The Concentration and Distribution of Votes

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Chapter 7
The Concentration and Distribution of Votes

7.1 Introduction

The previous chapter analysed the electoral efficiency of the INC and BJP in terms of their ability to convert votes into seats. A large part of this ability depends upon the geographical distribution of their vote. An excessive concentration of thee part's vote in a small area leads to a small of seats with large majorities. On the other hand, if spread too thinly, electoral support dissipates resulting in many 'near misses' but few electoral successes. This observation leads, in this chapter to an analysis of the distribution of the party vote between constituencies and between states.. Within this broad theme, we pursue two topics. Firstly, there is the question of concentration. Borrowing an analogy from industrial economics, are there differences between in the INC and the BJP in the degree to which their votes and seats are concentrated in the various states and union territories which produce their votes and seats? The second question relates to the unevenness in the distribution of the INC and BJP vote across the constituencies. In terms of their seat tally, to what extent would the two parties benefit, or suffer, from a more equal distribution of their vote? To put matters differently, what proportion of the seats won by the INC and the BJP was due to a high average vote and what proportion was the result of a favourable distribution of votes?

The first question is answered in terms of measures of concentration popular in the industrial economics literature, in particular, the Hirschman-Herfindahl index of concentration. The issue that is addressed here is *vote supply*: how much of a party's total vote is sourced from different states/constituencies? Then, there is the different, and conceptually separate, issue of *vote shares*: what proportion of the total vote in a state/constituency does a party obtain? We show how the two issues of vote supply and vote shares are related and arrive at measures of vote concentration (issue 1) and vote distribution (issue 2). Lastly, the chapter, using electoral simulations, shows how differences in their respective vote distributions affect the electoral fortunes of the INC and the BJP very differently.

7.2 Where the Votes Come From: The Concentration of Votes by State

One can think of the total number of votes obtained by a party (*V)* as being produced by *K (k=1…K)* states, with each state producing V_k votes for the party. If *V* is excessively concentrated in a few states – that is, is the production of votes for the party is characterised by oligopolistic tendencies – then it will win few seats but with large majorities. On the other hand, if *V* is fairly evenly spread over the states – that is, is the production of votes for the party is characterised by competitive tendencies – then it may again win few seats, this time with small majorities. The optimal geographical distribution of the total national vote of a party must, therefore, take regard of both having enough supporters in a state's constituencies to comprise a plurality of voters while, at the same time, avoiding concentration of its total support in just a few states.

These considerations raise the question of the degree to which the votes of the INC and BJP are *concentrated* in the states. A popular measure of concentration, used in the industrial economics literature, to measure the degree of competition in a market, is the *Hirschman-Herfindahl index* (*HHI*).[1] Applied to the concentration of a party's votes across the Indian states, the *HHI* for party *j* is represented by HHI^j and defined as:

$$HHI^j = \sum_{k=1}^{K} \left(v_k^j \right)^2 \qquad (7.1)$$

where: V^j is total number of votes obtained by party *j*; V_k^j is total number of votes obtained by party *j* in state *k*; and $v_k^j = V_k^j / V^j$ is state *k's* share in party *j*'s total vote *(k=1…K).* At one extreme, if state *k* produces all the votes for party *j*, then $v_k^j = 1$ and $HHI^j = 1$, which is the *maximum* value of the index. At the other extreme, if all the states have an equal share in the total vote for party *j*, $HHI^j = 1/K$ which is the *minimum* value of the index. Consequently, $1/K \le HHI^j \le 1$.

<Table 7.1>

[1] See Hirschman (1964).

Table 7.1 shows: (i) the shares of India's major states in the *total vote* produced by these states; (ii) the shares of India's major states in the *total INC* vote produced by these states; (iii) the shares of India's major states in the *total BJP vote* produced by these states. The last lines of Table 7.1 compare the total *Lok Sabha* vote in the major states with the total *all-India Lok Sabha* vote: this shows, for example, that in 2014, the former was nearly 97 percent of the latter; similarly, the total INC and BJP vote in the major states were, respectively, 96 and 97 percent of the corresponding all-India vote.

Of the total vote emanating from the major states in the *Lok Sabha* election of 2014, Uttar Pradesh produced 15.1 percent, followed by West Bengal with 9.6 percent, Maharashtra with 9.1 percent, and Andhra Pradesh with 9 percent. Table 7.1 also shows that, in the 2014 *Lok Sabha* election, the BJP did particularly well, and the INC did particularly badly, in Uttar Pradesh: 20.6 percent of the BJP vote, but only 5.9 percent of the INC vote, came from this state which produced over 15 percent of the total (major states) vote. By contrast, in the same election, the INC did particularly well, and the BJP did particularly badly, in Orissa: 5.4 percent of the INC vote, but only 2.8 percent of the BJP vote, came from this state which produced 4 percent of the total (major states) vote.

<Table 7.2>

Table 7.2 shows values of the *HHI* (defined by equation (7.1)), for each *Lok Sabha* election since 1989, with the major states as the vote-generating units. The values are shown with respect to: (i) the total vote emanating from the major states; (ii) the total INC vote emanating from the major states; and (iii) the total BJP vote emanating from the major states. This table shows that for every election between 1989 and 2014, the BJP had associated *HHI* values which were greater than the corresponding *HHI* values for the INC: this implied that, in the context of the major states, the BJP's votes were more concentrated than those of the INC. This is a reflection of the fact that the INC, as the older party, has significant presence in parts of India – like Assam, Kerala, and Jammu and Kashmir – where the BJP, until recently, has been all but invisible.

Also shown are the values with respect to two other indices. The first of these is Shannon's *entropy index* defined as:

$$E = -\sum_{k=1}^{K} v_k^j \log\left(v_k^j\right) \tag{7.2}$$

And the second of these is the dissimilarity index defined as:

$$D = \frac{1}{2}\left[\sum_{k=1}^{K}\left(v_k^j - \frac{1}{K}\right)\right] \tag{7.3}$$

If a state's vote share, with respect to party *j* is equal to 1 (meaning that party *j* gets all its votes from that state) so that, say, $v_1^j = 1,\ v_2^j ... = v_K^j = 0$, then *E=0*, which is its *minimum* value, and *D=K-1* which is its maximum value; on the other hand, if all the states have equal shares in party *j*'s total vote so that, $v_1^j = v_2^j = ... = v_K^j = 1/K$, then $E = \log(1/K)$ and which is its *maximum* value and *D=0*, which is its *minimum* value. The values of these indices confirm the fact that, in the context of the major Indian states, the BJP vote is more concentrated than that of the INC: for every election between 1989 and 2014, the value of the entropy index (*E* in equation (7.2)) is *higher* – and the value of the dissimilarity index (*D* in equation (7.3)) is *lower* - for the INC compared to its value for the BJP.

The Effective Number of States

As Table 7.1 shows, over 536 million votes cast in the 2014 *Lok Sabha* election emanated from the 20 major Indian states. The contributions from the different states, however, varied considerably, from Uttar Pradesh's 15.1 percent of the total vote to Himachal Pradesh's 0.6 percent. This makes the obvious point that, in terms of 'producing' votes, not all states are equal; it also raises, by way of corollary, a query about the *effective* number of states in the political system when the 20 major states were adjusted by their vote shares.

This concept of an 'effective number' was first applied to political parties (see Dunleavy and Boucek, 2003). Suppose there are *N* political parties in the system with each party receiving different vote shares. Some of these vote shares might be so small, and others so large, that, *effectively*, there are *fewer* than *N* political parties in the electoral system. Laakso and Taggepera (1979) suggested that the *effective* number of parties, N^*, could be computed as the inverse of the Hirschman-Herfindahl index as:

$$N^* = 1 / HHI \tag{7.4}$$

where: *HHI* is the Hirschman-Herfindahl index computed from the vote shares of the *N* parties. If all the *N* parties received the same share of the total vote, $1/N$, $HHI=1/N$, and $N^*=N$: the effective number of parties is same as the total number of parties. If one party obtained the entire vote, $HHI=1$ and $N^*=1$: effectively, the electoral system consists of a single party. In general, the greater the concentration of votes (larger the *HHI* value), the smaller will be the number of effective parties.

These ideas can equally be applied to the Indian states which contribute unequally to the total amount of votes they generate. Consequently, the *effective* number of (major) states is smaller than the actual number, 20, of states. How much smaller, can be determined by applying the Laakso and Taggepera (1979) formula of equation (7.4). So, in the 2014 election, the *HHI* values for the INC and the BJP were, respectively, 0.069 and 0.094: consequently, the effective number of states for the INC and the BJP were, respectively, 14.5 (=1/0.069) and 10.6 (=1/0.094). The effective number of states differs between the two parties because the concentration of their votes, within the major states, is different: the number of effective states was larger for the INC - with a smaller concentration of its vote – than for the BJP with a greater vote concentration.

7.3. Inequality in the Inter-Constituency Distribution of Party Vote Shares

The previous section addressed the question of *vote supply* in the context of the major Indian states with particular reference to the concentration of the national vote. In that section the key variables were the proportions of the total vote, the total INC vote, and the total BJP vote *that were sourced from the different states*: for example, in the 2014 *Lok Sabha* election, 20.6 percent of the BJP vote was sourced from Uttar Pradesh while Madhya Pradesh supplied 10 percent of the INC vote. This section turns to the separate, but related, question of party *vote shares*, namely, the proportion of the total vote in a particular geographical area (state or constituency) that accrued to a particular political party. It is relatively straightforward to show that vote supply (previous section) and vote shares (this section), though conceptually different, are, in fact, empirically related.

Suppose that, of the total of V_k votes in an area *k* (for example, state or constituency), V_k^j are in favour of party *j*. Then the vote share of party *j* in area *k (k=1…K)* is represented by $v_k^j = V_k^j / V_k$.

Let $V = \sum_{k=1}^{K} V_k$ and $V^j = \sum_{k=1}^{K} V_k^j$ represent, respectively, the total (national) vote (over all parties) and party *j's* total (national) vote. Then the *vote share* can be decomposed in the terms of *vote supply* as follows:

$$v_k = V_k^j / V_k = \left(V_k^j / V_k\right)\left(V / V^j\right)\left(V^j / V\right) = (V_k^j / V^j)(V / V_k)(V^j / V) = \left(g_k^j / n_k\right)\overline{v}^j \qquad (7.5)$$

where: $g_k^j = V_k^j / V^j$ is the proportionate contribution that area *k* makes to the party *j*'s national vote; $n_k = V_k / V$ is the proportionate contribution that area *k* makes to the total (national) vote; and $\overline{v}_j = V^j / V$ is party *j*'s share of the national vote.

By way of a numerical example, suppose that *k* represents Uttar Pradesh and that *j* represents the BJP. Now, from Table 7.1, for the *Lok Sabha* election of 2014, $g_k^j = 20.6$, $n_k = 15.1$, and $\overline{v}_k^j = 31$, implying, from equation (7.5) that the BJP obtained 42.3 percent of the total vote in Uttar Pradesh.

In this section, we measure inequality in the distribution of inter-constituency vote shares of the INC and the BJP in the major states and, having done that, in the section following we *decompose* inter-constituency inequality by the states to which the constituencies belong. The first exercise, of inequality measurement, will suggest a relationship between electoral popularity and electoral inequality while the second exercise, of inequality decomposition, will evaluate how much of overall inter-constituency inequality in vote shares can be explained by the aggregation of constituencies by state.

The inequality measure used, both for measurement and for decomposition, belongs to the family of *entropy* measures. The logic of the entropy measure is taken from information theory. Suppose that a party's vote share, *v*, is a random variable which takes values, $v_1, v_2, ..., v_N$, over *N* constituencies, with probabilities, $p_1, p_2, ..., p_N$, $0 \leq p_i \leq 1$, $\sum_{i=1}^{N} p_i = 1$. Now the *information content* of a message that the random variable *v* has taken an unusual value is greater than that of a message that is has taken a more commonly observed value. Hence the information content, h_i of *v* taking a specific value v_i is a decreasing function of p_i, the probability of observing that value, so that $h_i = h(p_i)$ is a decreasing function of the p_i. Also, since the values assumed by *v* are assumed independent of each other, the information content of the *joint* occurrence of two values, say, $v = v_r$ and $v = v_s$ is the sum of the individual information contents: $h(v_r, v_s) = h(v_r) + h(v_s)$. A decreasing function that satisfies this property is $h(p_i) = \log(1/p_i) = -\log(p_i)$.

A measure of the expected amount of information or entropy in a system, defined by the values of a random variable *v* and the associated probabilities, is given by (Renyi, 1965):

$$E = \sum_{i=1}^{N} p_i h(p_i) = -\sum_{i=1}^{N} p_i \log(p_i) \quad (7.6)$$

The maximum value of *E* in equation (7.6) – and also in equation (7.2) - occurs when the values are equally likely so that $p_1 = p_2 = ... = p_N = 1/N$ and a measure of the *disorder* of the system is the extent to which the expected value falls below this maximum:

$$I = \underbrace{\sum_{i=1}^{N} (1/N) \times h(1/N)}_{\text{maximum value}} - \underbrace{\sum_{i=1}^{N} p_i \times h(p_i)}_{\text{observed value}} = \sum_{i=1}^{N} \left[\log(p_i) - \log(1/N) \right] \quad (7.7)$$

The larger the value of *I* in equation (7.7), the greater will be the *disorder* or *inequality* in the system. If we set the probabilities to the observed vote shares, so that $p_i = v_i$, *i=1…N*, and let $\overline{v}$ represent the mean vote share, we can obtain Theil's (1967) *Mean Logarithmic Deviation (MLD)* index as:

$$MLD = \left(\sum_{i=1}^{N} \log(\overline{v}/v_i \right) / N \quad (7.8)$$

Table 7.3 shows the MLD and Gini values for the INC and the BJP in respect of the inter-constituency distribution of their vote shares for every *Lok Sabha* election between 1989 and 2014 with higher values of both indices representing higher inequality levels.[2] These values show that inequality in the distribution of INC vote shares was at a low in 1989; thereafter it rose steadily, reaching a peak in 1998; it fell in 1999, remained fairly steady till 2009 but then rose sharply in 2014.

[2] The Gini coefficient is defined in chapter 2.

By contrast the inter-constituency distribution of the BJP vote was highly unequal in 1989 after which it fell reaching a low in 1999; then it peaked in 2009 before falling back in 2014.

<Table 7.3>

Set alongside the values of the MLD and Gini indices are the party vote shares. These make clear (see Figures 7.1 and 7.2) that, in general, whenever overall support for a party was high, inequality in the distribution of the party's vote share, between the constituencies, was low: the INC in 1989, 1991, and 2009 and the BJP in 1998, 1999, and 2014. Conversely, whenever overall support for a party was low, inequality in the distribution of the party's vote share, between the constituencies, was high: the INC in 1998 and 2014 and the BJP in 1989, 1991, 1996, and 2009.

<Figures 7.1 and 7.2>

7.4 The Decomposition of Inequality in Vote Shares

Inequality in a party's vote share across the dfferent constituencies leads one to ask: what 'explains' such inequality? Is it due to the fact that constituencies are segmented into states, with different states embodying different 'political' cultures'? In that case we would expect that some of the observed inequality can be explained by differences *between* states because constituencies in some states offer, on average, a lower vote share to that party compared to constituencies in other states. But not all of inequality in vote shares can be explained by differences between states – some of the observed (overall) inequality will be due to to the fact that there is inequality in constituencies *within* the same state because the party does not receive the same vote share from *all* constituencies *within* a particular state.

Of course, one need not subdivide constituencies by state – one could, equally well, have subdivided them by region (for example: North, South, East, West, and Central) or by their level of income (for example: low-income, medium-income, and high-income states). Whenever, and however, one subdivides households there are always two sources of inequality: *between-group* and *within-group*. The method of inequality decomposition attempts to separate (or decompose) overall inequality into these two constituent parts: between-group inequality and within-group inequality.

When the decomposition is *additive*, overall inequality can be written as the *sum* of within group and between group inequality:

$$\underbrace{I}_{\text{overall ineqality}} = \underbrace{A}_{\text{within group inequality}} + \underbrace{B}_{\text{between group inequality}}$$

When inequality is additively decomposed then one can say that the basis on which the constituencies were subdivided (say, by state) contributed [(B/I)×100]% to overall inequality in a party's vote shares, the remaining inequality, [(A/I)×100]%, being due to inequality *within* the states. If one subdivided the constituencies by income (say, three groups) *and* by state (20 major states), so that one had 60 categories, then by additively decomposing inequality, as above, one could say that income *and* state collectively accounted for [(B/I)×100]% of overall inequality in the vote shares of a party, the remaining inequality being due to inequality within the 60 categories. So, inequality decomposition provides a way of analysing the extent to which inter-constituency inequality in a party's vote share can be 'explained' by a constellation of factors.

More formally, suppose that the total of *N* constituencies is divided into *M* mutually exclusive states groups with N_m ($m=1...M$) constituencies in each state. Let $\mathbf{v} = \{v_i\}$ and $\mathbf{v_m} = \{v_i\}$ represent the vector of vote shares for a party in, respectively, all the constituencies ($i=1...N$) and in the constituencies in state *m*. Then an inequality index $I(\mathbf{v};N)$ defined over this vector is said to be additively decomposable if:

$$I(\mathbf{v};N) = \sum_{m=1}^{M} I(\mathbf{v_m};N_m)w_m + \mathbf{B} = \mathbf{A} + \mathbf{B} \qquad (7.9)$$

where: $I(\mathbf{v};N)$ represents the *overall* level of inequality; $I(\mathbf{v_m};N_m)$ represents the level of inequality within state *m*; **A** – expressed as the weighted sum of the inequality in each state, w_m being the weights – and **B** represent, respectively, the *within-group* and the *between-group* contribution to overall inequality.

If, indeed, inequality can be 'additively decomposed' along the lines of equation (7.9) above, then, as Cowell and Jenkins (1995) have argued, the proportionate contribution of the between-group component (**B**) to overall inequality is the income inequality literature's analogue of the R^2 statistic used in regression analysis: the size of this contribution is a measure of the amount of inequality that can be 'explained' by the factor (or factors) used to subdivide the sample.

Only inequality indices which belong to the family of *Generalised Entropy Indices* are additively decomposable (Shorrocks, 1980). These indices are defined by a parameter θ and, when $\theta=0$, the weights are the constituency shares of the different states (that is, $w_m = N_m / N$); since the weights sum to unity, the within-group contribution **A** of equation (7.9) is a weighted average of the inequality levels within the groups. When $\theta=0$, the inequality index is Theil's Mean Logarithmic Deviation (MLD), defined in equation (7.8) of the previous section, which, because of its attractive features in terms of the interpretation of the weights, is used in this chapter to decompose inequality in a party's vote shares.

<Figure 7.3>

Figure 7.3 shows the within-state and between-state contributions to inter-constituency inequality in INC and BJP vote shares. This shows that for several elections – 1989, 1996, 1999, 2009, and 2014 – the between state contribution to inequality in the distribution of BJP vote shares exceeded 60 percent and this contribution was not less than 50 percent for any election. Except for the *Lok Sabha* election of 1998, the between state contribution to inequality in the INC vote share was always lower than the corresponding contribution for the BJP. The overall consensus from this decomposition is that, for both parties, over half of inequality in the distribution of inter-constituency vote shares could be explained by the location of the constituencies in different states.

7.5 The Effect of the Distribution of Votes on the Number of Seats Won

We hypothesise that the number of seats won (*S*) by a party at a *Lok Sabha* election, given the number of seats contested, depends upon its mean vote (μ) and the degree of inequality (*I*) in the distribution of its vote both computed over the constituencies in which it fielded candidates.[3] More formally:

[3] While the number of consistencies a party contests sets an upper limit to the number of seats it can win, it does not follow that that the more seats its contests, the larger will be the number of seats it wins: in the *Lok Sabha* election of 1999, the INC contested 453 constituencies but won only 114 seats while the BJP contested 339 constituencies and won 182 seats.

$$S = f(\overset{+}{\mu}, \overset{?}{I}) \qquad (7.10)$$

Simulation A: The Equal Distribution of Votes

It is impossible to specify *a priori* the *distribution* of votes (as encapsulated in the value of I in equation (7.10)) which, in the face of a given *total* of votes, will maximise the number of seats won. So, in order to investigate the separate contributions of μ and I to the number of seats won by the BJP and INC, we ran a simulation in which, with the mean vote of each party unchanged, the inter-constituency vote distribution of the two parties was rendered the same; we then examined the number of seats each party would have won under this scenario. The simplest distributional uniformity was to assume that each party's total vote was *equally distributed* between the constituencies it contested and Table 7.4 shows the number of seats the party *would* have won or lost under this 'equally distributed' scenario.

<Table 7.4>

In the six elections after (and including) the 1996 *Lok Sabha* election, Table 7.4 shows that both parties would have lost seats under an equal distribution scenario. In the 2014 *Lok Sabha* elections, the BJP, with its 31.3% share of the vote (which translated to 401,075 votes *per constituency contested*) won 282 seats. If it had received exactly 401,075 votes in *each* of the 428 constituencies it contested in 2014, it would have won 278 seats or in other words, the unequal distribution of its vote across the 428 seats it contested enabled it to win an additional four seats. Similarly, in the 2014 *Lok Sabha* elections, the INC, with its 19.3% share of the vote (which translated to 230,465 votes *per constituency contested*) won 44 seats. If it had received exactly 230,465 votes in *each* of the 464 constituencies it contested in 2014, it would have won only 18 seats or, in other words, the unequal distribution of its vote across the 464 seats it contested enabled it to win an additional 26 seats.

The effect of distribution, on the number seats won, varied by election. As Table 7.4 shows, the effect of inequality in the inter-constituency distribution of the BJP vote, on the number of seats it won, was greatest in 1989, 1991, 1996, and 2009. In these elections, the distribution of its vote helped it win a large number of additional seats: 51 seats in 1984; 64 seats in 1991; 89 seats in 1996; and 76 seats in 2009. By contrast, the effect of distribution on the number of seats won by the INC was more muted. The most marked effect was in 1998 when its vote distribution across the constituencies helped it win an additional 91 seats; apart from this particular election, the INC vote distribution, compared to the BJP' distribution, added far fewer seats to what it would have won with an equal distribution of votes across the constituencies.

Simulation B: Equal Number of Votes Received

In the second simulation (Simulation B), it was assumed that the INC and the BJP received the same number of votes nationally – which was the average of their respective national vote – but that the distribution of the vote across the constituencies remained unchanged for both parties. So, for example, for the 2014 *Lok Sabha* election it was assumed that both the INC and the BJP received 139, 297,888 votes – which was an average of the INC's 106,938,240, and the BJP's 171,657,552 votes – and that, in *each* of the constituencies contested by them, their respective votes *increased or decreased proportionately* to the change in their national votes.

In other words, in the *Lok Sabha* elections of 2014, the INC vote was marked *up* by multiplying the number of votes it received, in each of the 464 constituencies it contested, by1.3 and the BJP vote was marked *down* by multiplying the number of votes it received, in *each* of the 428 constituencies it contested, by 0.81.[4] The implication of this was that the *distribution* of the INC and the BJP vote remained unchanged: any inequality index like the Gini or the MLD would yield the same value on both the old and new set of INC - and on the old and new set of BJP - constituency votes

<Table 7.5>

Table 7.5 shows that in 2014, even with the INC and the BJP receiving the same number of votes – with the INC increasing its votes by 32.4 million votes with the BJP's vote falling by an equal amount - the INC would have won 122 seats compared to the BJP's 229. As a result of these extra 32.4 million votes, the INC would have gained won only 78 seats (44 to 122) while the loss of 32.4 million votes would have deprived the BJP of only 53 seats.

[4] 1.3=139, 297,888/106,938,240 and 0.81=139, 297,888/171,657,552

Suppose that if distribution did not matter, the two parties, which shared the vote equally between them, would have also won an equal number of seats: for the 2014 *Lok Sabha* election, this would have been 163 seats each.[5] So, in the 2014 *Lok Sabha* election, for reasons of vote distribution, the INC, which under this simulation was predicted to win 122 seats (see Table 7.5), *under-performed* by 41 seats, or by 25 percent of its equal division of 163 seats, and the BJP, which under this simulation was predicted to win 229 (see Table 7.5) seats *over-performed* by 66 seats, or by 40 percent of its equal division of 163 seats.

In the 2009 *Lok Sabha* election, the equal division of votes was 98,773,088 which represented a shortfall for the INC (which received 119,110,824 votes in this election), and a bonus for the BJP (which received 78,435,352 votes in this election), of 20,337,736 votes. Under this scenario, we might have expected both parties to each win 161 seats. However, it turned out that the INC would have won only 100 seats (61 fewer than expected 161 seats) and the BJP would have won 184 seats (23 more than the expected 161 seats). So, in the *Lok Sabha* election of 2009, for reasons of vote distribution, the INC, which (under this simulation) was predicted to win 100 seats *underperformed* by 61 seats, or by 38 percent of its equal division of 161 seats, and the BJP, which (again under this simulation) was predicted to win 184 seats *overperformed* by 24 seats, or by 15 percent of its equal division of 161 seats.

<Figure 7.4>

Figure 7.4 shows the under- and over-performance rates of the INC and the BJP for every *Lok Sabha* election since 1989. The important point that emerges from this figure is that the INC has always underperformed as a party: it has always failed to translate an equal division of votes between it and the BJP into an equal division of seats. By contrast, except for the 1989 and 2004 *Lok Sabha* elections, the BJP has always over-performed: it has succeeded in translating an equal division of votes between it and the INC into a (favourable) unequal division of seats.

[5] The average of the 282 and 44seats won, respectively, by the BJP and INC.

7.6 Concluding Remarks

This chapter highlighted the importance of the distribution of a party's votes in determining the number of seats it wins under a FPTP system. The ominous message that the results of this chapter contains for the INC is that even it received the same number of total votes as the BJP it would still, because of differences between them in their vote distributions, win fewer seats. For the INC to nullify the effects of its distributional disadvantage it must raise its electoral popularity substantially above that of the BJP.

Or else, it must improve its vote distribution. As the previous chapters have pointed out, the BJP enjoys a considerable advantage over the INC in the 204 constituencies in the Hindi speaking states while the INC does not enjoy, to the same degree, advantage over the BJP in the non-Hindi speaking states. This is an area that the INC needs to redress, either on its own or, more plausibly, with strategic alliances with like-minded parties.