Gains from a Redrawing of Political Boundaries: Evidence from State Reorganization in India*

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Abstract

This paper analyzes the impact of a redrawing of political boundaries on voting patterns. It investigates whether secession of states leads to gains in terms of better conformity of the electorate's political preferences with those of the elected representatives. We study these issues in the context of reorganization of states in India. Madhya Pradesh, the biggest state in India before the reorganization, was subdivided into Madhya Pradesh and Chhattisgarh in 2000, the latter accounting for less than one-fourth of the electorate of undivided Madhya Pradesh. Using socio-economic composition and traditional voting patterns, we argue that there were differences in political preferences between Madhya Pradesh and Chhattisgarh. However, in electoral democracies, the amount of transfers that a constituency gets depends crucially on whether the local representative belongs to the ruling party. Under these circumstances, we show in a theoretical context that when it is part of the same state, the smaller region would vote strategically to elect representatives with preferences more closely aligned to those of the bigger region. Once it constitutes a separate state however, this motive would no longer operate. Exploiting detailed data on state elections in Madhya Pradesh and Chhattisgarh in 1993, 1998 and 2003 and a difference-in-differences estimation strategy, we show that these predictions are validated empirically—there is a significant divergence in voting behavior between the two regions in 2003 compared to the pre-reorganization period.

Keywords: Political boundaries, Voting, Redistribution

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1 Introduction

The last two decades have witnessed the disintegration of several big countries and flaring up of regional separatist tendencies in many countries. For example, Yugoslavia broke up into several new independent countries and many of the constituent republics of the former Soviet Union became independent countries themselves. There were also widespread separatist movements, claiming autonomy or self-rule, in countries like Canada in North America, Belgium, France, Italy, Spain and UK in Europe, China, India, Indonesia and Turkey in Asia, and New Zealand in Australasia.

This begs the question: what is the impact of break-up of a larger state, or of secession of smaller regions from their parent state? This paper relates to this important issue. It analyzes the impact of a redrawing of political boundaries on voting patterns, and more specifically, investigates whether a break-up of a larger state into its constituent units brings forth gains in terms of a better conformity of the electorate's political preferences with those of their elected representatives.

This paper addresses these questions in the context of the recent reorganization of states in India. In its monsoon session in 2000 the Parliament of India passed the Madhya Pradesh Reorganization Bill, the Uttar Pradesh Reorganization Bill and the Bihar Reorganization Bill. As a result one smaller state was carved out of each of these three biggest states in India - Chhattisgarh from Madhya Pradesh, Uttaranchal from Uttar Pradesh and Jharkhand from Bihar. See Figure 1 for a political map of India showing the different states after the reorganization.[1] In this paper we investigate, both theoretically and empirically, whether the 2000 reorganization led to changes in voting patterns in the affected regions. For reasons discussed below we concen-

[1] Before the reorganization, Madhya Pradesh and Chhattisgarh together constituted Madhya Pradesh, Uttar Pradesh and Chhattisgarh together constituted Uttar Pradesh and Bihar and Jharkhand, Bihar.

trate on Madhya Pradesh, which was the biggest state in India before its eastern part became a separate state called Chhattisgarh in November 2000.

Drawing evidence from the socio-economic composition of Chhattisgarh and Madhya Pradesh and traditional voting patterns of different cultures, groups and regions, we argue that political preferences were different in the two regions. Next, in a theoretical context, we show that the divergence in preferences would lead to very different voting patterns of Chhattisgarh residents before and after reorganization. In electoral democracies, the amount of transfers that a constituency[2] gets depends crucially on whether the local representative belongs to the ruling party.[3] Under these circumstances, we argue that when they were part of undivided Madhya Pradesh, the residents of Chhattisgarh would vote strategically to elect representatives with preferences more closely aligned to those of the residents of Madhya Pradesh proper. Once they constitute a separate state however, this motive would no longer operate. We exploit detailed data on elections to the undivided Madhya Pradesh legislature in 1993 and 1998 together with data on elections to the (post-reorganization) Madhya Pradesh and Chhattisgarh legislatures in 2003 to analyze the regional voting trends pre and post-reorganization. Our difference-in-differences estimates show that voting patterns of Madhya Pradesh and Chhattisgarh were surprisingly similar before the reorganization, while they were strikingly different after.

Our paper is related to two strands of literature. The first is the literature on the importance of transfers in electoral competition in a representative democracy. A number of studies provide evidence that discretionary grants are often handed out in a partisan manner, with electoral considerations playing an important part. Recent works in this literature include Ansolabehere and Snyder (2003), Finan (2003), Miguel and Zaidi (2003) and Porto and Sanguinetti (2001).

[2] In India, a state legislature is known as a legislative assembly, and state legislative districts are referred to as assembly constituencies. In what follows we shall use the word constituency and seat interchangeably to refer to a legislative district.

[3] See below and footnote 16 in section 4 for several references, including examples from India.

Ansolabehere and Snyder (2003) show that in the U.S., ruling parties skew the distribution of grants in favor of areas that provide them with the strongest political support. In particular, counties that traditionally give the highest vote share to the ruling party receive larger shares of state transfers. Miguel and Zaidi (2003) find that in Ghana administrative districts where the ruling party won all parliamentary seats in the 1996 elections received 27 percent more school funding in 1998-99. Finan (2003) provides evidence that federal deputies in Brazil reward municipalities based on political support. Porto and Sanguinetti (2001) show that in Argentina, over-represented provinces, both at the senate and at the lower chamber, receive higher resources from the national government compared to less represented provinces. In the Indian context, Khemani (2003) shows that the ruling party at the national level provides greater resources to state governments that are politically affiliated with it and that are important in maximizing the party's representation in the national legislature. In our study we argue that transfers play an important role in people's voting decisions and that this has important implications for the gains to be had from a redrawing of political boundaries.

The second strand of literature involves recent studies of endogenous formation of political entities. The standard argument is that in deciding where to draw the political boundaries, residents trade off the advantage of a larger state in providing public services at a lower cost against the disadvantage of increased heterogeneity of preferences that is present in a larger entity. In other words, when contemplating a move towards separation (or integration), electors weigh the efficiency benefits of being part of a larger state (and a larger market) against the benefits to be had from having a government that is more closely aligned to the preferences of the people. In one of the earliest contributions to this literature, Alesina and Spolaore (1997) find that democratization leads to secession and to an inefficiently high number of countries, while economic integration increases the incentive for political separation. Bolton and Roland

(1997) emphasize political conflicts over redistribution policies. They argue that a breakup is more likely when regions differ in their income distributions, and when the efficiency gains from unification are small. Goyal and Staal (2004) find that unification takes place between similar sized regions, and that majority voting leads to excessive separation from a majority point of view, just like in Alesina and Spolaore. For good in-depth reviews of this literature, see Alesina, Perotti and Spolaore (1995), Bolton, Roland and Spolaore (1996) and Alesina and Spolaore (2003).

Alesina, Baqir and Hoxby (2004) focus on local political jurisdictions (school districts and municipalities in the U.S.) and find evidence of tradeoff between economies of scale and racial heterogeneity, but little evidence in favor of the tradeoff between economies of scale and income heterogeneity. Thus there are quite a few studies that analyze the tradeoff between economies of scale and homogeneity of preferences in the formation of nations. However, there is no study thus far that seeks to empirically analyze the gains that can be had from a break-up of states. This paper fills this important gap. Moreover, this paper is the first to use political preferences and changes in relative voting patterns after a break-up to investigate and assess the extent of gains.

The rest of the paper is organized as follows. In section 2 we discuss the rationale for focusing on Madhya Pradesh and Chhattisgarh, rather than the other states which also underwent a reorganization. Section 3 argues that due to various reasons, including the demographic composition of the respective populations, the political preferences of Madhya Pradesh and Chhattisgarh are different. In Section 4 we set up a simple theoretical model to analyze voting behavior of states before and after secession. Section 5 discusses the data and the estimation strategy. Section 6 presents the empirical results and performs further robustness checks. Section 7 concludes.

2 Why Madhya Pradesh and Chhattisgarh?

We have chosen this particular pair of states, Madhya Pradesh and Chhattisgarh, for several reasons. First, the boundaries of each assembly constituency remained the same following the reorganization, whether they remained within Madhya Pradesh or formed part of the new Chhattisgarh. There were 320 assembly constituencies in undivided Madhya Pradesh - after the breakup, 90 of them fell in the new state (Chhattisgarh), the other 230 comprised the new Madhya Pradesh legislative assembly. This enables us to compare the voting patterns of the constituencies in the two states across pre- and post-reorganization elections to the state legislatures. In the partition of Bihar too, constituency boundaries were left unchanged. However, this was not the case for Uttar Pradesh. Since Uttaranchal was carved out of a relatively small part of the state, the existing 22 assembly constituencies were subdivided into 70 smaller ones. This creates a problem for tracking down voter behavior because we would ideally like to compare *within-constituency* changes in voter behavior across pre and post-breakup elections. With changes in constituency boundaries, the true effect of any shift in voter preferences will be confounded with changes in composition of the constituencies.

Second, unlike most other states in India, the political system in Madhya Pradesh and Chhattisgarh revolves around two major national parties, the Bharatiya Janata Party (BJP from now on) and the Indian National Congress (INC). Typically these parties together account for more than 80% of the votes polled in these states, and over 90% of the assembly seats.[4] The only other important parties in the two states are Bahujan Samaj Party (BSP) and the Samajwadi Party (SP). However, even apart from the fact that the support for these parties is

[4] In the elections to the (undivided) Madhya Pradesh state legislature in 1998, the BJP and the INC together got 79.87% of the total votes polled. In terms of actual seats, the two parties together won 91% (291 out of 320). In 2003 elections, the two parties secured 211 out of the 230 seats in Madhya Pradesh, and 87 out of the 90 seats in Chhattisgarh. See Table 3 for details.

low and concentrated in particular pockets,[5] there do not seem to have been any major changes in support for them in the few years before and after the breakup.[6] In most other states in India, third parties (together with smaller regional parties) have a considerable amount of leverage. This can become a problem because parties often enter into electoral alliances just before the elections. If the composition of an alliance changes from one election to the other it could be difficult to extricate the change in support for a particular party from that of the change in composition of the alliance. For example, in Uttar Pradesh the four largest parties - BJP, SP, BSP and INC - often enter into alliances with each other and with other smaller regional parties that make it difficult to ascertain the true change in support for one particular party. Similar is the case in Bihar, where factions of the original Janata Dal party and other smaller parties make the electoral system much more multi-party and in a state of flux.

Third, there have been elections to the state legislature in undivided Madhya Pradesh in 1998, and to the legislatures in Madhya Pradesh and Chhattisgarh in 2003. Since these straddle 2000, the year in which the reorganization took place, we can pursue a difference-in-differences estimation strategy and compare the voting patterns of Chhattisgarh residents pre and post breakup. There has recently been elections to the state legislatures in Bihar and Jharkhand (February 2005) - the first after their reorganization. However, the last elections in undivided Bihar were held in February 2000 - too close to the passage of the Bihar reorganization bill in the parliament in that summer - so these 2000 elections may not offer a clean pre-program event.[7] There have been assembly elections in Uttar Pradesh and Uttaranchal in February 2002, but as

[5] For example, the BSP draws most of its support from the region in northern Madhya Pradesh called Vindhya Pradesh. Vindhya Pradesh borders Uttar Pradesh, the main political base of the BSP.

[6] Since we follow a difference-in-differences estimation strategy, a change in support for these parties would bias our results only if this support changed differentially across the two states. This does not seem to have been the case. For example, the BSP and SP together got 5.5% and 11% of the total votes polled in Chhattisgarh and Madhya Pradesh respectively in 2003. In the 1998 assembly elections, this figure was 5.8% for Chhattisgarh and 9.5% for Madhya Pradesh.

[7] There are other problems in looking at the Bihar reorganization, see below.

mentioned above, significant problems are created by changes in constituency boundaries in the latter state as well as the major role played by smaller parties.

Fourth, the breakup in Madhya Pradesh was supported equally by both the main parties, BJP and INC. So any change in relative voting patterns in Chhattisgarh in the post-breakup period cannot be explained in terms of either party being 'rewarded' or 'punished' for help or hindrance in creation of the state. There is no evidence that the voters favored either of the two parties on this issue. Bihar, on the other hand, is very different from Madhya Pradesh. The ruling Rashtriya Janata Dal (RJD) party in Bihar, and its leader (Laloo Prasad Yadav), were opposed to the split, primarily because though the support for RJD was concentrated in the northern part of the state, they were afraid of losing the mineral-rich southern part (which eventually formed Jharkhand). On the other hand the Jharkhand Mukti Morcha (JMM), another important political party in Bihar, had been actively demanding separate statehood for Jharkhand - it is arguable that in the post-breakup elections voters who had otherwise supported RJD in the past but preferred statehood for Jharkhand would want to switch their votes to reward JMM.

Fifth, neither the BJP nor the INC had any added stake in the split of Madhya Pradesh. Since the constituency boundaries were not redrawn after the breakup, popular representation, in terms of the number of seats, remained the same both at the national and state legislatures, unlike in the reorganization of Uttar Pradesh.[8] An analogy to the case of Washington D.C. in the U.S. can be illuminative. Since Washington D.C. overwhelmingly votes in favor of Democratic candidates, it is arguable that ceteris paribus, Democrats would have a strategic interest to support statehood for D.C. Every state in the U.S. sends two senators to the Senate, and two

[8] Apart from an increase in the total number of assembly constituencies in Uttaranchal there were also changes in the number of seats reserved for different groups. Earlier, out of 22 assembly seats that this region had in undivided Uttar Pradesh, 3 and 1 were reserved for members belonging to the Scheduled Castes and Scheduled Tribes respectively. Now, out of 70 seats in the new legislature, 11 and 3 are similarly reserved. Note that in the reorganization of Madhya Pradesh, the same constituencies were reserved for members of the Scheduled Castes and Scheduled Tribes both before and after the breakup.

additional senators from the Democratic Party might shift the balance of power in the senate, which is otherwise closely divided between the two main parties, Republicans and Democrats.

A final point to note is that the main reason undivided Madhya Pradesh was subdivided into two separate entities was the large size of the state, both in terms of area and population, and significant cultural and linguistic heterogeneity across the eastern and western parts of the state.[9] This further attests to the exogeneity of the breakup. As seen in Table 1, at the time of the split Madhya Pradesh had a population of about 80 million people - if it were an independent country it would be the 13th most populous in the world, just after Germany.[10] By comparison, California, the biggest state in the U.S., had only a population of 36 million on July 1, 2004 and Texas at that time had only 22 million people.[11] Madhya Pradesh was also the largest state in India in terms of geographic area before the breakup.

3 Heterogeneity of Preferences across Madhya Pradesh and Chhattisgarh

We argue that political preferences, particularly as it relates to voting for each of the two major parties, are different across these two states. Table 1 shows some summary statistics for Madhya Pradesh and Chhattisgarh.[12] In terms of population, Chhattisgarh is about one-third the size of post-reorganization Madhya Pradesh. It is more rural and has a higher percentage of females. It also has a much higher child female-to-male ratio compared to Madhya Pradesh (and

[9] The boundaries of provinces in pre-independence (pre-1947) India were not drawn on the basis of language, religion or culture, so that most of the provinces were multi-lingual and multi-cultural. The arguments for redrawing of state boundaries in the post-independence period, including in the 2000 reorganization, were mostly based on administrative convenience and differences in heritage and socio-cultural preferences.

[10] See the 2002 World Population Data Sheet of the Population Reference Bureau, available online at http://www.prb.org/pdf/WorldPopulationDS02_Eng.pdf.

[11] Source: U.S. Census Bureau, State Rankings - Statistical Abstract of the United States, available at http://www.census.gov/statab/ranks/rank01.html.

[12] For ease of comparison we show the relevant all-India numbers in the last column.

all-India), both in the rural and urban sectors. Chhattisgarh also ranks higher than Madhya Pradesh in most of the demographic indicators, having lower values for the birth rate, death rate, natural growth rate and infant mortality rate. Another important demographic feature is the presence of a large tribal population in Chhattisgarh, as compared to Madhya Pradesh. Though the proportion of Scheduled Castes is similar across the two states, the proportion of Scheduled Tribes in the former is more than double that in the latter.[13] We argue below that these demographics have important consequences for preferring one party over the other at the hustings.

Tables 2(a), (b) and (c) show the support for the BJP and the INC across different segments of the population. In the Indian context, the BJP is seen to be the right-wing party, with a strong focus on traditional upper caste Hindu way of life, while the INC is considered to be a left-of-center socialist-leaning party. Table 2(a) shows that the support for BJP vis--vis the INC increases almost dramatically as one moves from the lower-ranking backward castes to the higher ones.[14] Among the SCs and the STs, the most disadvantaged sections of the Indian population, a majority support the INC. At the other end of the spectrum however, among the

[13] In India demographic groups designated as Scheduled Castes and Scheduled Tribes constitute the most disadvantaged sections of the population and have traditionally been discriminated against by other better-off groups. After independence in 1947, in an effort to help integration of these groups in the mainstream, some constituencies have been reserved for them, where candidates belonging to only these groups can be elected. The number of constituencies reserved is based on the actual proportions of these groups in the population, and thus represents their respective political clout. We proxy the importance of Scheduled Castes and Scheduled Tribes in each state by the respective number of assembly constituencies reserved for candidates belonging to these groups.

[14] The figures refer to all-India, and are not available for individual states or regions. However, it is widely believed that these trends are broadly true in individual states. Consider e.g. the results of a survey conducted in Kerala, a state in southern India, by the Center for the Study of Developing Societies. In Kerala the two most important political groups are the communist-led Left Democratic Front and the INC-led United Democratic Front (UDF), with BJP coming in third. Among the higher castes like the Nairs and the Ezhavas, the BJP has strong support in spite of its third position in the entire state - in fact, 31% of Nairs support the BJP, compared to 29% for the UDF. This is a large difference taking into account the fact that the UDF was one of the two major parties and BJP has a considerably smaller role in Kerala. Among the lower castes (dalits and the adivasis), the UDF has a much greater support. The gender divide is also sharp - for males the support for INC and BJP is at 39% and 13% respectively, compared to 52% and 7% for the females. See Gopa Kumar (1999).

Kayasthas less than one-third support the INC, and among the Brahmins support for this party is only about a fourth. Table 2(b) shows that there are differences in support for these two parties across gender too. For males, a clear majority is seen to prefer the BJP. Females, on the other hand, are tied between the two parties, indicating that they prefer INC relative to the males.

Table 2(c), which is taken from an earlier survey done by the same group, shows basically the same trends, though now the absolute level of support for the INC is somewhat stronger. The parties are virtually in a dead heat in general (first column), but the level of support differs significantly across the various groups. Once again, the upper castes prefer BJP and the lower castes prefer INC. One interesting finding is that in the rural areas the INC is preferred to the BJP, and vice versa.

Looking back at Table 1, it seems reasonable to argue that the relative support for the INC would be higher in Chhattisgarh, and vice versa. First, Chhattisgarh has a higher share of females in the population, as well as a higher sex-ratio (female-to-male ratio). Second, Chhattisgarh is less urban than Madhya Pradesh. Third, and perhaps most important, Chhattisgarh has a very high share of STs in the population. SCs and STs together account for almost half the population of Chhattisgarh. In Madhya Pradesh, this figure is less than one-fourth. The popularity that the INC enjoys among women, rural people and the backward classes, as seen in Tables 2(a), 2(b) and 2(c), should make political preferences in Madhya Pradesh and Chhattisgarh quite different.

4 Theoretical Framework

We set up a theoretical model to analyze the voting behavior of a region before and after secession from a parent state. Two regions A and B initially form part of a single state. Each of the regions A and B consists of multiple constituencies. After the break-up, the state splits into two independent and separate states: A and B.

There are two parties X and Y. The party that wins the majority of seats or constituencies in a state wins in that state. One of the regions, say A, is considerably bigger than the other in terms of the size of the electorate and the number of constituencies.

Preferences of individuals within a constituency are assumed to be homogenous, but differ across constituencies.[15] Preferences of a constituency (or individuals within a constituency) are given by $U_{ij}^k = I_{ij}^k + u(t_{ij}^k)$. U_{ij}^k denotes the utility that constituency i in region k gets if party j wins in i. $I_{ij}^k \in [0,1]$ is an ideological parameter denoting the utility that constituency i in region k, $k = \{A, B\}$ gets by electing a representative from party j, $j = \{X, Y\}$. t_{ij}^k denotes the transfer that constituency i in region k gets if it elects someone from party j.

Define $\sigma_i^k = I_{iX}^k - I_{iY}^k$. σ_i^k denotes the ideological bias of constituency i in region k toward party X. A positive value of σ_i^k implies that constituency i has a bias in favor of party X and vice-versa. σ_i^k is distributed in the interval [-1,1] with density function $f_k(\sigma_i)$ and distribution function $F_k(\sigma_i)$. The distribution of σ_i differs across regions A and B. Regions A and B prefer opposing parties. Assume region A prefers party X. If there was sincere voting, party X would gain majority in A and party Y in B. The distribution of σ_i in region A first order stochastically dominates that in B. The median of σ_i in region A exceeds zero while that in B is less than zero. We assume that $\#A_X + \#B_X > \#A_Y + \#B_Y$, where $\#A_X$ ($\#B_X$) denotes the number of

[15] This assumption is made for simplicity. All results hold if preferences of individuals within a constituency are heterogeneous.

constituencies in region A (B) which ideologically prefer party X, that is, for which σ_i^A (σ_i^B) > 0. On the other hand, $\#A_Y$ ($\#B_Y$) denotes the number of constituencies in region A (B) for which σ_i^A (σ_i^B) < 0. This assumption implies that the relative preference for party X in region A is larger than that for party Y in region B.

The transfer that constituency i in region k receives if party j is elected in i is denoted by t_{ij}^k. We assume that redistribution is along party lines.[16] The amount of transfers that a constituency in region k gets depends on whether the local representative belongs to the ruling party at the state level. Specifically, $t_{iW}^k > t_{iL}^k$, where t_{iW}^k (t_{iL}^k) denotes the transfer that constituency i gets if it elects a candidate from the ruling (losing) party. For simplicity, we assume $t_{iW}^k = t_W$ and $t_{iL}^k = t_L$. These transfers are financed by taxes that are equally paid by all constituencies. The utility function $u(.)$ is assumed to be increasing and strictly concave in its argument. The preferences of all constituencies are perfectly observable and we allow for strategic voting.[17]

Now consider the voting behavior of the constituencies in region B before the break-up. The constituencies observe voting preferences in region A and correctly anticipate that the winner in A, as well as the overall state, will be party X. Consider constituency i in region B. If $I_{iX}^B > I_{iY}^B$, constituency i elects a representative from party X. If $I_{iX}^B < I_{iY}^B$, electing a representative from

[16] There is now ample evidence that the redistributive pattern implicit in a system of intergovernmental grants cannot be entirely explained on normative grounds of equity and efficiency. In addition to the studies mentioned in the introduction, the list includes Mobarak et al (2004) and Rozevitch and Weiss (1991). Mobarak et al (2004) examine health services provision and access in Brazilian counties and find that the per capita provision of doctors, nurses and clinics is greater in counties where the county mayor and state governor are politically aligned. Rozevitch and Weiss (1991) show that transfers from the central government to municipalities in Israel depended on whether the mayor belonged to the ruling party at the Knesset, the Israeli parliament. Note that we only need to assume that a significant part of the redistribution is along party lines - all results go through if in addition to this there is a substantial amount of *region-specific* redistribution. Note that since region A is substantially larger than region B in terms of the number of constituencies (Chhattisgarh has 90 constituencies, Madhya Pradesh has 230), theoretically the amount of region-specific transfers to Chhattisgarh can be zero.

[17] The assumption that $\#A_X + \#B_X > \#A_Y + \#B_Y$ is made for simplicity. It implies that before the break-up, the party that enjoys majority support in region A enjoys overall majority support in the (undivided) state. All results continue to hold under the assumption that the probability of the majority party in A winning in the overall state is larger than the probability of the minority party in A winning in the overall state.

party X yields utility U^B_{iX}=I^B_{iX} + $u(t_W)$. On the other hand, electing a representative from party Y yields utility U^B_{iY}=I^B_{iY} + $u(t_L)$. Therefore, constituency i elects a representative from party X if and only if:

$$I^B_{iX} + u(t_W) > I^B_{iY} + u(t_L)$$

$$\text{or, } I^B_{iX} - I^B_{iY} > u(t_L) - u(t_W)$$

$$\text{or, } \sigma^B_i > u(t_L) - u(t_W)$$

Note that $u(t_L) - u(t_W) < 0$.[18] There exists a cutoff $\sigma^* \in [-1, 0)$, $\sigma^* = u(t_L) - u(t_W)$ such that all constituencies with $\sigma_i > \sigma^*$ in region B elect a candidate from party X and all constituencies with $\sigma_i < \sigma^*$ elect a candidate from party Y. The key insight is that because redistribution is party-specific, residents in some of the constituencies in the smaller region B will vote strategically to elect representatives with preferences more closely aligned to those of residents in region A. For these constituencies, there will be a utility loss in electing representatives with preferences less closely aligned to their own, but this will be swamped by the utility gain from having a large transfer.[19]

After the break-up, the party that enjoys majority support in B (Y) wins in region B. Strategic voting implies that constituencies with positive σ_i sufficiently close to zero elect representatives from party Y. Therefore, prior to the break-up, voting pattern in region B will resemble that in A, while voting pattern after the break-up is likely to be comparatively disparate between the two regions. The representatives elected to the state legislature will then conform more closely to the inherent (ideological) preferences of region B.[20] Thus, in the presence of divergent preferences between regions, a break-up leads to a welfare gain in the smaller

[18] We assume that the $u(.)$ function, tax and transfers are such that $u(t_W) - u(t_L) < 1$.

[19] Note that some constituencies in A with σ_i below zero but sufficiently close to zero would find it profitable to elect a candidate from party X.

[20] The party preferred by the median constituency will now prevail in region B.

region.[21]

Proposition: Under divergent preferences, party specific transfers and strategic voting, voting distribution of the smaller region mimics that of the parent state. Secession from the parent state yields comparatively disparate voting patterns.

Next, we investigate the voting behavior of region B before and after secession from A under an alternative formulation of transfers. Transfers are now assumed to be targeted to a region as a whole (A or B) instead of a constituency. Examples of such transfers are constructing a highway through region B, building an industry in region B, etc. (Transfers in the previous formulation can be thought of as local public goods such as building tube-wells, paving a local road, etc.) The transfers obtained by a region depend on the proportion of its representatives belonging to the ruling party. Transfers are still financed equally by all constituencies. Specifically, if T represents the total taxes collected by the state, and w_A and w_B the number of ruling party representatives in regions A and B respectively, then transfers to region A (t_A) and that to region B (t_B) are respectively represented by:

$t_A = \frac{w_A}{w_A+w_B}.T$

and $t_B = \frac{w_B}{w_A+w_B}.T$

The crucial difference with the previous formulation is that a change in voting behavior of a certain constituency affects not only transfers and utility of that constituency but also those of the other constituencies. The utility of a constituency i in region k from electing a representative from party j is given by $U_{ij}^k = I_{ij}^k + u(t_k)$. Assume that the number of constituencies in regions A and B are given by $\#A$ and $\#B$.

Consider the voting pattern in region B before the break-up. A constituency that is ide-

[21] Note that secession does not affect the voting pattern of constituencies in region A. Constituencies that elected representatives from their less preferred party still continue to do so after the break-up.

ologically biased in favor of party X elects a candidate from that party. A constituency that ideologically identifies itself with party Y correctly anticipates voting behavior in all other constituencies and elects a candidate from party X if and only if:

$I^B_{iX} + u(\frac{w_B}{w_A+w_B}T) > I^B_{iY} + u(\frac{w_B-1}{w_A+w_B-1}T)$

or, I^B_{iX} - $I^B_{iY} > -[u(\frac{w_B}{w_A+w_B}T) - u(\frac{w_B-1}{w_A+w_B-1}T)]$

or, $\sigma^B_i > -[u(\frac{w_B}{w_A+w_B}T) - u(\frac{w_B-1}{w_A+w_B-1}T)] = \sigma^B_1(w_B, .)$

At equilibrium, $w_B = \#B[1 - F_B(\sigma^B_1(w_B, .)]$, which endogenously determines equilibrium w_B (w^*_B). There exists a cutoff $\sigma^*_B \in [-1, 0)$, $\sigma^*_B = [u(\frac{w^*_B-1}{w^*_A+w^*_B-1}T) - u(\frac{w^*_B}{w^*_A+w^*_B}T)]$, where w^*_A denotes the equilibrium w_A, such that all constituencies with $\sigma^B_i > \sigma^*_B$ elect a candidate from party X while all constituencies with $\sigma^B_i < \sigma^*_B$ from party Y. The basic message is that when constituencies care about their ideological preferences as well as material gains, constituencies that are ideologically biased against the winning party (but are not too far away from the ideologically neutral constituency) will sacrifice their ideological biases in favor of material gains and vote for the winning party.

In region A constituencies that prefer party X vote for X. Constituencies ideologically biased in favor of Y vote for X if and only if:

$\sigma^A_i > -[u(\frac{w_A}{w_A+w_B}T) - u(\frac{w_A-1}{w_A+w_B-1}T)] = \sigma^A_1(w_A, .)$

At equilibrium, $w_A = \#A[1 - F_A(\sigma^A_1(w_A, .)]$, which endogenously determines equilibrium w_A (w^*_A). There exists a cutoff $\sigma^*_A \in [-1, 0)$, such that all constituencies with $\sigma^A_i > \sigma^*_A$ elect a candidate from party X while all constituencies with $\sigma^A_i < \sigma^*_A$ from party Y, where $\sigma^*_A = [u(\frac{w^*_A-1}{w^*_A+w^*_B-1}T) - u(\frac{w^*_A}{w^*_A+w^*_B}T)]$.

Since $(\frac{w^*_B}{w^*_A+w^*_B} - \frac{w^*_B-1}{w^*_A+w^*_B-1} > \frac{w^*_A}{w^*_A+w^*_B} - \frac{w^*_A-1}{w^*_A+w^*_B-1}$ and $u(.)$ is concave, it follows that $\sigma^*_B < \sigma^*_A$.

Therefore, in the smaller region B, constituencies in a larger range of σ_i ($[\sigma_B^*, 0)$) choose to switch in favor of the party they are ideologically biased against as compared to region A ($[\sigma_A^*, 0)$). The intuition here is as follows. Since proportion of transfers is smaller in B, switching one vote in favor of X in B increases the proportion and hence the actual transfers by more than that in region A. In other words, region A constituting of a larger number of constituencies is more likely to be subject to the free-rider problem and will be reluctant to switch in favor of their ideologically less preferred party. After the break-up, party Y will win in region B. The transfers financed by region B are now targeted to the entire region B. The previous motive for strategically voting for their non-preferred party no longer operates—all constituencies now vote sincerely according to their inherent preferences.

This formulation of transfers once again confirms that prior to the break-up, voting pattern of the smaller region conforms closely to that in the parent state while secession leads to comparatively divergent voting patterns between the regions. Thus secession leads to gains in that it leads to a closer alignment of the preferences of the electorate with that of the elected representatives.

5 Data and Empirical Strategy

5.1 Data

Most of the data used in this paper come from the Election Commission of India, which maintains a detailed database of election statistics for the national parliament and for each state assembly. For the most part we use data from the last two assembly elections - 1998 assembly elections in undivided Madhya Pradesh, and the 2003 assembly elections in Madhya Pradesh and Chhattisgarh. In the section on robustness checks we also use data for the 1993 assembly

elections, as well as data from the last two national parliamentary elections of 1999 and 2004.[22] The data reported in Table 1 come primarily from the 2001 Census of India. The data in Table 2 come from various surveys conducted over the years, as reported in the sources mentioned.

5.2 Empirical Strategy

Table 3 shows the performance of BJP and INC in the 1998 and 2003 state elections. For the 1998 elections, when Chhattisgarh and Madhya Pradesh formed part of the same state, we show the number of seats won by INC and BJP in each region separately. The INC had a comfortable majority in 1998, but was defeated by the BJP in both states in 2003.

The interesting thing to note is that in 1998 the performances of BJP and INC are very similar across the two regions of the state. For example, the BJP won 38.84% of the votes in Madhya Pradesh and 39.11% in Chhattisgarh. The respective numbers for the INC are 41.21% and 41.01%. The percentage of seats won by the two parties was also very similar across the two regions. In the 2003 elections, however, there was a clear divergence - while the BJP swept to power in both states, the INC did much better, in a relative sense, in Chhattisgarh. In 1998 the BJP-INC differential in the percentage of votes won was -2.37% in Madhya Pradesh and -1.90% in Chhattisgarh, with a net differential of about -0.47%. In 2003 the respective differentials in the two states are 10.90% and 2.55%, with a net differential of about 8.35%. The difference is also very large for the percentage of seats won - the net differentials, similarly defined, are -4.5% in 1998 and 44.3% in 2003. This seems to suggest a change in relative voting patterns in these two regions after reorganization. In what follows we pursue this further by using more sophisticated econometric techniques and ruling out confounding factors.

To compare the relative voting trends in the two regions pre and post reorganization we

[22] In India, elections to the state assembly and national legislatures are held every five years.

run the following regression, separately for each party, BJP and INC. We use data from state assembly elections in 1998 and 2003. The unit of observation is an assembly constituency.

$$Y_{ikt} = \alpha + \beta_0 * D_{CH} + \gamma_0 * Yr\ 2003 + \theta_0 * (D_{CH} * Yr\ 2003) + \epsilon_{ikt} \qquad (1)$$

Here Y_{ikt} is a measure of electoral performance of the party in constituency i in state (or region) k in year t. D_{CH} is a dummy variable taking the value of 1 if the constituency forms part of Chhattisgarh, 0 otherwise. Yr 2003 is similarly a dummy variable for 2003. We are interested in the estimate of θ_0, which can be interpreted in this context as a difference-in-differences estimate for voting behavior.

We use three different measures of electoral performance - whether the seat in question was won by the respective party, the number of votes obtained by the party in the constituency, and the percentage of votes polled by the party in the constituency. We name the variables bjpwin, bjpvote and bjppcvote (for BJP), and congwin, congvote and congpcvote (for INC). We estimate equation (1) by simple OLS. We also estimate the corresponding fixed effects regressions, where we compare the within-constituency changes across years. For bjpwin and congwin (which are 0-1 dummies), we also run probit regressions. All standard errors reported are robust to heteroscedasticity. Apart from these trends, we also look at the trends in voter turnout to investigate whether the possibility of a more effective exercising of franchise of Chhattisgarh residents in 2003 increased their turnout.

5.2.1 Accounting for voter turnout, within-district correlations and outliers

However, the analysis above can be plagued by various issues. We consider them one by one. First, a potential concern is that part of any change in voting pattern that we may observe in 2003 is due to changes in voter turnout rather than actual change in voting behavior. To investigate

this issue, we run alternative regressions for the three measures of electoral performance for each party where we control for voter turnout. Second, since each district consists of multiple constituencies, there may be local factors that influence voting across neighboring constituencies. Not controlling for these within district correlations might bias conclusions. Therefore, we report standard errors which allow for arbitrary within-district correlations.[23] Third, there are nine constituencies where neither the BJP nor the INC emerged as either the winner or the runner-up. Since these are only 9 out of a total of 640 (1993 and 1998 elections taken together), these constituencies might be considered as outliers. Therefore, we repeat the analysis above after dropping the outliers.

5.2.2 Is the 1998 voting pattern a year specific effect?

A potential concern is that if we find that the voting pattern of Chhattisgarh is similar to that of Madhya Pradesh in 1998, it may be caused by a year-specific effect, rather than by Chhattisgarh residents voting strategically to mimic Madhya Pradesh voting behavior. If strategic voting is the cause, then the resemblance in voting behavior should be a characteristic of other pre-reorganization years also, for example 1993. As a check on the validity of the results, we include data for the 1993 assembly elections to undivided Madhya Pradesh also and check whether both the pre-reorganization years are characterized by similarity of voting patterns between the two regions and the post-reorganization year characterized by a divergence in voting behavior. We run the following regression

$$Y_{ikt} = \alpha + \beta_0 * D_{CH} + \gamma_0 * Yr\ 1998 + \theta_0 * (D_{CH} * Yr\ 1998)$$
$$+ \gamma_1 * Yr\ 2003 + \theta_1 * (D_{CH} * Yr\ 2003) + \epsilon_{ikt} \qquad (2)$$

[23] A district is an administrative unit in India, similar to counties in the U.K. and U.S. There are 45 districts in Madhya Pradesh and 16 in Chhattisgarh. So the average district has about 5 constituencies in the former and 5.5 in the latter.

As earlier, Y_{ikt} is a measure of electoral performance of the party in constituency i in state (or region) k in year t. D_{CH} is a dummy variable taking the value of 1 if the constituency forms part of Chhattisgarh, 0 otherwise. Yr 1998 and Yr 2003 are dummy variables for 1998 and 2003 respectively. Our parameters of interest are θ_0 and θ_1.

5.2.3 Ruling out the effect of exogenous shocks that may affect different demographic groups differently

Another concern relates to the fact that the demographic composition of Madhya Pradesh is different from that of Chhattisgarh. If there were any exogenous shocks (policy changes or otherwise) between the two rounds of assembly elections in 1998 and 2003 that affected different demographic groups differently, then these shocks, rather than the reorganization itself, might be the reason behind the divergence in voting patterns, if any, that we might observe.

To rule out such factors, we consider the following thought experiment, exploiting national elections to the Indian parliament. Apart from electing representatives to the respective state legislatures, all citizens of India also elect representatives to the national parliament, called the Lok Sabha. Since it is the same electorate that vote in both the state and national elections, any exogenous change that differentially affected residents of the two states would get reflected in the national elections in addition to state assembly elections. This is particularly so since the national elections in this case (April 2004) closely followed the state assembly elections (November 2003). We hypothesize that in the absence of any such extraneous factors the two regions would vote in exactly the same way in the post-reorganization parliamentary elections as they did in the pre-reorganization elections.[24] In other words, the motive behind the shift

[24] This is because Madhya Pradesh and Chhattisgarh are both very small entities in terms of the size of the electorate, when compared to the nation as a whole. Lok Sabha, the lower house of the Indian parliament, consists of 543 elected members, out of which Madhya Pradesh elects only 29 (slightly more than 5%) and Chhattisgarh elects only 11 (2%). The party or coalition winning a majority of seats in the Lok Sabha forms the government,

in voting behavior at the state level would not be operative here, and the two regions should continue to vote at the national elections in same way as before.[25]

Using data for the parliamentary elections of 1999 and 2004, which straddle 2000, the year of the breakup, we check if there has been any difference in the voting patterns of the two states following the breakup. The strategy here is to check whether Chhattisgarh residents exhibited a different voting pattern, compared to Madhya Pradesh, in the 2003 assembly elections *over and above* their voting pattern in the 2004 national elections. Differencing out the relative change in voting pattern of Chhattisgarh residents in the 2004 parliamentary elections, if any, helps to get rid of the effect of other confounding factors that might affect the voting patterns of the different demographic groups differently in the two regions.

5.2.4 Is change in voting pattern an artifact of change in demographic composition?

Another factor which might in principle bias our results is if the demographic composition of Chhattisgarh changed with respect to Madhya Pradesh between the 1998 and 2003 assembly elections. Recall that different demographic groups are differently disposed towards the two parties, and it is conceivable that a relative increase in the proportion of female voters or lower caste voters in Chhattisgarh increases the vote share of the INC in that state in 2003. Note, however, that we are looking at only a 5-year interval between the two assembly elections - it is highly unlikely that there were significant demographic changes during this short span of time which affected the two states differently. Unlike in the U. S., mobility or migration, particularly from one state to another, is not very high in India and is not likely to play a major role.

just like the House of Commons in Britain. Elections are held every five years, unless any party or alliance fails to garner or maintain majority support in the Lok Sabha.

[25] Recall that, as noted in Section 2, the reorganization did not affect the composition of the national parliament. After the breakup, Madhya Pradesh and Chhattisgarh continue to send the same number of representatives to the parliament as before.

Unfortunately, we do not have data on the number of (and changes in) lower caste voters and higher caste voters by assembly constituency. But we do have data on the number and percentage of female electors in each constituency in each year. So we check for any change in these variables by running regressions similar to equations (1) and (2) with the number and percentage of female electors in a constituency as the dependent variable.

Note that the analysis described in the last subsection using parliamentary elections also helps to shed light on this issue. If there is indeed any change in demographic patterns, that will undoubtedly be reflected in the voting for the national elections also. Therefore, differencing out the relative change in voting pattern in national elections as outlined above will help to take care of any effects on voting pattern due to changes in demographic compositions.

6 Results

Voter turnout

First, we look at the trends in voter turnout in the two elections. Table 4 shows the results from running equation (1) on the percentage of total electors who voted in these elections. In the 1998 elections there were no statistically significant differences in turnout across constituencies in Chhattisgarh and Madhya Pradesh. In the 2003 elections, turnout increased by a large margin in Madhya Pradesh, and interestingly, by an even larger margin in Chhattisgarh.

It is often argued that decentralization brings political power closer to the masses, and in turn leads to a larger interest in political affairs. This may explain part of the increase in turnout in Chhattisgarh in 2003. When Chhattisgarh was part of Madhya Pradesh, due to the divergence in preferences, some Chhattisgarh residents may not have found it worthwhile to exercise their franchise.

Performance of INC

Table 5 shows the results from running equation (1) on congwin (the first four columns), congvote (next four) and congpcvote (final four columns). Even-numbered columns are weighted by the total number of electors in a constituency. For congwin we show the results for probit and FE regressions; the results for OLS are very similar. For the others we show both OLS and FE results.

We begin with the results for congwin. These show that in 1998 there was no difference in support for the INC across Chhattisgarh and Madhya Pradesh. In 2003 the BJP did much better. In India there is a strong anti-incumbency factor in most elections - the ruling parties are overthrown by large margins at the hustings, often only to bounce back to power at the next election. Some such force was probably at work here, since the INC had been in power in both Madhya Pradesh and Chhattisgarh from 1998 to 2003. Interestingly, however, the losses for INC were not equally spread across the two states. In Madhya Pradesh the party performed really poorly, with the probability of winning a seat going down by almost 40%. The losses were much more modest in Chhattisgarh, where the decrease was about 10% or even less.

The results for congvote and congpcvote mirror the same pattern. For example, in 2003 the INC's share of votes in an average constituency went down by about 10% in Madhya Pradesh, a quite large margin. In Chhattisgarh however the decrease was generally less than 5%. In terms of actual votes obtained in each constituency - congvote - the results are similar and statistically significant in both the OLS and FE regressions.[26]

[26] A large part of the Yr 2003 effect on number of votes polled is presumably due to population growth, and not due to a switch in party preference.

Performance of BJP

Table 6 shows the results for the BJP. Note first that like for INC, there is no evidence of any difference in electoral support for BJP across Chhattisgarh and Madhya Pradesh in 1998, as shown by the small and insignificant coefficient on the Chhattisgarh dummy. For bjpwin and bjppcvote, as expected, the effects mirror those seen in Table 5. The BJP dealt a comprehensive defeat to the Congress in Madhya Pradesh, with the former's probability of winning a seat increasing by as much as 40% compared to 1998. In Chhattisgarh the increase was much muted, increasing by only about 13-14%. Similarly, the increase in the percentage of votes polled by BJP in an average seat in Chhattisgarh (less than 1%) was less than a third of that in Madhya Pradesh (3.5%). The picture is similar for bjpvote,— the increase in the number of votes polled by BJP was bigger in Madhya Pradesh than in Chhattisgarh, though the OLS coefficients on the interaction terms are not significant.

Accounting for voter turnout, within-district correlations and outliers

We now provide evidence that these results are reasonably robust. Tables 7 and 8 report results from three robustness checks. First, the empirical analysis above reveals that the voter turnout increased in 2003 and especially in Chhattisgarh. To ascertain that the divergence of voting behavior is not a mere artifact of increased voter turnout, we run the regressions for the party specific outcome variables while controlling for voter turnout. Second, since a district consists of many constituencies, there may be common factors that influence voting across neighboring constituencies. Therefore, we control for within district correlations. Third, we drop the nine constituencies where neither BJP nor INC emerged as either the winner or the runner-up. This is motivated by the fact that these constituencies may in some sense be outliers, given how few their number is (1.4%). Also since neither BJP nor INC occupied the first two places, their

inclusion may bias the estimates. All regressions in Tables 7 and 8 are weighted by the number of electors. For brevity, we only report estimates from OLS regressions. The results from the corresponding fixed effects estimates are very similar.

Columns (1)-(4) of Table 7 show the results for congwin, columns (5)-(8) are for congvote and columns (9)-(12) are for congpcvote. For comparison purposes, columns (1), (5) and (9) reports results from simple OLS regressions for INC which do not control for within district correlations. Columns (5) and (9) are identical to columns (6) and (10) respectively of Table 5. Column (2) introduces the percentage of electors in a constituency who exercised their franchise as an independent variable. This is statistically significant, implying that a 5% increase in polling in a constituency would lead to about a 5% increase in the probability of INC winning the seat. It also slightly reduces the coefficient on the Chhattisgarh-Yr 2003 interaction term, implying that part of the (relatively) better performance of INC in Chhattisgarh is due to a higher turnout in that state.[27] However, the coefficient on the interaction term remains large and statistically significant even after controlling for voter turnout.

In column (3) we use standard errors that take account of within district correlations. Although this increases the standard errors on the Chhattisgarh-Yr 2003 interaction term, it still remains significant at 5%. In column (4), we drop the outlying observations, but the results remain very similar.

The results for congvote and congpcvote once again strongly confirm the robustness of the results. Voter turnout is statistically significant in each of these columns, implying a positive but modest increase in the number and share of votes for INC as turnout rises. But it changes

[27] One reason that voter turnout is positively related to the performance of INC is presumably the fact that Congress relies much less on party cadres during voting compared to the BJP. In Indian politics, the conventional wisdom is that cadre-based parties like the BJP and the communist parties do relatively better when voter turnout is low, since these parties rely to a larger extent on its cadres or party faithfuls to show up and vote even when, say, the weather is bad.

the coefficients on the other variables only marginally.

Table 8 shows the corresponding results for BJP. As expected, these generally mirror the results for INC seen in Table 7. A 5% increase in polling for example would lead to about a 5% decrease in the probability of BJP winning the seat. As above, controlling for turnout slightly reduces the magnitude of the coefficient on the Chhattisgarh-Yr 2003 interaction term, so that part of the (relatively) worse performance of BJP in Chhattisgarh is accounted for by a higher turnout in that state. However, the interaction term still remains significant at 5% level.

Unlike for bjpwin, voter turnout is insignificant in the results for bjpvote and bjppcvote. Allowing for within district correlations (columns 3, 7 and 11) or restricting the analysis to a smaller sample (columns 4, 8 and 12) virtually leaves the results the same.

To sum, controlling for factors like voter turnout across constituencies does not seem to affect the results substantially. The same is true when we control for within district correlations or omit the outlying observations. The exact results are slightly magnified or diluted but the overall picture is unchanged - there was a significant divergence in voting pattern in Chhattisgarh in the post-reorganization period.

Is the resemblance in voting pattern in 1998 a year specific effect?

To make sure that the results we obtained above are not driven by effects specific or unique to 1998, we use election results from the assembly elections of 1993.[28] Table 9 presents evidence that our earlier results are robust to inclusion of this additional year. We run equation (2) on election data from the 1993, 1998 and 2003 assembly elections. For brevity we only report the results for INC, the results for BJP present a very similar picture. The first three columns show the results for congwin, the next three are for congvote and the final three for congpcvote. For

[28] Elections in India, both at the state level and at the national level, are held every 5 years.

each variable, we report both OLS and FE results. The OLS regressions in columns (2), (5) and (8) allow for within-district correlations.

For congwin, there does not seem to be any difference in voting patterns between Chhattisgarh and Madhya Pradesh, either in 1993 or in 1998. But in 2003, Chhattisgarh residents were much more in favor of INC than their counterparts in Madhya Pradesh. The same is true of the other variables as well. In neither case do we find any evidence of a divergence in voting behavior prior to 2003, though in that year the differences are large and statistically significant. We also ran alternative versions of these regressions where we controlled for voter turnout. The results are qualitatively similar. Hence they are not reported here but are available on request. We conclude that the change in voting patterns is unique to the 2003 assembly elections, and it can largely be traced to the break-up that preceded it.

Figure 2 shows the distribution of the difference in share of votes polled by the BJP and INC across constituencies in Madhya Pradesh and Chhattisgarh.[29] As can be seen, the distribution of relative vote shares across constituencies in Madhya Pradesh and Chhattisgarh was very similar in both 1993 and 1998. In 2003, however, there is a marked divergence - the distribution for Chhattisgarh has shifted significantly to the left, implying a change in voting patterns in favor of INC.

Exogenous shocks affecting different demographic groups differently

Table 10 investigates the performance of INC and BJP in the national elections in Madhya Pradesh and Chhattisgarh. The intuition here is that if there were any changes (policy or otherwise) independent of the breakup between 1998 and 2003 that may have affected the

[29] The graphs are kernel smoothed plots of differences in share of votes polled by the BJP and INC across constituencies in Madhya Pradesh and Chhattisgarh. BJP vote share is defined as the share of votes polled by BJP, similarly for INC vote share. The figures have been weighted by the total number of voters in each constituency. (The graphs which do not weight the vote shares are very similar and hence not reported.)

voting pattern of the different demographic groups differently, this would also be reflected in the parliamentary elections that closely followed the 2003 assembly elections. (See section 5 for a more detailed discussion.) Table 10 shows that there was little change in the voting behavior of Chhattisgarh residents at the national elections in 2004.[30] Therefore, the significant divergence evident in the 2003 state assembly elections seems unique to that elections, and is not reflected in the parliamentary elections, which occurred within six months of the former. This implies that it is unlikely that our results are confounded by other extraneous factors differentially affecting the voting behavior of Chhattisgarh residents.

Voting pattern and change in demographic composition

Table 11 relates to the concern, discussed in section 5, that a change in the demographic composition may have caused a change in voting pattern in the 2003 assembly elections. It shows that as expected, changes in both the number and percentage of female electors were very similar across Madhya Pradesh and Chhattisgarh during this period. In particular, there is no evidence that there was a disproportionate increase in the number of women voters in Chhattisgarh in 2003, which arguably could drive our results. In fact, the coefficient on the interaction term - Chhattisgarh interacted with a dummy for the year 2003 - is negative in all the specifications, though it is never significant. Note that, in line with the summary statistics presented in Table 1, there is a significantly higher percentage of women voters in Chhattisgarh compared to Madhya Pradesh.[31] Further, results in Table 10 too suggest that, among other things, changes in demographic composition are unlikely to be a factor in the post-breakup divergence of voting patterns since such changes, if any, would show up in the 2004 national elections as a break from the earlier (1999) patterns.

[30] It shows results for congwin and bjpwin only, the results for the other measures of electoral performance are similar and hence are omitted.

[31] The number of women voters in each constituency is on average lower for Chhattisgarh, but that just reflects the smaller size (in terms of population) of the constituencies in that state.

Other Sensitivity Checks

Some final comments are in order. First, a concern is whether our results are biased by local factors such as weather. To investigate this issue, we consider a smaller sample consisting of those assembly constituencies in Madhya Pradesh which lie just to the left of the border with Chhattisgarh, and those Chhattisgarh constituencies which lie just to the right of the border. We ran the same regressions as earlier (equations 1 and 2). The results for this sample of contiguous districts are qualitatively similar to the above results and hence are not reported separately.

Second, as mentioned earlier, the better performance of INC in Chhattisgarh was not due to its being 'rewarded' in some way by the voters for help in creation of the state. The issue of a separate state for Chhattisgarh has been supported by both the BJP and the INC in the past, and there is no evidence that the voters favored either of the two parties on this issue.[32]

The third comment is about the role played by the smaller political parties. The support for most of the existing smaller parties (SP, BSP, GGP, etc.) in Madhya Pradesh remained more or less same across the years. But there was a new party contesting the elections in 2003, called the Nationalist Congress Party (NCP), and it seemed to have higher support in Chhattisgarh than in Madhya Pradesh. However, the NCP in Chhattisgarh was really a breakaway faction of the INC, headed by a former party stalwart (V. C. Shukla) who was a rival to the incumbent Chief Minister Ajit Jogi. It is believed that most of the support for the NCP in this election came from those who would have supported INC otherwise.[33] Accounting for this would then make our results even stronger.

Fourth, one important event that occured during this period was the Gujarat[34] riots of

[32] See e.g. the report on Chhattisgarh by Rediff titled "Chhattisgarh Statehood is a Hot Political Issue" (November 23, 1998), available online at www.rediff.com/news/1998/nov/23chatti.htm.

[33] See Sharma and Sharma (2003).

[34] Gujarat is a western state in India. See the political map of India in Figure 1.

February-March 2002, where an incident of fire on a railway coach triggered Hindu-Muslim riots in several parts of the state. The state government, under BJP control, was alleged to be slow in responding to incidents of mob rampage and violence involving the minority (mainly Muslim) communities. It is possible that this led to a shift in voter allegiance - the INC, considered the more secular of the two parties, might be expected to increase its support among the minority communities. Note, however, that this is unlikely to bias our results for two reasons. First, as we have just seen, there were not any significant differences in the voting patterns of Madhya Pradesh and Chhattisgarh residents in the parliamentary elections, which closely followed the state elections, and where such shift in voter loyalties would be apparent.[35] Second, the difference between the two states in the proportion of their populations belonging to different religions is quite small. Muslims constitute a very small proportion of the population in both states and both are overwhelmingly Hindu-majority. Hindus comprise more than 90% of the population in both states (the all-India figure is about 80%). While the percentage of Muslims in India as a whole is 13.4%, this number is much smaller and not much different across Madhya Pradesh (about 6%) and Chhattisgarh (2.5%).[36]

Finally, there has been some recent reports of the BJP trying to increase its influence among the tribal or indigenous people. A 2004 report in the New York Times[37] describes how the Sangh Parivar, the parent organization whose political arm is the BJP, is diligently trying to increase its presence in the tribal belt in and around Chhattisgarh. To the extent this is true, our results will be even stronger once we explicitly control for this. To the extent that such activities are targeted towards the rural and backward sections of the population, who are otherwise more

[35] To the extent that the riots were in a separate state, it is arguable that they would primarily affect voting behavior at the national elections, more so since in this case the national elections closely followed the state assembly elections. The latter are much more likely to be dominated by localized events and issues.

[36] These numbers are from the decennial census of 2001.

[37] Amy Waldman, Among India's Tribes, a Campaign for Hearts and Minds, New York Times, Section A, Column 1, April 13, 2004.

likely to vote for INC, some of these people might be inclined to switch to the BJP. This would imply that the relative shift in favor of INC observed above is actually an underestimate.[38]

7 Conclusions

In this paper we focus on the reorganization of Indian states that occurred in 2000 to investigate whether gains can be had from a redrawing of political boundaries. A recent strand of literature in political economy has brought to the fore issues like the number and size of nations, setting up tractable frameworks in which to analyze these questions. However, to date there is no study that seeks to investigate the impact of a break-up of states on voting pattern and whether secession leads to a closer conformity between the preferences of the electorate and the elected representatives. This study addresses these important issues. In 2000, Madhya Pradesh, then the biggest state in India, was subdivided into two smaller states, Madhya Pradesh and Chhattisgarh. We argue that political preferences were distributed differently in these two regions, and show in a theoretical context that although in the pre-organization period voting behavior of the smaller region will mimic that of the larger region, the post-reorganization voting pattern will be different. We test this prediction using data on state elections in 1993, 1998 and 2003, which straddle 2000, the year of the breakup. We find that indeed in 2003 the voting pattern in Chhattisgarh significantly differed from that in Madhya Pradesh, even though in 1993 and 1998 both regions had voted very similarly. Several robustness checks confirm this basic finding. We conclude that in the presence of heterogeneous preferences, there can be gains from creation of new smaller states. In future research it would be interesting to see if such gains outweigh the efficiency losses from a separation and justify the existence of smaller homogeneous entities.

[38] Note that to date these activities are primarily aimed at providing essential social services like health and education to poor people, though there are occasional religious and conversion activities. There are no reports yet of a significant resentment towards these volunteers which might induce a backlash against the BJP at the polls and confound our results.

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Table 1: Summary Statistics for Madhya Pradesh and Chhattisgarh

		Madhya Pradesh	Chhattisgarh	All-India
Land Area		308,346 sq. km.	135,100 sq. km.	
Capital		Bhopal	Raipur	
Districts		45	16	
Population (2001) (in millions)		60.39	20.80	1027.02
Percentage Female (2001)		47.91	49.74	48.27
Percentage Urban (2001)		26.67	20.08	27.78
Population Density (2001) (People per sq. km.)		196	154	312
Child Sex Ratio (2001)	Rural	941	982	934
(Females per 1000 Male)	Urban	906	941	903
Crude Birth Rate (2001)	Total	30.8	25.4	26.3
	Rural	32.8	27.1	29.0
	Urban	23.0	20.2	22.4
Crude Death Rate (2001)	Total	10.0	8.8	8.4
	Rural	10.8	10.1	9.0
	Urban	7.2	7.0	6.3
Natural Growth Rate (2001)	Total	20.8	17.5	17.0
	Rural	22.0	18.9	18.0
	Urban	15.9	15.4	13.9
Infant Mortality Rate (2001)	Total	86	76	66
	Rural	92	88	72
	Urban	53	56	42
Reserved for Scheduled Caste Members		33 (14.35%)	10 (11.11%)	
Reserved for Scheduled Tribe Members		41 (17.83%)	34 (37.78%)	
Number of Assembly Constituencies		230	90	

Source: Most of the figures are taken from the 2001 Census of India. The last three rows are from the Election Commission of India.

Table 2a: Support for BJP and INC across Different Segments of Population
(All-India Survey, 2003, all figures in percentages)

	Brahmin	Kshatriya	Kayastha	Jat	Vaishya	SCs	STs
Support BJP	71	59	66	61	56	43	46
Support INC	26	39	32	36	39	55	50
Don't Know	3	2	1	2	4	2	4

Notes: Brahmins, Kshatriyas, Kayasthas, Jats and Vaishyas comprise the traditional upper castes. SC and ST stand for Scheduled Castes and Scheduled Tribes respectively and constitute the most disadvantaged sections of the Indian population.

Source for tables 2a and 2b: The data for this table come from the India Today-Aaj Tak-ORG-MARG poll, reported in the February 9, 2004 issue of India Today International. In the original data, there was a substantial fraction of correspondents replying "Others" (meaning other political parties) for all the segments. Since in Madhya Pradesh and Chhattisgarh, unlike most other parts of India, parties other than BJP and INC account only for a small share of the votes polled we have rescaled the numbers proportionally.

Table 2b: Support for BJP and INC across Different Segments of Population
(All-India Survey, 2003, all figures in percentages)

	Male	Female
Support BJP	54	48
Support INC	43	48
Don't Know	3	3

Table 2c: Support for BJP and INC across Different Segments of Population
(All-India Survey, December, 1997, all figures in percentages)

		General (All)	Rural	Lower Caste	Upper Caste
Party Support	BJP	50	48	46	66
	INC	50	52	54	34

Source: The data for this table come from the India Today-ORG-MARG poll, reported in the January 5, 1998 issue of India Today. Like in Tables 2(a) and 2(b), we have rescaled the numbers proportionally.

Table 3: Electoral Performance of BJP and INC, Madhya Pradesh and Chhattisgarh
(1998 and 2003 Assembly Elections)

	1998 Elections		2003 Elections	
	Madhya Pradesh	Chhattisgarh	Madhya Pradesh	Chhattisgarh
Total Seats	230	90	230	90
Seats won by BJP	83	36	173	50
Percentage of Seats won by BJP	36.09	40.00	75.22	55.56
Percentage of Votes won by BJP	38.84	39.11	42.50	39.26
Seats won by INC	124	48	38	37
Percentage of Seats won by INC	53.91	53.33	16.52	41.11
Percentage of Votes won by INC	41.21	41.01	31.60	36.71

Source: Authors' calculations from the 1993 and 1998 election results of undivided Madhya Pradesh, and the 2003 election results of Madhya Pradesh and Chhattisgarh.

Table 4: Percentage of Total Electors who Voted, Madhya Pradesh and Chhattisgarh (1998 and 2003 Assembly Elections)

	OLS			FE	
	(1)	(2)	(3)	(1)	(2)
Chhattisgarh	0.06	0.18	0.18		
	(1.12)	(1.05)	(1.83)		
Yr 2003	7.35**	7.21**	7.21**	7.35**	7.19**
	(0.70)	(0.71)	(0.56)	(0.37)	(0.35)
Chhattisgarh * Yr 2003	3.61*	3.72**	3.72**	3.61**	3.73**
	(1.47)	(1.40)	(0.90)	(0.62)	(0.58)
R^2	0.24	0.24	0.24	0.91	0.91
Observations	640	640	640	640	640
Weighted	N	Y	Y	N	Y
Within-District Correlations	N	N	Y	–	–

The dependent variable is the percentage of total electors in an assembly constituency who cast their votes. Chhattisgarh is a dummy variable taking the value of 1 if the constituency is part of the Chhattisgarh region. Yr 2003 is a dummy variable for year 2003. The regressions in columns (2) are weighted by the number of electors in the constituency. There were 320 assembly constituencies in undivided Madhya Pradesh in 1998, and 230 and 90 in Madhya Pradesh and Chhattisgarh respectively in 2003. Robust standard errors are in parentheses. $^{+}$, *, ** denote significance at the 10, 5, and 1 percent levels.

Table 5: Performance of INC (Congress(I)) in Madhya Pradesh and Chhattisgarh
(1998 and 2003 Assembly Elections)

	Whether Won				Number of Votes Polled				Percentage of Votes Polled			
	Probit		FE		OLS		FE		OLS		FE	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Chhattisgarh	-0.01	-0.01			-2191	-2124			-0.19	-0.19		
	(0.06)	(0.06)			(1540)	(1972)			(1.34)	(1.37)		
Yr 2003	-0.39**	-0.39**	-0.37**	-0.38**	677	661	761	737	-9.66**	-9.72**	-9.55**	-9.55**
	(0.04)	(0.04)	(0.04)	(0.04)	(1346)	(1804)	(740)	(769)	(1.12)	(1.14)	(0.80)	(0.79)
Chhattisgarh * Yr 2003	0.30**	0.31**	0.25**	0.27**	5792**	6618*	5747**	6370**	4.67**	4.83**	4.59**	4.69**
	(0.09)	(0.09)	(0.09)	(0.09)	(2303)	(3030)	(1440)	(1591)	(1.76)	(1.78)	(1.47)	(1.51)
R^2	0.10	0.10	0.57	0.57	0.02	0.02	0.84	0.87	0.13	0.14	0.76	0.76
Observations	640	640	640	640	635	635	635	635	635	635	635	635
Weighted	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y

The dependent variable in columns (1)-(4) is a dummy variable, taking the value 1 if INC won the seat, 0 otherwise. The dependent variable in columns (5)-(8) is the number of votes polled by INC in each seat. The dependent variable in columns (9)-(12) is the percentage of votes polled by INC in each seat. Chhattisgarh is a dummy variable taking the value of 1 if the constituency is part of the Chhattisgarh region. Yr 2003 is a dummy variable for year 2003. Columns (1)-(2) show results from running probit regressions, the figures shown are the estimated effects for discrete changes in the dummy variables from 0 to 1. The OLS regressions for this variable are very similar to the probit ones, and hence are omitted. The regressions in even-numbered columns are weighted by the number of electors in the constituency. There were 320 assembly constituencies in undivided Madhya Pradesh, and 230 and 90 in Madhya Pradesh and Chhattisgarh respectively after the reconstitution. Robust standard errors are in parentheses. $^{+}$, *, ** denote significance at the 10, 5, and 1 percent levels.

Table 6: Performance of BJP in Madhya Pradesh and Chhattisgarh
(1998 and 2003 Assembly Elections)

	Whether Won				Number of Votes Polled				Percentage of Votes Polled			
	Probit		FE		OLS		FE		OLS		FE	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Chhattisgarh	0.04	0.05			-1460	-1211			0.27	0.22		
	(0.06)	(0.06)			(1479)	(1973)			(1.31)	(1.39)		
Yr 2003	0.39**	0.40**	0.39**	0.39**	14111**	15124**	14111**	15030**	3.37**	3.58**	3.37**	3.58**
	(0.04)	(0.04)	(0.04)	(0.04)	(1448)	(2039)	(858)	(1036)	(1.08)	(1.13)	(0.72)	(0.75)
Chhattisgarh * Yr 2003	-0.25**	-0.27**	-0.24**	-0.25**	-2965	-2541	-2965*	-2840+	-3.08+	-2.98	-3.08*	-3.07*
	(0.08)	(0.08)	(0.08)	(0.09)	(2559)	(3707)	(1457)	(1687)	(1.84)	(1.92)	(1.40)	(1.46)
R^2	0.09	0.09	0.57	0.57	0.17	0.15	0.86	0.88	0.02	0.02	0.76	0.76
Observations	640	640	640	640	640	640	640	640	640	640	640	640
Weighted	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y

The dependent variable in columns (1)-(4) is a dummy variable, taking the value 1 if BJP won the seat, 0 otherwise. The dependent variable in columns (5)-(8) is the number of votes polled by BJP in each seat. The dependent variable in columns (9)-(12) is the percentage of votes polled by BJP in each seat. Chhattisgarh is a dummy variable taking the value of 1 if the constituency is part of the Chhattisgarh region. Yr 2003 is a dummy variable for year 2003. Columns (1)-(2) show results from running probit regressions, the figures shown are the estimated effects for discrete changes in the dummy variables from 0 to 1. The OLS regressions for this variable are very similar to the probit ones, and hence are omitted. The regressions in even-numbered columns are weighted by the number of electors in the constituency. There were 320 assembly constituencies in undivided Madhya Pradesh, and 230 and 90 in Madhya Pradesh and Chhattisgarh respectively after the reconstitution. Robust standard errors are in parentheses. $^{+}$, *, ** denote significance at the 10, 5, and 1 percent levels.

Table 7: Performance of INC in Madhya Pradesh and Chhattisgarh - Robustness Checks
(1998 and 2003 Assembly Elections)

	Whether Won the Seat				Number of Votes Polled				Percentage of Votes Polled			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Chhattisgarh	-0.02	-0.02	-0.02	-0.03	-2124	-2178	-2178	-2690	-0.19	-0.22	-0.22	-0.78
	(0.06)	(0.06)	(0.08)	(0.08)	(1972)	(1958)	(2621)	(2592)	(1.37)	(1.37)	(1.97)	(1.92)
Yr 2003	-0.38**	-0.41**	-0.41**	-0.42**	661	-2151	-2151	-2332+	-9.72**	-11.19**	-11.19**	-11.50**
	(0.04)	(0.04)	(0.06)	(0.06)	(1804)	(1962)	(1429)	(1325)	(1.14)	(1.25)	(1.24)	(1.13)
Chhattisgarh * Yr 2003	0.27**	0.25**	0.25*	0.25*	6618*	5107*	5107*	5130*	4.83**	4.04*	4.04*	4.16*
	(0.09)	(0.09)	(0.11)	(0.11)	(3030)	(2605)	(2329)	(2294)	(1.78)	(1.76)	(2.06)	(2.07)
Percentage of Electors		0.01*	0.01+	0.01*		398**	398**	412**		0.21**	0.21*	0.23**
who Voted		(0.00)	(0.00)	(0.00)		(88)	(137)	(134)		(0.06)	(0.09)	(0.08)
R^2	0.13	0.14	0.14	0.14	0.02	0.05	0.05	0.06	0.14	0.16	0.16	0.17
Observations	640	640	640	631	635	635	635	631	635	635	635	631
Allow for Within-												
District Correlations	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Shorter Sample	N	N	N	Y	N	N	N	Y	N	N	N	Y

The dependent variable in columns (1)-(4) is a dummy variable, taking the value 1 if INC won the seat, 0 otherwise. The dependent variable in columns (5)-(8) is the number of votes polled by INC in each seat. The dependent variable in columns (9)-(12) is the percentage of votes polled by INC in each seat. Chhattisgarh is a dummy variable taking the value of 1 if the constituency is part of the Chhattisgarh region. Yr 2003 is a dummy variable for year 2003. All the results are from OLS regressions - the results from FE regressions are very similar and hence are omitted. The regressions are weighted by the number of electors in the constituency. There were 320 assembly constituencies in undivided Madhya Pradesh, and 230 and 90 in Madhya Pradesh and Chhattisgarh respectively after the reconstitution. The standard errors in columns (3)-(4), (7)-(8) and (11)-(12) allow for correlations within districts. Columns marked (4), (8) and (12) drop the nine observations where neither BJP nor INC emerged as the winner or the runner-up. Robust standard errors are in parentheses. $^{+}$, *, ** denote significance at the 10, 5, and 1 percent levels.

Table 8: Performance of BJP in Madhya Pradesh and Chhattisgarh - Robustness Checks
(1998 and 2003 Assembly Elections)

	Whether Won the Seat				Number of Votes Polled				Percentage of Votes Polled			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Chhattisgarh	0.05	0.05	0.05	0.05	-1211	-1229	-1229	-1557	0.22	0.22	0.22	-0.19
	(0.06)	(0.06)	(0.08)	(0.08)	(1973)	(1969)	(2661)	(2677)	(1.39)	(1.39)	(1.79)	(1.80)
Yr 2003	0.39**	0.44**	0.44**	0.45**	15124**	14397**	14397**	14809**	3.58**	3.42**	3.42**	3.59**
	(0.04)	(0.04)	(0.05)	(0.06)	(2039)	(2356)	(2318)	(2477)	(1.13)	(1.24)	(1.17)	(1.40)
Chhattisgarh * Yr 2003	-0.25**	-0.22**	-0.22*	-0.24*	-2541	-2916	-2916	-3367+	-2.98	-3.06+	-3.06+	-3.33+
	(0.09)	(0.09)	(0.11)	(0.11)	(3707)	(3750)	(2176)	(2249)	(1.92)	(1.90)	(1.66)	(1.78)
Percentage of Electors		-0.01**	-0.01*	-0.01*		101	101	104		0.02	0.02	0.03
who Voted		(0.00)	(0.00)	(0.00)		(107)	(191)	(189)		(0.06)	(0.09)	(0.09)
R^2	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.16	0.02	0.02	0.02	0.03
Observations	640	640	640	631	640	640	640	631	640	640	640	631
Allow for Within-												
District Correlations	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Shorter Sample	N	N	N	Y	N	N	N	Y	N	N	N	Y

The dependent variable in columns (1)-(4) is a dummy variable, taking the value 1 if BJP won the seat, 0 otherwise. The dependent variable in columns (5)-(8) is the number of votes polled by BJP in each seat. The dependent variable in columns (9)-(12) is the percentage of votes polled by BJP in each seat. Chhattisgarh is a dummy variable taking the value of 1 if the constituency is part of the Chhattisgarh region. Yr 2003 is a dummy variable for year 2003. All the results are from OLS regressions - results from the FE regressions are very similar and hence are omitted. The regressions are weighted by the number of electors in the constituency. There were 320 assembly constituencies in undivided Madhya Pradesh, and 230 and 90 in Madhya Pradesh and Chhattisgarh respectively after the reconstitution. The standard errors in columns (3)-(4), (7)-(8) and (11)-(12) allow for correlations within districts. Columns marked (4), (8) and (12) drop the nine observations where neither BJP nor INC emerged as the winner or the runner-up. Robust standard errors are in parentheses. $^{+}$, *, ** denote significance at the 10, 5, and 1 percent levels.

Table 9: Performance of INC in Madhya Pradesh and Chhattisgarh - Robustness Checks
(1993, 1998 and 2003 Assembly Elections)

	Whether Won			Number of Votes Polled			Percentage of Votes Polled		
	OLS		FE	OLS		FE	OLS		FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Chhattisgarh	0.08	0.08		-2712	-2712		-0.88	-0.88	
	(0.06)	(0.07)		(1584)	(2198)		(1.39)	(1.82)	
Yr 1998	0.02	0.02	0.03	4163**	4163**	3743**	-0.12	-0.12	-0.30
	(0.05)	(0.06)	(0.04)	(1459)	(1502)	(970)	(1.19)	(1.16)	(0.87)
Chhattisgarh * Yr 1998	-0.10	-0.10	-0.10	588	588	807	0.69	0.69	0.85
	(0.09)	(0.10)	(0.09)	(2529)	(1842)	(1601)	(1.95)	(1.55)	(1.61)
Yr 2003	-0.35**	-0.35**	-0.35**	4824**	4824**	4430**	-9.83**	-9.83**	-9.91**
	(0.04)	(0.05)	(0.04)	(1466)	(1539)	(963)	(1.05)	(1.20)	(0.85)
Chhattisgarh * Yr 2003	0.17*	0.17+	0.17*	7206**	7206**	7211**	5.51**	5.51**	5.58**
	(0.08)	(0.11)	(0.09)	(2792)	(2130)	(1642)	(1.79)	(2.17)	(1.61)
R^2	0.11	0.11	0.44	0.05	0.05	0.77	0.13	0.13	0.66
Observations	960	960	960	953	953	953	953	953	953
Allow for Within-District Correlations	N	Y	–	N	Y	–	N	Y	–

The dependent variable in columns (1)-(3) is a dummy variable, taking the value 1 if INC won the seat, 0 otherwise. The dependent variable in columns (4)-(6) is the number of votes polled by INC in each seat. The dependent variable in columns (7)-(9) is the percentage of votes polled by INC in each seat. Chhattisgarh is a dummy variable taking the value of 1 if the constituency is part of the Chhattisgarh region. Yr 1998 and Yr 2003 are dummy variables for years 1998 and 2003 respectively. All regressions are weighted by the number of electors in the constituency. There were 320 assembly constituencies in undivided Madhya Pradesh, and 230 and 90 in Madhya Pradesh and Chhattisgarh respectively after the reconstitution. Robust standard errors are in parentheses. The standard errors in columns (2), (5) and (8) allow for correlations within districts. $^{+}$, *, ** denote significance at the 10, 5, and 1 percent levels.

Table 10: Performance of INC and BJP in National Parliamentary Elections, Madhya Pradesh and Chhattisgarh (1999 and 2004 Lok Sabha Elections)

	Whether INC won				Whether BJP Won			
	OLS			FE	OLS			FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Chhattisgarh	-0.01	-0.02	-0.02		0.01	0.03	0.03	
	(0.06)	(0.06)	(0.10)		(0.06)	(0.06)	(0.10)	
Yr 2004	-0.17**	-0.16**	-0.16*	-0.17**	0.16**	0.16**	0.16+	0.16**
	(0.04)	(0.04)	(0.08)	(0.03)	(0.04)	(0.04)	(0.08)	(0.03)
Chhattisgarh * Yr 2004	0.03	0.06	0.06	0.06	-0.02	-0.04	-0.04	-0.05
	(0.08)	(0.08)	(0.15)	(0.07)	(0.08)	(0.08)	(0.15)	(0.07)
R^2	0.03	0.03	0.03	0.66	0.03	0.03	0.03	0.67
Observations	640	640	640	640	640	640	640	640
Weighted	N	Y	Y	Y	N	Y	Y	Y
Allow for Within-Par. Constituency Correlations	N	N	Y	N	N	N	Y	N

The dependent variable in columns (1)-(4) is a dummy variable, taking the value 1 if INC was the leading party in the seat, 0 otherwise. The dependent variable in columns (5)-(8) is similarly a dummy variable, taking the value 1 if BJP was the leading party the seat, 0 otherwise. Chhattisgarh is a dummy variable taking the value of 1 if the constituency is part of the Chhattisgarh region. Yr 2004 is a dummy variable for year 2004. There were 320 assembly constituencies in undivided Madhya Pradesh, and 230 and 90 in Madhya Pradesh and Chhattisgarh respectively after the reconstitution. Robust standard errors are in parentheses. The standard errors in columns (3) and (7) take account of clustering at the parliamentary constituency level. $^{+}$, *, ** denote significance at the 10, 5, and 1 percent levels.

Table 11: Change in Female Electors in Madhya Pradesh and Chhattisgarh
(1993, 1998 and 2003 Assembly Elections)

	Number of Female Electors				Percentage of Female Electors			
	OLS			FE	OLS			FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Chhattisgarh	-1496	-1065	-1065	–	2.00**	1.95**	1.97**	–
	(1329)	(1928)	(2445)		(0.15)	(0.18)	(0.26)	
Yr 1998	6900**	8019**	8019**	7484**	-0.21	-0.25+	-0.25**	-0.23**
	(1123)	(1855)	(845)	(571)	(0.14)	(0.14)	(0.06)	(0.05)
Chhattisgarh * Yr 1998	-778	-1065	-1065	-923	-0.01	-0.00	-0.00	-0.01
	(2138)	(3315)	(989)	(1134)	(0.21)	(0.25)	(0.12)	(0.10)
Yr 2003	17563**	19459**	19459**	18818**	-0.11	-0.11	-0.11	-0.09+
	(1292)	(2130)	(1419)	(691)	(0.14)	(0.13)	(0.07)	(0.05)
Chhattisgarh * Yr 2003	-2565	-2121	-2121	-2314	-0.02	-0.05	-0.05	-0.04
	(2542)	(4289)	(2135)	(1481)	(0.21)	(0.24)	(0.17)	(0.10)
R^2	0.20	0.17	0.17	0.95	0.30	0.28	0.28	0.94
Observations	960	960	960	960	960	960	960	960
Weighted	N	Y	Y	Y	N	Y	Y	Y
Allow for Within-District Correlations	N	N	Y	N	N	N	Y	N

The dependent variable in columns (1)-(4) is the (absolute) number of female electors in a constituency. The dependent variable in columns (5)-(8) is the percentage of female electors in a constituency. Chhattisgarh is a dummy variable taking the value of 1 if the constituency is part of the Chhattisgarh region. Yr 1998 is a dummy variable for year 1998, similarly for Yr 2003. There were 320 assembly constituencies in undivided Madhya Pradesh, and 230 and 90 in Madhya Pradesh and Chhattisgarh respectively after the reconstitution. Robust standard errors are in parentheses. The standard errors in columns (3) and (7) take account of clustering at the district level. $^{+}$, *, ** denote significance at the 10, 5, and 1 percent levels.

Figure 1. Political Map of India showing the different states as of 2004.

Notes: The names of states are in upper case letters (e.g. Madhya Pradesh), the names of the respective capital cities are in lower case letters (e.g. Bhopal). There are currently 28 states and 7 union territories in India.

Source: Compare Infobase Pvt. Ltd., Janakpuri, New Delhi – 110058, India.

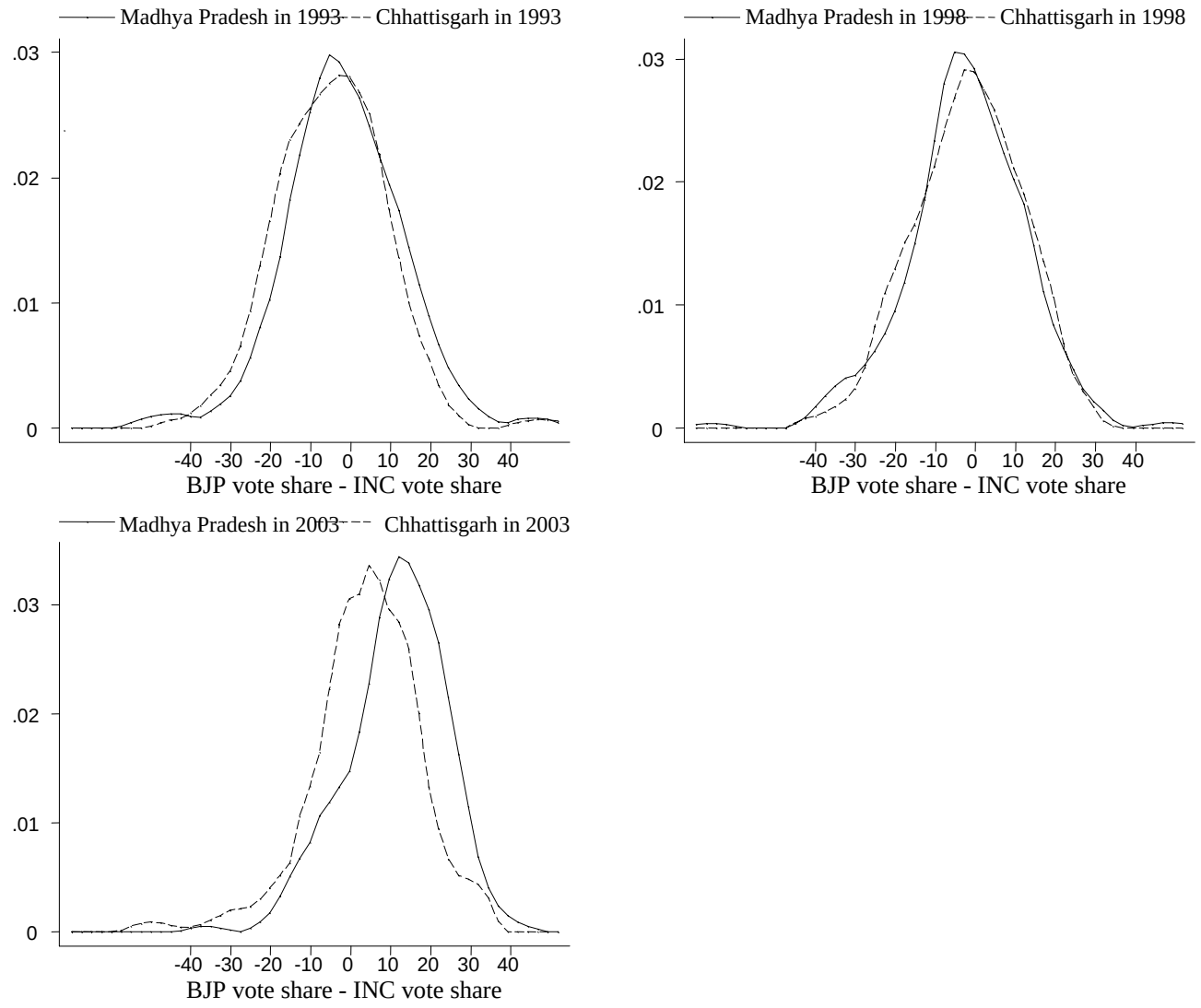

Figure 2. Relative Preference in favor of BJP, Madhya Pradesh and Chhattisgarh (1993, 1998 and 2003 assembly elections)

Notes: The graphs show the kernel smoothed plots of *differences in share of votes* polled by the BJP and INC across constituencies in Madhya Pradesh and Chhattisgarh. *BJP vote share* is defined as the share of votes polled by BJP, similarly for *INC vote share*. The figures have been weighted by the total number of voters in each constituency. (The graphs which do not weight the vote share are very similar and hence not reported.)