taxation, the allocation of state resources, or local school curriculum, these decisions will form the basis of voters' preferences over candidates. Voters will then develop a set of preferences over the party composition of the lower house and vote according to those preferences. Candidates facing these voters will have incentives to take on party labels that communicate national policy positions.

Second, candidates may also want to coordinate across districts to influence national policies. Clearly, if the national government makes most of the decisions on policies of concern to voters, then we can expect local candidates to affiliate with parties that can make it easier for them (upon becoming legislators) to influence those decisions. Taken farther, if part of the task of the national government is to distribute resources to different parts of the country, then local leaders will want to identify with national parties in order to gain a share of the resources. They will want to affiliate not only with the party in power but also with other parties that may have a chance of attaining power. Furthermore, they may seek to associate themselves with other candidates representing similar national policy preferences and communicate to voters their combined potential power to influence national policymaking.¹²

¹² Common party labels make it easier for public officials to cooperate across levels of government (Aldrich 1995; Eldersveld 1982) and also enable ambitious politicians to attain higher level offices (Schlesinger 1991).

Voters

Under a system with centralized authority, voters see themselves as either benefiting or losing from national policies and, as a consequence, develop preferences regarding those policies. It may even be rational for them to vote for a less preferred party if it is nationally competitive (Cox 1997, chapter 10; Leys 1959). Cox and Monroe (1995) discuss voting equilibria in which voters have preferences about the composition of the national legislature and have well-defined expectations about how parties will fare in the elections nationally. They conjecture that, in equilibrium, voters will often vote for less preferred parties. For single-member, simple-plurality systems, this means they will usually abandon nationally noncompetitive parties, even though these may be locally competitive. Furthermore, in such a system, two nationally competitive parties will tend to emerge. As Cox and Monroe (1997, 14–5) summarize their argument, “the net impact of national parliamentary considerations on local Duvergerian dynamics should be clear. . . . There are multiple dynamics that serve to (1) drive down the number of parties, and (2) reinforce the national party system at the district level. . . . These dynamics . . . are particularly strong in single-member district systems.”

Voters in India and the United States, of course, have neither purely local concerns nor purely national concerns. They vote for legislators both to represent local interests and to take part in national policymaking. In both countries, however, there have been changes in the degree of political and economic centralization.

Expectations

Party aggregation is more difficult to achieve when voter preferences are mostly locally based and candidates do not have to coordinate with politicians in other districts. Both voters and candidates are inclined to focus on local matters and local labels. In India, for example, many voters choose regional parties that are ideologically similar to parties in neighboring regions, although each maintains a distinctive label and organization.¹³ As the national government centralizes power, voters develop national policy preferences, and candidates associate themselves with certain national policy positions. As a result, local party systems and national party systems begin to resemble each other.

To summarize, for single-member, simple-plurality systems, the electoral system has its most direct effect on the district level. Voters tend to abandon noncompetitive local parties for Duvergerian reasons. The dominant tendency is for two parties to capture most of the vote consistently at the district level (figures 1 and 2). At the national level, Duvergerian effects are found

¹³ The Samajwadi Party in Uttar Pradesh and the Janata Dal in Bihar represent similarly situated castes, and both parties are not ideologically different. Each prefers to retain its independent organization. Their cooperation at the national level in 1996 was somewhat strained. This pattern of behavior is more noticeable in some periods than in others.

when national policies matter at the local level. We would expect to see two parties at the national level only when voters have national policy preferences and when candidates who represent voters with similar preferences across districts see the obvious advantages to affiliating with other candidates.

EVIDENCE

If party aggregation is sensitive to the degree of centralization in the manner just described, then we should observe a larger difference between N_N and D_N in periods when the central government is less dominant or becoming less dominant. As D_N is expected to stay fairly constant (near two) in single-member, simple-plurality systems, most of the variance across time for India and the United States should occur with N_N . When N_N rises, it reflects increasing problems of party aggregation. This section demonstrates that patterns of party aggregation and political and economic centralization in India and the United States largely support these conclusions. In both countries, party aggregation is more successful when the national government centralizes authority.

United States

Returning to Figure 1 for the United States, before the New Deal, and especially before introduction of the national income tax in 1913, N_N fluctuates from near two to as high as 6.5 in the early nineteenth century. The periods corresponding to the Populist and Progressive movements also show expected punctuations in N_N . These patterns reflect the regional or local bases of minor parties in the United States historically. In some regions in the late nineteenth century, for example, Republicans faced their most significant opposition from Populists, while in other regions the threat came mostly from Democrats. Nationally, both Populists and Democrats aggregated noticeable numbers of votes for the House of Representatives, causing N_N to be higher for that era. In the early twentieth century, the Progressives were largely a collection of locally based parties that did not necessarily coordinate their efforts across districts and even had slightly different labels in neighboring states (Shefter 1994). In sum, before the New Deal, the national political system was one of locally rooted parties that gathered and "handed out divisible economic benefits to meet their patronage requirements" (Finegold and Skocpol 1995, 54). While these local parties often were labeled Democrat or Republican, in some places parties such as Labor, Progressive, Socialist, Prohibitionist, or Farmer were one of two locally dominant political organizations.

The political and economic centralization of the 1930s obviously had a profound effect on local politics and local economic policies. Referring to Figure 3, the dotted lines depict two economic indicators of what occurred during this time. National government spending (nondefense) as a proportion of total government spending (including state and local spending) more than doubled during the period. National government

(nondefense) spending as a proportion of GNP rose nearly tenfold from the turn of the century to the 1930s and continued to rise. The New Deal, in many ways, centralized public taxing and spending decisions.

The New Deal also centralized political authority. According to Milkis (1993, 9)¹⁴, it brought about the "nationalization of the political system . . . [and] established conditions for the emergence of a more national and programmatic party system." The new policies in some cases weakened more conservative Democratic machines in big cities, such as New York (Erie 1988, 108). But they also brought into the Democratic fold Republican Progressives in Minnesota and Farmer-Labor members in Wisconsin (Milkis 1993). They strengthened local Democratic machines in Chicago and Pittsburgh and maintained the Democratic hold on many parts of the South (Key 1949). Roosevelt's policies, in sum, marked the most substantial political and economic centralization in American history, causing voters and politicians to orient their party affiliations either in support of or in opposition to them.

After the New Deal, N_N drops to near two and stays there, as shown by the solid lines in Figure 3. Clearly, great surges in third- and fourth-party strength at the national legislative level ceased in the 1930s, causing the problem of party aggregation to recede. Our argument is simply that this aggregation pattern was driven by American voters' increasing consideration of national policies when choosing among House candidates.¹⁵ Nearly all viable legislative candidates, in response, found it increasingly in their interest to affiliate with one of the two major parties as opposed to identifying with local or regional parties.¹⁶

More systematic evidence for the relationship in the United States is presented in Table 1. Equation 1 summarizes a regression model in which the number of national parties (N'_N) in a given election year (t) is regressed on its lag ($N'_N{}^{t-1}$) and on central government spending (nondefense) as a proportion of GNP (X_t) (i.e., the data from Figure 3B). The coefficient of interest is on X_t , and it shows that X_t is negatively related to the number of national parties (and statistically significant), controlling for the previous number of national parties. This is exactly as we would expect, leading to the interpretation that greater fiscal (and by

¹⁴ Our argument is different from that of Coleman (1996), who emphasizes the civil service reform that accompanied the New Deal as a cause of party decline (as measured by party vote discipline in Congress). Our claim does not focus either on party weakness or congressional votes but merely states that, with the New Deal, national policy preferences began to dominate voting decisions in House elections.

¹⁵ This conclusion is supported by numerous studies of American electoral behavior. See Key 1949 and Burnham 1970 for classic accounts.

¹⁶ Another interesting aspect of Figure 1 is the decline in the size of surges in N_N after the Civil War, another great period of centralization. This adds evidence of the effects we highlight here. We believe that N_N declined in response to centralization during and after the Civil War and then declined further (and most completely) after the New Deal. Note, however, that most of the fluctuations in the periods prior to the New Deal are not explained here. Essentially, our argument is that once a threshold of centralization has been passed (after the New Deal), party aggregation occurs rapidly.

TABLE 1. Effects of Centralization on the Number of National Parties in the United States

Variable	Equation 1	Equation 2	Equation 3
Constant	1.23*** (0.24)	1.39*** (0.34)	1.36*** (0.28)
X_t (fiscal centralization)	-1.91* (0.97)	-2.14 (1.16)	-2.11 (1.14)
N_N^{t-1}	0.52*** (0.09)	0.62*** (0.13)	0.62*** (0.13)
N_N^{t-2}		-0.16 (0.17)	-0.18 (0.21)
N_N^{t-3}			0.03 (0.12)
n	46	46	46
F	21.10***	15.61***	16.98***
R^2	.47	.49	.49
Durbin-Watson	1.6	1.8	1.8

Note: Shown are OLS coefficients with robust standard errors in parentheses. The dependent variable is the number of national parties in election year t (N_N^t). The independent variable X_t is national government spending (nondefense) as a proportion of GNP (i.e., the economic data from Figure 3B). * $p < .05$, *** $p < .001$.

implication political) centralization leads to fewer national parties.¹⁷ In equations 2 and 3 in the table we explore the robustness of the result. We lag the dependent variable a second and third time to make sure that the effect of fiscal centralization does not disappear if we change the lag structure of the model. As the table shows, the estimated effect of X_t on the number of parties does not change much from the model summarized in the first column, although the probability level for the coefficients on X_t in the second and third columns goes to .07 in each.

India

The effects of the political and economic centralization that characterized Indian politics in the 1970s and 1980s are as expected. The party system moves in the direction of a two-party system nationally during much of that period. In the late 1980s, however, political centralization and the consolidation of parties were reversed, and in the 1990s India was once again a system with more than four national parties. The pattern—increasingly successful party aggregation and then a reversal—conforms well to our argument.

As evident in Figure 2, from the elections of 1957 to those of 1967, there were increases in N_N (and $N_N - D_N$). In other words, party aggregation increasingly failed in this period. Analysts have noted the weakening power of the central government, especially between 1964 and 1967, when power within the ruling Congress Party was held by a collection of state leaders,

commonly called the Syndicate (Brecher 1966; Frankel 1978; Kochanek 1968; Rudolph and Rudolph 1987). As Manor (1988a, 68) succinctly notes, in this period the center's will did not dominate, as "bargaining had long been an important element of relations between New Delhi and the states, even in Nehru's day when Congressmen held sway at both levels."

Political and economic centralization in India began with the 1971 elections. For most of the next decade and a half, Indira Gandhi, who was prime minister between 1971 and 1977 and again from 1980 to 1984, drastically centralized power and resources. "She created a pyramidal decision-making structure in party and government...[and this] centralized decision-making" (Kochanek 1976, 104). She also forged direct ties with local leaders, bypassing state leaders. Besides candidates competing formally for elective office, local elites ("brokers") are important in Indian politics.¹⁸ The incentives of these local elites to align with nationally competitive parties changed in concert with the increased dispersal of resources for rural programs by the central government (Brass 1990). As the central government augmented its role in local affairs, local elites aligned with national parties. A similar degree of political centralization was not sustained under Rajiv Gandhi from 1985 to 1989. He was unable to control even the various factions within the Congress Party (Frankel 1987, 38; Manor 1988b, 9; Weiner 1987, 15).

In addition to the well-known centralization of political power under Indira Gandhi, evidence summarized in the two panels of Figure 4 shows that economic centralization occurred as well.¹⁹ Figure 4A demonstrates that national government spending (nondefense) as a proportion of total government spending (nondefense) increased only after Indira Gandhi came to power. And national government spending (nondefense) as a proportion of GNP almost doubled during her reign (Figure 4B). The solid lines in these figures show that party aggregation moved in opposition to the economic data during every period until 1985.

The data summarized in Figure 4 for the period 1985–89 appear to run counter to our theory. During these four years, both the economic data and the number of parties move upward. The data in the late 1980s, however, are somewhat misleading. Much of the increase in national government expenditures can be attributed to larger grants to the states and union territories and to interest payments on debt, the kind of spending that need not indicate centralization of authority. Three-fifths of the growth in national government spending as a proportion of GNP between 1985 and 1989 can be attributed to these types of expenditures, a proportion that is much higher than in earlier periods.²⁰ The well-known inability of Rajiv Gandhi to

¹⁸ For the critical role played by brokers and local elites, see Mitra 1992 and Reddy and Haragopal 1985.

¹⁹ Hart (1976) and Manor (1994) provide evidence for the concentration of central authority in this period.

²⁰ In fact, when we use an alternative economic measure, the proportion of total government spending (as in Figure 4A) excluding debt payments, the results from statistical analysis look more consistent with our hypothesis in all periods, including these four years. For

¹⁷ We also recalculated the coefficients using a Hildreth-Lu estimator (because the Durbin-Watson is 1.6). This procedure corrects for serially correlated residuals in small samples (Neter, Wasserman, and Kutner 1989, 500). The coefficient for X_t goes to -2.34 with a standard error of 1.17 ($p = .05$). The transformed Durbin-Watson is then 1.96. This result means that serial correlation does not alter the main conclusion of the model.

maintain his mother's political and economic centralization is not properly reflected in these data.²¹

Accompanying the increased expenditures under Indira Gandhi was greater economic policy intervention by the central government, often in direct contradiction of prevailing political norms. For instance, although agriculture is constitutionally not the province of the central government, the share of federal spending in that sector quadrupled (India 1976). The central government also amended the constitution to deprive states of revenues from advertising on state-owned radio and television. The location of industries—both in the private and public sector—was decided by the national government. Through the 1970s and mid-1980s the central government, through schemes it sponsored, largely determined the spending priorities of state and local governments (Bagchi 1991).²²

As expected, N_N drops and there is more effective party aggregation between 1971 and 1984. Once again, however, the pattern reverses in the late 1980s because, while Indira Gandhi was relatively successful in centralizing power through the early 1980s, Rajiv Gandhi was not as adept. For instance, in 1989 he attempted to introduce the 64th Amendment to the constitution. It would have redefined government relationships, with state governments ceding a fair degree of fiscal control to local governments, whose finances would have come under the direct purview of the central government. The amendment failed in the upper house.²³

Problems with party aggregation therefore increased again, especially after 1991. As Yadav (1996, 95) notes, after 1991 the party system "cannot be aggregated at the national level." This change occurred in response to a marked decline in political and economic centralization. National government expenditures as a proportion of GNP showed a steady but small decline after 1990, and between 1991 and 1995 central government revenue expenditures declined almost 2% (India 1996b, 20). Furthermore, the changes in economic policy introduced in 1991 differed from earlier attempts to liberalize the economy in one important way: The central government has reduced its role in economic policymaking. The procedure whereby licenses to set up a manufacturing industry are granted by the central government has mostly been abolished. The states not only have greater autonomy in setting indus-

trial policy but also actively compete for investment. The central government also has altered its financial relations with the states, and its grants to the states have declined (India 1996b, 25). Not surprisingly, party aggregation appears to have decreased in this most recent period.

Because there are too few cases for meaningful regression analyses, we do not replicate Table 1 for India. We can summarize the results briefly, however. Coefficients for a regression of the number of national parties (N_N^t) on its lag (N_N^{t-1}) and on the centralization measure presented in Figure 4B reveal the same underlying pattern as in Table 1. The coefficient for fiscal centralization is negative ($-.34$, with a standard error of $.38$).²⁴ More telling for this low number of cases, perhaps, is a simple correlation of first differences between the dependent and main independent variables. Let $\delta_N = N_N^t - N_N^{t-1}$, where δ_N is the change in the number of parties and N_N^t is the same variable as in Table 1, but for India rather than for the United States. Similarly, let $\delta_X = X^t - X^{t-1}$, where δ_X is the change in centralization and X^t is the measure of centralization from either Figure 4A (with total government spending as the baseline) or Figure 4B (with GNP as the baseline). The correlations between δ_N and δ_X are negative using both measures for δ_X ($r = -.26$ for the data in Figure 4A and $r = -.29$ for the data in Figure 4B). In fact, for every period except the late 1980s, when economic centralization increased, the number of national parties decreases; when economic centralization declines, the number of national parties grows.

These data lead us to offer two conclusions. (1) For the United States, the national income tax and the centralization of economic and political power under the New Deal solidified the national two-party system. (2) For India, the centralization of political and economic power under Indira Gandhi brought about a significant reduction in the number of parties for a temporary period. Before the 1930s in the United States, and both before and after Indira Gandhi in India, candidates and voters did not coordinate party labels as effectively because local concerns were more prominent, and voters were not as concerned about the national competitiveness of local parties.

Our analysis so far has been based on a comparison of data across time within the two countries. It is worthwhile at this point to compare briefly party aggregation across the two countries. There are several noticeable differences. The United States has had a more stable number of parties at all levels than India, though it should be noted that the United States did not attain much of its present stability until a century after its founding. N_N is nearly always higher for India than for the United States during most of the twentieth

comparability with the U.S. data, we do not subtract payments on debt.

²¹ Between 1975 and 1984, for instance, except for 1977–78, when the opposition Janata Party was in power, central government grants to the states varied between 1.7% and 2.1% of GNP. In 1977–78, a prominent period of decentralization, central government grants to the states were 2.7% of GNP. This is strikingly similar to allocations made to states by Rajiv Gandhi's government, which averaged 2.7% (India 1989).

²² There are many commentaries on the centralization of expenditures in India. See, in particular, Bagchi, Bajaj, and Byrd 1992, Gulati 1987, and Lakdawala 1993.

²³ In 1992 the Congress government introduced another version (the 73rd Amendment), which was adopted. It made clear that the central government no longer had the ability to scrutinize the accounts of local governments, a right now in the hands of state governments (India 1989, 1992).

²⁴ This coefficient is derived from a Hildreth-Lu estimation procedure to correct for serial correlation among residuals. Since the estimation procedure requires that periods be evenly spaced. To transform the data appropriately, each election year was treated as an observation. Years between elections were dropped for the estimation.

century. India also has consistently a somewhat larger number of effective parties at the district level (D_N). The overall comparison can be simply summarized by saying that India has more parties than the United States.

These differences may be explained by the greater ethnic, religious, and linguistic diversity of India relative to that of the United States. There is undoubtedly some truth to this explanation. As Cox (1997) argues, "strong" electoral systems, such as single-member, simple-plurality ones, can significantly lower the number of parties, but population diversity can increase the number of parties, leading to results that are not quite in keeping with Duverger's Law, but close. Throughout recent Indian history, small ethnic parties have been competitive in elections and have garnered representation in the Lok Sabha. Ethnicity and caste are important factors in any full explanation of electoral and political outcomes in India, but they do not tell the whole story. To explain why the number of parties and the extent of party aggregation have changed over time within both countries, one must look at the fiscal relationship among levels of government. The central Indian government is less involved in economic decisions that affect voters at the local level than is the national government in the United States. For instance, to use a simple measure of federal intrusion, direct taxes levied by the national government as a proportion of GNP are much lower in India (around .02 in recent decades) than the United States (around .14 in recent decades). The United States has a far better developed welfare state and accompanying national bureaucracy than India. The average Indian has less contact with the central government than the average American. It is important to emphasize that only two countries are compared. A fuller examination of this explanation requires electoral and economic data on more single-member, simple-plurality countries.

DISCUSSION

We have drawn attention to the role played by political and economic centralization in explaining changes in the number of parties in single-member, simple-plurality systems. Like Sartori (1986), who argues that national party systems influence voter and candidate behavior in local districts, we consider national policies to be influential in the decision of local candidates to affiliate with other candidates and in the decision of voters to support local versus national parties. Taking Sartori one step farther, we attribute the emergence of national party systems that resemble local party systems to the increasing importance of the central government in the lives of voters.

Various other explanations can be offered for party aggregation. In the U.S. case, these focus on the unique institutional features of the U.S. system, such as the presidency, a strong committee system in Congress, ballot access laws, and civil service norms. For example, it has been argued that the direct election of the executive discourages the formation of third parties in

the United States or makes party aggregation easier in many kinds of systems (Cox 1997; Jones 1994; McCormick 1975; Shugart and Carey 1992). This argument, while plausible theoretically and not at all inconsistent with our own, does not account for changes over time in the United States. American party aggregation occurred only in the 1930s, although presidential elections began in 1788. Furthermore, focusing on U.S. presidential elections to measure the number of parties is misleading. Direct Duvergerian effects can indeed occur in a national election for a single office, but the legislative data reveal quite clearly that three, four, and even more parties have received a substantial proportion of votes during certain periods.

The committee system and rules of the lower house also have been suggested as discriminating against third parties. One could argue that because the committee system in the Lok Sabha is much weaker than in the House of Representatives, there are more parties in India. Greater floor action in the legislature could mean less effective coordination among legislators on agenda control and voting. While the committee systems are indeed different in the two countries, this alone cannot explain the variance in the number of parties receiving votes in legislative elections before the 1930s in the United States. In the late 1800s, members of the Populist Party often complained that they were not given the chance to speak and that the two major parties essentially divided the House and the committee assignments between themselves. Yet, this did not prevent either the emergence of third parties or the expression of voter preferences for parties that were locally competitive but nationally noncompetitive.

Ballot access rules, too, can prevent third parties from becoming competitive by raising the cost of running a campaign. We found no systematic evidence that ballot access rules changed so dramatically in the United States (non-South) in the 1930s that they caused the number of national parties to drop as it did.

The evolution of the U.S. party system has been linked directly by Shefter (1994) and indirectly by Skocpol (1995) to civil service reform. While these authors do not explicitly address any influence that the emergence of a "national civil service" may have had on the number of national parties, their explanation suggests that a national bureaucracy and a two-party system go hand in hand. Civil service reform may lead to a nationalization of issues.²⁵ Our argument is similar, but we believe a national civil service is not a sufficient condition for the emergence of national politics. The Indian bureaucracy has always been "national," yet the issues that usually dominate Indian elections and party politics are not national. It is not the existence of a national civil service but the functions it performs that determine whether national concerns will dominate local politics. In the United States, we argue, the emergence of an income tax and the welfare state were crucial to the nationalization of politics.

We end with four observations. First, political and

²⁵ Coleman (1996) makes a similar observation.

economic centralization can occur for many reasons, including a consolidation of local parties into national parties.²⁶ In other words, we do not deny the possibility that party systems cause centralization, not the other way around. Yet, the data from India and the United States show that centralization begins prior to periods of party aggregation. The patterns of low levels of N_N and centralization follow each other closely in each country. Both Franklin Roosevelt and Indira Gandhi used their position to, among other things, create more nationalized political parties (Milkis 1993; Rudolph and Rudolph 1987).

Second, while we focus on national party systems in India and the United States, the logic for party aggregation is independent of the level of government. In federal systems, these effects may occur at the state level as well.

Third, it is certainly possible, if not likely, that these effects also may occur in proportional representation systems. Centralization could depress the number of national parties in such systems for much the same reason: Local and regional parties cannot stay competitive in the national arena when voters focus attention on national policies.

Fourth, our argument is consistent with recent trends. The central government in India is ceding control over fiscal policies to the states, and the number of parties at the national level is increasing. This is exactly as we would predict. The problem of party aggregation continues in India. In the United States, the national two-party system appears to be quite stable. If recent trends in the devolution of fiscal authority to the states continue in the United States, perhaps we shall see more regionally competitive but nationally noncompetitive parties represented in Congress, and difficulties with party aggregation may re-emerge.

APPENDIX

The district and national measures for the effective number of parties in the United States were calculated using historical election data prepared by the Inter-university Consortium for Political and Social Research (1995). Nongeneral elections, contests with missing vote totals, and contests with more than one winner were dropped from the data set. In calculating the district-level measures, for each election the candidate's proportion of the vote, p_i , was calculated by dividing the candidate's vote total by the total votes for all candidates in the election. We use the formula given on page 331 for the effective number of parties (N) (Lijphart 1994, 68).

There are two other measures used in the literature: NP (see Molinar 1991) and I (see Kesselman 1966). NP puts very heavy weight on the proportion of votes for the winning party. I puts very heavy weight (relative to other measures) on smaller parties receiving low proportions of the vote. We calculated all three measures for the U.S. and Indian data. Since the fluctuations in the national data for both countries are similar across the three measures, our main conclusions are not sensitive to changes in measurement. The district measures are somewhat different for the three measures, but

N nearly always lies between the two other measures and strikes a nice middle ground conceptually. Also, N is used most often in the recent literature, so its use here makes it easier to compare our results with others.

In each case for the district elections, votes were summed over all candidates. Yearly averages were calculated using sums of these measures and a count of the total number of elections nationwide (in the data set) for each year. The "non-South" measures—used in all U.S. data reported in this paper, both for district-level and national-level analysis—exclude elections held in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia. Obviously, including the South would lower D_N in the early twentieth century (though only to about 1.7). For much of American history, southern elections were held in circumstances so different from the remainder of the country that including the South in these measures would introduce many empirical and theoretical complications.

In calculating the national-level measure, to allow aggregation of votes by party, if a candidate's party was coded as either missing or unidentified, and the candidate received less than 2% of the vote, then that candidate (but not necessarily the others in the contest) was dropped from the data set. If a candidate's party was coded as either missing or unidentified, and the candidate received 2% or more of the vote, then every candidate in the election (i.e., the entire contest) was dropped from the national measure. This presents virtually no problems (few cases are dropped from any year), except for 1806. For some reason the data on the party affiliation of candidates for that year are extremely thin. All candidates except those of the (Old) Republican Party in Vermont had missing party data (for example, 266 candidates in New York had none). Thus, N_N for that year registers 1.0 (see Figure 1). This is the only year for which missing data on party affiliation is a major problem in either data set.

The source for U.S. economic data was the U.S. Department of Commerce (1975). In that volume, the figures were found in the following locations: total government outlays (Series Y457), defense outlays (Series Y458-Y460), state and local expenditures (Series Y671), and GNP (Series Y590-Y598).

The constituency-level and national measures of the effective number of parties in India were calculated using Indian election data prepared by Singh and Bose (1984, 1994) and India (1996a). The calculations used data for single-member constituencies in 16 states: Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamilnadu, Uttar Pradesh, and West Bengal. These account for more than 95% of the country. For each constituency, N was calculated using each party's proportion of the vote total provided in the data set. Yearly averages were calculated using sums of these measures and a count of the total number of elections per year. The national-level measure was derived by calculating each party's proportion of the total number of votes for all parties in each election year, and then applying the formula for N .

Our results for India differ from those of Lijphart (1994) for two reasons. First, our data are not for the national level (as in Lijphart) but for the constituency level. To get the national measures, we aggregated across all districts. Our cut-off was 2% of total votes in each constituency; that is, candidates receiving less than 2% in any constituency were dropped from the analysis. This could be a potential problem, especially if the proportion of votes received by minor parties in any given district aggregates to, say, 10% or more. In India, this 2% cut-off led to dropping only 1.78% of the total vote

²⁶ See Skowronek (1982) and Wagner (1958) for causes of fiscal centralization.

for the average district (this varied little across election years) with a range of 0% to 30% for all districts and a standard deviation of 2.18%. Because the proportion of votes dropped was so low, neither the district calculations (D_N) nor the national calculations (N_N) were affected.

Our second and most consequential difference with Lijphart has to do with our treatment of independents. In Indian politics there are many independent candidates. In each electoral district (constituency), they were included in the district calculations (D_N) if they surpassed 2% of the vote in that district. In calculating N_N , each independent was included as a separate party. Lijphart, in contrast, includes them in his "Other Parties" category but leaves them out of the numerator, appropriately. Yet, he includes the number of independent votes in the denominator in calculating the proportion for each party. Taagepera (1997) suggests several procedures for calculating N when there is incomplete data on which parties are included in the "Other Parties" category. Here, we have complete data, and these allow for the most accurate measure available for the effective number of parties (by including each independent as a single party).

The economic data on GNP and direct taxes levied by the central government were collected from India (1992, 1996c). Chandok (1990) provides data on central and state expenditures from 1960 through 1988, and the series was completed with India (1992 and 1996c).

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